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Start of the Six Days' Trials.

JUL 20
B. P.

THE MOTOR CYCLIST

X 4012-383

No. 328. Vol. 7.

WEDNESDAY, JULY 7th, 1909.

REGISTERED AS A NEWSPAPER FOR TRANSMISSION IN THE UNITED KINGDOM

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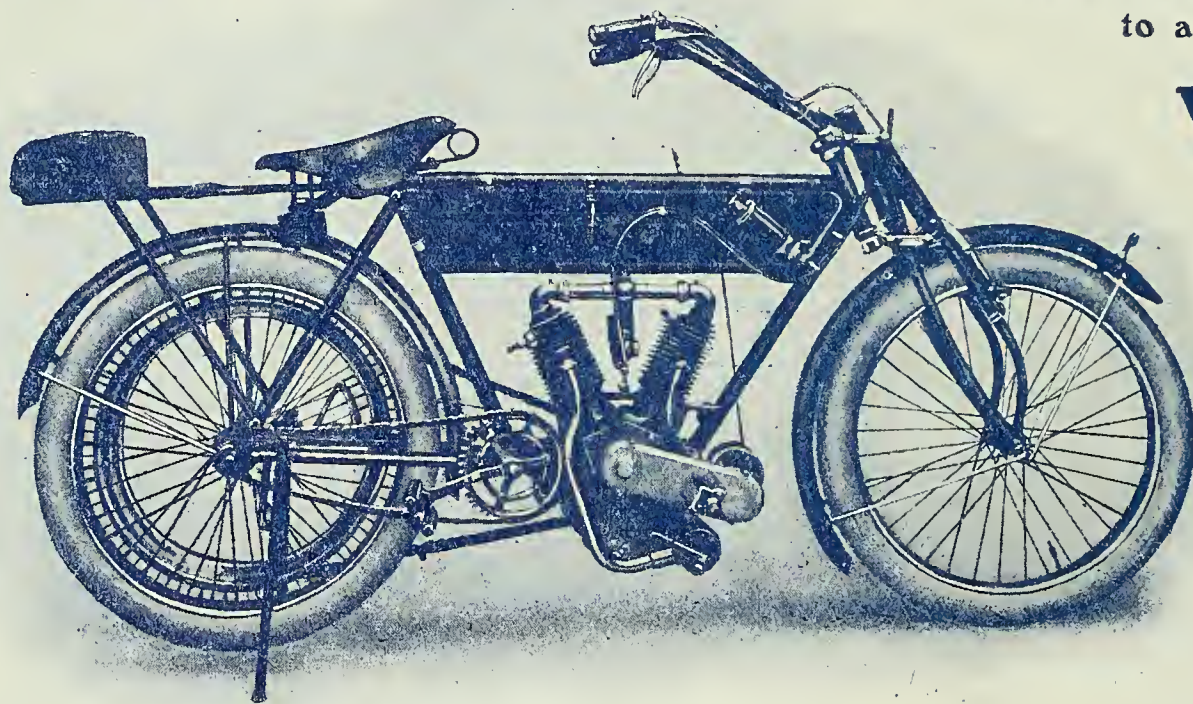
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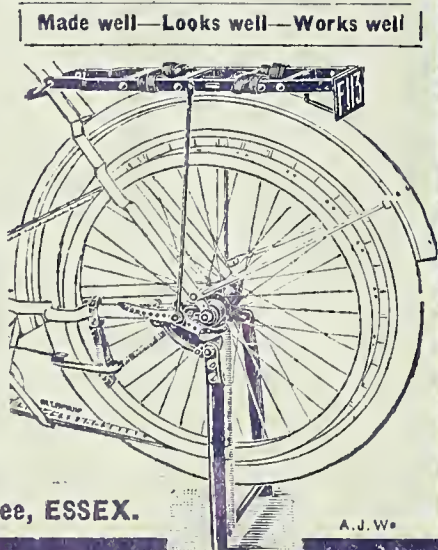
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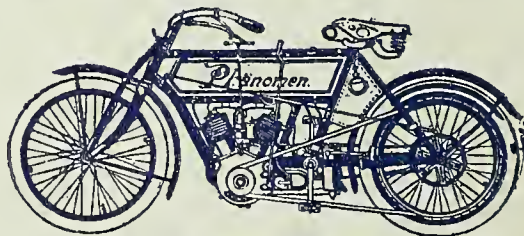
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In answering these advertisements it is desirable to mention "The Motor Cycle."

THE MOTOR CYCLE

Vol. 7. No. 328.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

Riders' Competition Licences.

It is now generally known amongst readers that at present any motor cyclist competing in an open motor cycling event must be registered as a competition rider with the Auto Cycle Union, such registration being charged for, to unaffiliated riders at 5s., to members of affiliated clubs at 2s. 6d., and given gratis to individual members of the A.C.U. This rule is of great value as applied to ordinary events, but for some time we have been of the opinion that it needed revision as applied to sundry inter-club competitions. Convenient examples of the type of event upon which it pressed with undue weight were the Easter Monday Scarborough hill-climb and the Team Trials. Here we have a brace of sporting competitions, designed to promote intercourse between various affiliated clubs. The competition lends undoubted zest to the meet. Upwards of a hundred competitors may be expected to take part in such events annually. Of these hundred men probably not more than twenty-five will want to take part in any further open competition during the entire year. They may ride in local events, limited to members of their own clubs, but for those they will require no licence. But for such an inter-club event as the Team Trial or the Scarborough hill-climb, competition licences have been essential up till the week preceding the Team Trials, when a surprise announcement was made. The A.C.U. rule has hitherto been rigidly enforced for these events, and competitors have been reluctantly compelled to obtain licences. It was generally thought by representatives of the teams in the trials at Daventry on the 26th ult. that the A.C.U. would again insist upon each rider holding the half-crown licence, but, for the first time on record,

the various secretaries of clubs concerned were acquainted by wire a day or two before the event that each individual rider need not possess a licence, a special permit having been taken out by the M.C.C. for that particular competition. This was good news, as seventy-five half-crowns (approximately) would to all intents and purposes have been wasted. No doubt the A.C.U. was guided in its step by the attitude of the competitors and officials in the Scarborough hill-climb, and desired to avert any chance of a possible repetition. At any rate, we commend the A.C.U. on the wise move taken, and we feel convinced that the action will result in general good. This precedent we imagine the Union intends to imitate, and no doubt a clause will be embodied in the competition rules to cover future competitions of this nature, allowing any club which purposes holding an inter-club trial of the Team Trials type to apply to the A.C.U. for registration for that day only for all the riders engaged, either gratis or at a purely nominal lump fee. This will enable the A.C.U. to maintain clean sport without putting a lot of riders, who make a sole annual appearance in open competition, to unjustifiable expense. It must not be forgotten that in these inter-club events the riders have to bear heavy travelling expenses, and such rulings as competition licences must affect the entry list to a slight extent. We still await the A.C.U. official announcement on this matter, and club officials are sure to be eager to see it in order to grasp clearly the object and ideas of the ruling body. It is, however, obvious that any relaxation of the licence laws must not apply to the ordinary open classes in a club hill-climb, as the A.C.U. revenue would be reduced, and even now it is scarcely sufficient to meet the inevitable expenditure.

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Motor Cycle Racing at Brooklands.



THE first race meeting at Brooklands held on a day of the week other than Saturday took place last Wednesday, the 30th ult., and was a great success. The attendance was really excellent, the members' enclosures and the paddock being particularly well filled. There was only one motor cycle event (the City Motor Cycle Handicap), and this was well supported, since there were thirty-three entries.

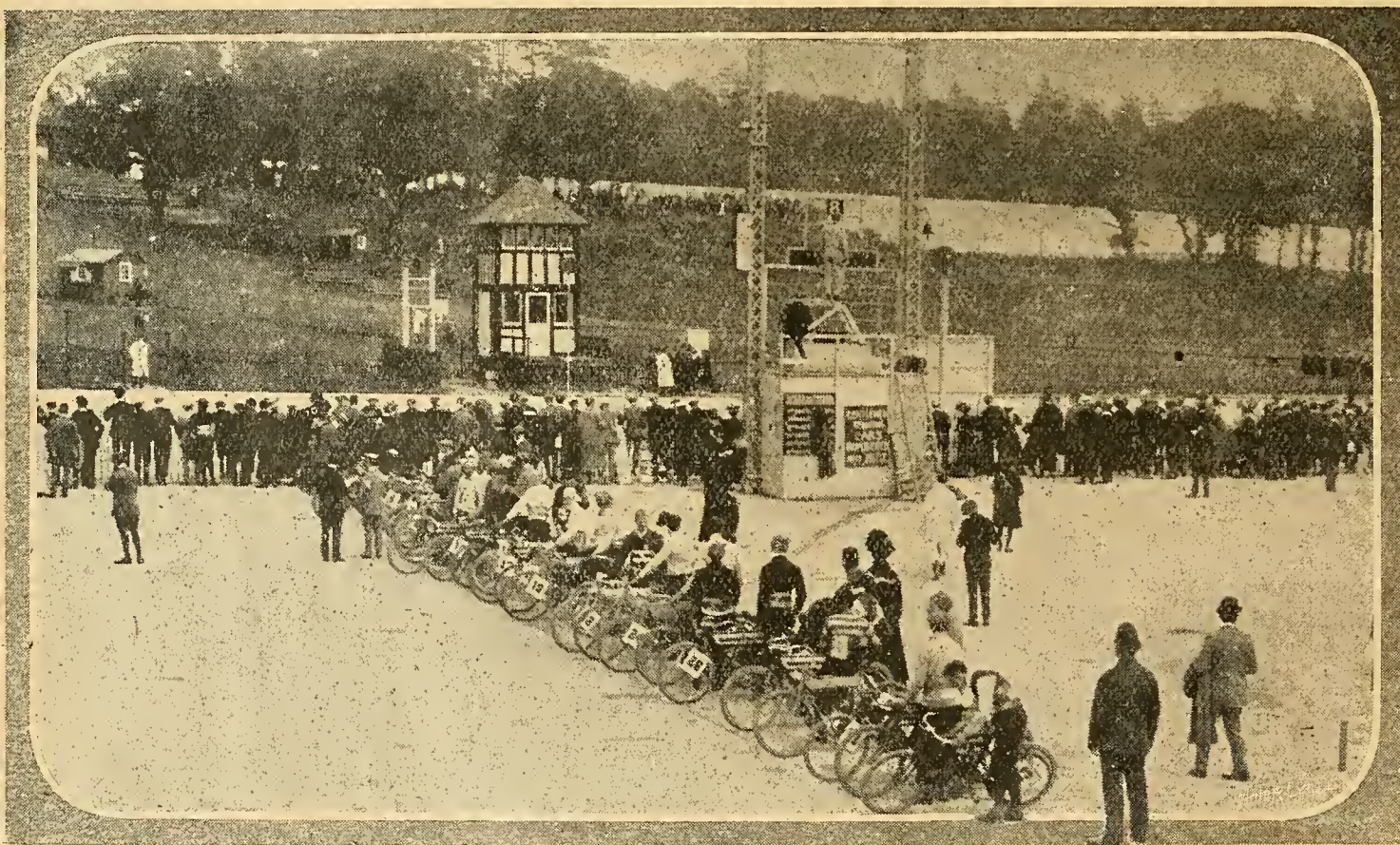
The race was down on the programme as follows: Distance, about $8\frac{1}{2}$ miles, fork start. Cycles will pass the fork twice, and then enter the straight. The entrant of the winner to receive 25 sovs. or a cup at option, the entrant of the second 10 sovs. or a cup at option, and the entrant of the third to receive 5 sovs. or a cup at option. For all classes of motor bicycles

O. C. Godfrey ($3\frac{1}{2}$ h.p. Rex), 1m. 50s.; J. C. Smyth ($3\frac{1}{2}$ h.p. Rex), 1m. 50s.; H. G. Partridge (6 h.p. N.S.U.), 1m. 55s.; C. R. Collier ($3\frac{1}{2}$ h.p. Matchless), 2m.; L. M. Munro ($3\frac{1}{2}$ h.p. N.S.U.), 2m.; F. W. Applebee (5 h.p. Rex), 2m.; H. R. Abbott, jun. ($3\frac{1}{2}$ h.p. Triumph), 2m.; W. Dewar ($3\frac{1}{2}$ h.p. Triumph), 2m.; F. E. Barker ($3\frac{1}{2}$ h.p. Chater Lea), 2m. 55s.; R. J. Shanks ($2\frac{3}{4}$ h.p. Peugeot), 3m. 10s.; A. F. Rowell ($2\frac{3}{4}$ h.p. M. and M.), 3m. 30s.; W. Pollard (2 h.p. Minerva), 5m.

Another Runaway Win.

Seen from the members' bridge, the race was quite interesting.

Pollard led, followed by Shanks, Rowell, a huge batch (mostly indistinguishable), then Fenn, Toman, Wells and Evans, H. Collier, Bowen, and Martin. Bashall came next, but pulled up beyond the bridge with his belt off. Cook appeared to be travelling well. At the end of the first lap Pollard was still



The thirty competitors in the City Motor Cycle Handicap at Brooklands on Wednesday last lined up in the paddock. The spectators are watching the finish of the first race.

the cubic capacity of whose engines does not exceed 1,000 cubic centimetres. The following are the riders with their time allowances. W. E. Cook (7 h.p. N.L.G.), scratch; H. E. Parker (7 h.p. N.L.G.), 12s. start; H. V. Colver (8 h.p. Matchless), 12s.; F. W. Dayrell (8 h.p. J.A.P.), 25s.; H. H. Bowen (7 h.p. Bat), 25s.; W. H. Bashall (7 h.p. Bat), 25s.; H. A. Collier (8 h.p. Matchless), 25s.; H. Martin (8 h.p. N.S.U.), 30s.; F. Toman (5 h.p. Laurin-Klement), 40s.; W. H. Wells (5 h.p. Indian), 40s.; G. Lee Evans (5 h.p. Indian), 40s.; A. G. Fenn ($3\frac{1}{2}$ Triumph), 45s.; J. T. Bashall ($3\frac{1}{2}$ h.p. Triumph), 1m. 35s.; F. A. Applebee (5 h.p. Rex), 1m. 40s.; W. G. McMinnies ($3\frac{1}{2}$ h.p. Triumph), 1m. 40s.; J. F. Potts ($3\frac{1}{2}$ h.p. Triumph), 1m. 45s.; F. A. McNab ($3\frac{1}{2}$ h.p. Trump-J.A.P.), 1m. 45s.; F. W. Barnes ($3\frac{1}{2}$ h.p. Zenith-Gradua), 1m. 45s.;

leading, F. Applebee was drawing ahead, Barnes was going well, and Bowen appeared to be making the pace. It was then time to rush for the finish. This was by no means exciting, as the handicapping was by no means successful. H. Collier won by nearly a mile, while Partridge was second, and Colver was third. Cook made a close fourth, and then followed Dewar and McMinnies, followed by a rider whose number was illegible, Lee Evans, C. Collier, F. A. Applebee, Bowen, Fenn, Munro, Barnes, J. T. Bashall, F. W. Applebee, Dayrell, W. H. Bashall, Shanks, Godfrey, Pollard, Smyth, Martin, Parker, Potts, Toman (pedalling), and Wells. The starting price was five to one on the field, and the winner's speed was $69\frac{3}{4}$ miles an hour—the fastest yet accomplished in a motor cycle race on the Brooklands Track, or, in fact, on any other track so far as we are aware.

British Motor Cycle Racing Club.

THE Fourth Members' Meeting of the above club will take place at Brooklands on Wednesday next, 14th inst., at 3 p.m. Some good racing is anticipated, and it is hoped that motor cyclists and those interested in motor cycle racing will avail themselves of the entrance fee which allows

them in any part of the Brooklands motor course.

The Novices' Handicap is an event which will be of particular interest, and it is the wish of the management to encourage entries from members who are novices. The idea is certainly a good one, as it is

desirable to see how novices will perform in races when they are given the chance to compete. Two handsome cups have been given by Major Lloyd for this event.

Some improvement has been made with regard to number plates carried by the competitors. The new sample will be introduced on the machine which will be ridden by Mr. W. E. Cook. It consists of a circular plate 12 in. in diameter fixed to the rear wheel spindle, finished in black, and enabling the number to be painted on it in white.

The programme will consist of the following events:

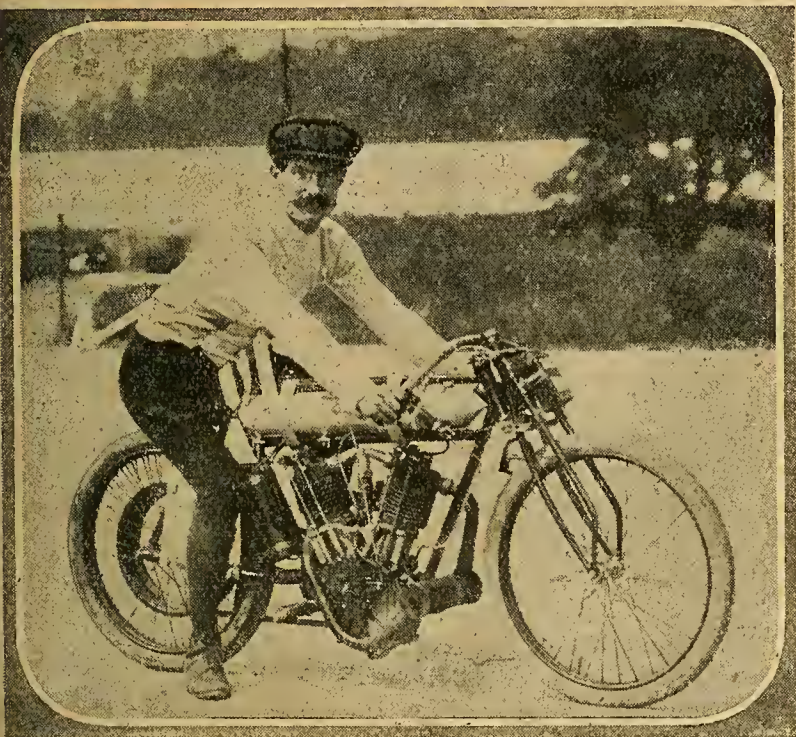
1. **NOVICES' HANDICAP.**—Distance, three circuits, about 8½ miles (fork start). For all classes of motor bicycles, the cubic capacity of whose engines does not exceed 1,000 c.c. Open only to members who have never won a first prize in any motor cycle race that has been competed for on an enclosed track. Machines entered must be the *bona-fide* property of the riders. First prize, Brooklands silver cup, value £4; second prize, Brooklands silver cup, value £3; third, fourth, fifth, and sixth prizes. For the purpose of framing the handicap, the event will be run first as a timed race. Each member's performance will be noted, and the handicap based on the time occupied. Should a competitor improve his time by a margin exceeding 2½% of the preliminary run he shall be disqualified from taking a prize.

2. **THE T.T. HANDICAP.**—Distance, three circuits, about 8½ miles (fork start). For all classes of motor bicycles, the cubic capacity of whose engines does not exceed 750 c.c. First prize, £1 1s.; second prize, 12s. 6d.; third prize, 7s. 6d., or value.

3. **ALL COMERS' HANDICAP.**—Distance, three circuits, about 8½ miles (fork start). For all classes of motor bicycles, the cubic capacity of whose engines does not exceed 1,000 c.c., and not less than 450 c.c. First prize, £1 1s.; second prize, 12s. 6d.; third prize, 7s. 6d., or value.

4. **RECORD TIME TRIALS.**—Distances, one kilometre and one mile. Flying start. Open only to members who compete in one or more of events 1, 2, 3. Each member will be allowed one trial over the above-mentioned distances, and best performances will be noted for the undermentioned engine sizes: Class A, for engines not exceeding 275 c.c.; B, 350 c.c.; C, 500 c.c.; D, 750 c.c.; and E, 1,000 c.c. Certificates officially certifying the best performance made in each of the above classes will be given.

ENTRY FEES.—Event 1, 2s. 6d.; events 2 and 3, 2s. each event; event 4, 1s. each class. Entries close first post Friday, July 9th.



H. A. Collier (8 h.p. Matchless-Jap), who scored a runaway win at Brooklands last Wednesday. His average speed over the 8½ miles was 69½ miles per hour—the fastest accomplished in a motor cycle race to date.

BRADFORD M.C.C. OPEN HILL-CLIMB.

AS already announced, the Bradford Club will hold an open hill-climbing competition under the competition rules of the Auto Cycle Union at "the Steep," Denholme, on Saturday week, the 17th inst., to commence at 2 p.m. The classes are as follows:

Class 1.—For lightweight machines, not to exceed 112 lbs. in weight.

Class 2.—For single-cylinder motor cycles, not exceeding 85 mm. bore.

Class 3.—For machines with twin cylinders, not exceeding 71 mm. bore each cylinder, or multi-cylinders not to exceed 55 mm. bore each cylinder.

Class 4.—Variable gear class, for single cylinders, not exceeding 85 mm. bore.

Class 5.—Variable gear class for twins, not exceeding 76 mm. bore each cylinder, and for multi-cylinders 55 mm. bore each cylinder.

Class 6.—For single-cylinder racing machines, not exceeding 85 mm. bore.

Class 7.—For twin-cylinder racing machines, not exceeding 75 mm. bore each cylinder, and 55 mm. bore for multi-cylinders.

Class 8.—Open to any motor bicycle, size of engine and weight of machine unlimited.

THE AWARDS.

A trophy in the form of a silver cup, to be won outright by the rider making the fastest ascent of the day. Gold medals will be awarded to each class winner with the exception of the winner of the fastest time trophy.

Silver and bronze medals will be awarded to the second and third in any class having not less than ten entries.

A pair of tyres to the value of £6 10s. will be awarded to the amateur making the fastest time, unless he should be the winner of the silver cup, in which case the tyres will go to the second best amateur performance on time.

A motor cycle acetylene lamp will be awarded to the amateur making the next best performance on time.

The above prizes will be awarded purely on time results.

Every machine entered in Classes 1, 2, 3, 4, and 5 must be in full touring trim, fitted with horn, toolbag, tools, efficient metal mudguards, and silencer, and be absolutely standard in every respect. Tourist Trophy models must enter the racing classes. A committee of scrutineers will inspect and classify the machines before the commencement of the event.

Entries and fees must be in the hands of the trials hon. secretary, F. Scriven, Alma House, Bradford, on or before the 14th inst.

THE HEAVYWEIGHT MOTOR CYCLIST RECORD BEATEN.

AFTER Mr. J. H. Davis's photograph appeared in *The Motor Cycle* of the 16th ult., we imagined that his "record" of 18 stones 11 lbs. would stand. We now publish a photograph of Mr. W. F. Cross, of Sunderland, who is a keen



Does Mr. W. F. Cross hold the heavyweight motor cyclist record? He scales 19 stones 12 lbs., and is 6ft. 1in. high.

supporter and worker for the Sunderland and District M.C.C., and rides a $3\frac{1}{2}$ h.p. Minerva motor bicycle. His height is 6ft. 1in., and his weight as he appears in the photograph 19 stones 12 lbs.—15 lbs. heavier than Mr. Davis.

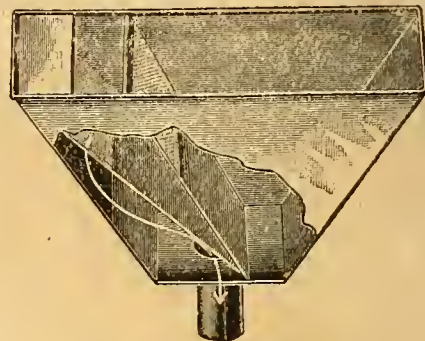
He has taken part in several of the above club's competitions, won medals in hill-climbing and speed judging contests, and has on many occasions ridden 150 miles a day. He has climbed the famous Ragpath Hill, Durham, with pedal assistance, the gradient near the top approaching 1 in 5. These performances speak volumes for his $3\frac{1}{2}$ h.p. single-gear machine in the hilly north country.

The machine has no free engine clutch. Mr. Cross runs alongside, switches on, and jumps into the saddle as nimbly as many riders half his weight and thirty years his junior.

Mr. J. B. Dall, Commercial Road, Ladybank, Fife, has introduced an improved detachable belt fastener. In the case of the new pattern the inner flanges are roughened to ensure a better grip of the belt. The Dall belt fastener is not only detachable, but variable in length to suit adjustable pulleys. Competitors in the Scottish Reliability Trials for motor cycles (July 19th to 23rd) can have one of these fasteners free of charge on sending size required and name of belt to the above address.

A NOVEL PETROL FUNNEL.

A PETROL funnel which Messrs. Brown Bros., Ltd., Great Eastern Street, E.C., are selling under the name of the "No Shamy" funnel is specially designed for intercepting the least particle of water or dirt which may be contained in the petrol. The title "No Shamy" is an American one, and means "No Chamois." American motorists are accustomed to use a piece of chamois skin to filter petrol. owing to much of the petrol sold in the States containing a large percentage of dirt which would be likely to obstruct the orifice in the jet tube. There are times when spirit used in this country also requires careful filtering, and this applies more to small quantities bought haphazard, the sealed tins being usually free from any impurities. To make use of the funnel, the petrol should be poured into the large pocket shown by the cutaway portions in the illustration. After pouring, the funnel should be tipped to one side, so that the petrol left at the bottom can run through the gauzes. Water cannot be carried with the petrol through the gauzes, and all water and impurities will be found to be left in the large pocket of the funnel. The over-all dimensions of the motor cycle size are $4\frac{3}{4}$ in. long by $2\frac{3}{4}$ in. deep by $1\frac{1}{2}$ in. wide. It will be seen, therefore, that it is possible to carry the funnel in a toolbag. We have used one regularly for some weeks, and have never experienced a choked carburetter since.



Messrs. F. Reddaway and Co., of Pendleton, Manchester, makers of the Camel tyres and belts, have opened new premises at 212, Shaftesbury Avenue, London, opposite the Daimler depot.



Mr. V. A. Holroyd, one of the judges in the M.C.C. Team Trials at Daventry, patrolling the main London road, on his four-cylinder F.N. Writing of heavyweights reminds us that Mr. Holroyd weighs over 17 stones.

Where Improvement is Needed.

By W. G. McMINNIES.

IN reading accounts of trial runs on motor cycles and cars it always strikes me as curious that most writers, whilst praising various good features of the machines, generally fail to point out their particular faults, and hardly ever make any reference to points which might be improved. This seems to me a pity, for, since certain good points are common to most machines, it is a waste of time to enumerate them. It would be a much better plan if the writer when referring to a motor's behaviour would mention its particular drawbacks as well as its specially good features. This method of criticism would benefit not only the public, but the manufacturer also, who would probably remedy and improve the defects which the motor expert had drawn attention to.

Although I do not propose to point out the faults of the motor cycles of to-day, I think a few words about possible improvements would be of interest to readers of *The Motor Cycle*. It was evident at the last Stanley Show that the majority of machines have settled down to standard lines. But if the ordinary man in the street is going to take up motor cycling he must have a comfortable, clean, simple, and safe machine to handle.

More Efficient Mudguards Needed.

Now that effective non-skid tyres for motor cycles are obtainable there are many more all-weather riders than there used to be; consequently all last winter there was a cry for more efficient mudguarding. The disgusting state which machine and rider appeared in after 150 miles of mud-plugging was more than enough to frighten away many would-be motor cyclists. Of course, there are several kinds of mud screens on the market, but these should be sold as standard equipment, and not as extras. Undoubtedly they rather spoil the appearance of a graceful machine, but, on the other hand, what machine looks nice when smothered in mud? Some up-to-date maker might bring out a mudguard designed like motor car guards and fixed to the frame of the machine. Instead of moving with the front wheel, it would be stationary. It would be about one foot broad, and have its edges turned down. The two mudguards would extend well round the wheels, and would be connected by a running footboard just as on a car. Sufficient width would be allowed the front guard to prevent the wheel bespattering the machine with mud when turning a corner.

The belt might cause some trouble, but let us hope with "Ixion" that it will die a natural death and give place to a worm or bevel drive. The belt certainly bespatters both machine and rider with mud when the roads are bad, and, this being the case, it seems strange why so few manufacturers fit belt guards over the rear wheel.

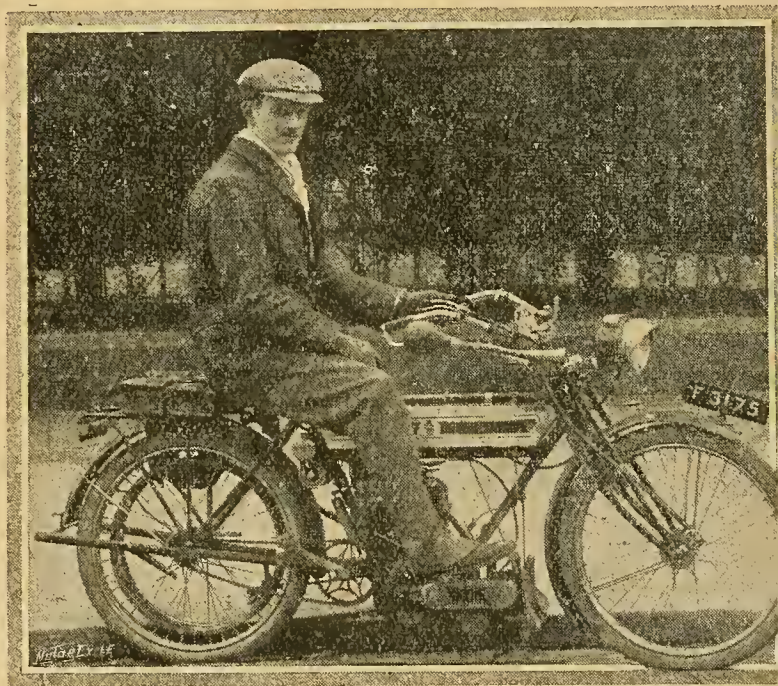
Two Speeds Desirable.

The gear drive should be combined with a two-speed gear, thus doing away with pedalling gear, which causes so much trouble in wet weather, owing to the seizing of the free-wheel clutch. There is no doubt whatever that many people do not take up motor cycling simply from the fear of starting a machine, which seems to them to require far too much physical exertion. The obvious advantages of a two-speed

gear and free engine clutch have been so well threshed out in these columns that there is no need to repeat them, whilst every *bonâ fide* all-weather rider knows by experience that the variable gear is bound to come if the motor cycle is to thrive and prosper.

The Lubrication System Criticised.

My next grumble is regarding the system of lubrication adopted on most motor cycles. This is rough and ready to a degree, and its sole advantage is its simplicity. How is it that motor cars can run 10,000 miles without having their pistons and cylinders taken off and scraped? How is it that a certain well-known car went through the 2,000 Miles Trials last year and only consumed a gallon of oil? Some motor cycle engines, especially those with high compressions, have to be taken down and cleaned every 800 miles.



F. G. Smith (1909 Triumph) who has been awarded the M.C.C. Challenge Cup for adhering closest to the time schedule in the M.C.C. London to Edinburgh and Back Runs.

others may last for 1,800; but I have never heard of an engine running for 10,000 miles without such attention. A certain trade rider in the 1,000 mile trials of 1907 told me that he was only using half a pumpful of oil every twenty miles, whilst others were consuming a pumpful every ten miles. The makers have no mercy on the unfortunate amateur who attempts economy in this direction. Any faulty running is at once attributed to under-lubrication, so the owner promptly uses more oil, and knocking soon sets in. Too much oil, causing preignition, is the maker's retort this time. The tyro must have the lubrication done for him. There must be a pump maintaining a constant level of oil in the crank case, so that an overflow will draw back into a sump and be used again. The faster it runs the more oil will the pump deliver to the bearings and *vice versa*, which is exactly what is needed.

Oiltight Crank Cases the Exception.

Again, how seldom one sees a really oiltight crank case. Oil oozes out of bearings, tappet guides, and timing gears, and in a short time dust and mud have completed the work of making the engine filthy to handle. Some of the highest grade machines suffer

Where Improvement is Needed.—

From this complaint. When we get our mudproof machine and oiltight crank cases, adjustments will be a pleasure to perform, and we shall not have to complete every operation by a wash at the petrol tap. Several prominent motor manufacturers have enclosed their valve gear, and perhaps this method will help us in solving the difficulty.

Nowadays, practically the only reason for dismantling the cylinder is to scrape away the burnt oil and clean it out, so that if the old Buchet type of combustion chamber came into fashion again, and we could remove the cylinder head by undoing four holding-down bolts, we should save a lot of time over the present method. The difficulty of keeping the joint gastight is surely not insurmountable. It would also be convenient for competition work to have a couple of combustion heads giving different compression spaces—one for touring and another for hill-climbs and speed work.

Lightness and Simplicity.

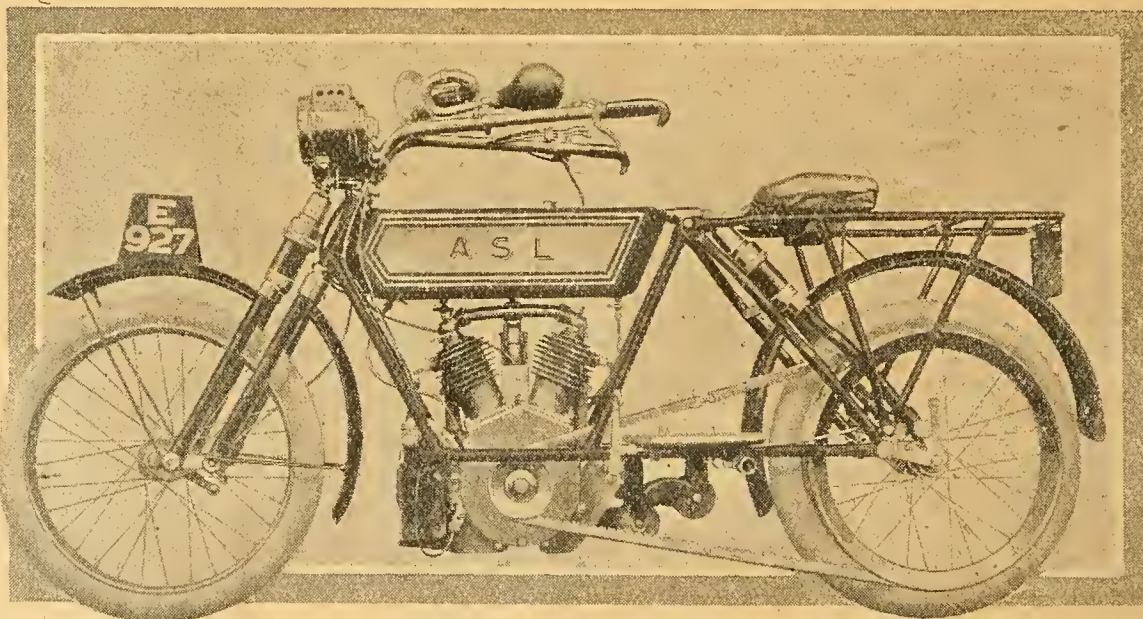
The lightweight is the machine of the future, and will be a serious competitor to the bicycle when prices have come down a bit. Those makers who now only make heavy machines would do well to get under way with a lightweight model. Personally, I should like a miniature edition of the present-day single-cylinder machine, which should weigh about 90 lbs. and be of $\frac{3}{4}$ h.p. As regards simplicity, automatic lubrication, carburation, and fixed ignition would make matters simple enough for the novice, who would thus have the throttle alone to manipulate. So few carburetters

are easily understood, upon first acquaintance with them, that it is the simplest thing in the world to muddle the mixture and fail to climb a steep hill successfully. Generally speaking, automatic carburetters are not a success on motor cycles owing to the enormous flexibility of the engines, which run at all speeds up to 3,000 r.p.m. Air supply and engine revolutions go hand-in-hand, with the exception that in summer slightly more air is needed than in winter. It might be possible to fit a governor on the extra air valve, so that at slow speeds this would remain shut, but at high speeds it would open, and thus the faster the engine ran the further the governor would open the extra air inlet. Probably this device has already been tried and found wanting. It is the custom with many motor cyclists, when descending a hill, to close the throttle and open the extra air. The result of this is, in most cases, to suck up oil into the combustion chamber and foul the piston. How is it that the air brake is not more popular, by which, when the throttle is closed, a further movement of the lever admits pure air into the cylinder? Naturally the air valve in this case is on the engine side of the throttle. This device is very useful for scavenging and cooling the cylinders, besides acting as a brake. Another improvement which might be embodied in many carburetters is a device for varying the amount of air opening to the choke tube, thus allowing of a richer mixture and slower running. It could easily be arranged for a further movement of the lever, after closing the extra air inlet, to shut off the main air below the jet.

THE A.S.L. SPRING-FRAME MOTOR BICYCLE.

A NOVEL spring frame motor bicycle is the twin-cylinder A.S.L. illustrated herewith. Two of these machines were ridden by competitors in the London-Edinburgh run, and were much admired. One of the machines had 22in. wheels, which proves to what extent vibration is reduced, as it would be very uncomfortable to ride a rigid framed machine with 22in. wheels 400 miles in twenty-two hours. Air springs are used on the A.S.L. The elasticity of steel is confined to very narrow limits, while the elasticity of air is unlimited. The air spring consists essentially of a hollow pressed steel cylinder and plunger filled with compressed air. The stroke of the plunger is 2in., and the movement can be varied for riders of different weights by pumping air through a valve, using an ordinary tyre pump. The cushions are claimed to be absolutely airtight, the packing between the cylinder and plunger being a rolling "mitten," which performs its function without friction. It must be admitted that the air springs are not at all unsightly, and if all the claims made for them can be substantiated in practice, we can predict a big future for them on motor cycles. We are favourably inclined towards spring frame motor bicycles, realising that any device which can improve the comfort in riding, especially

on uneven surfaces, will be welcomed by motor cyclists in general. We have not tried the A.S.L. air springs on a motor bicycle as yet, but the makers' representative kindly loaned us a push bicycle to gain an idea



A twin-cylinder motor bicycle, the rider of which is insulated from road shocks by means of air springs.

of the comfort of being suspended on air. We must say that the springs entirely insulate the rider from road shocks, the unfair test of riding the bicycle over a brick resulting in no more perceptible jar than in the case of riding over a stone with a rigid framed bicycle. Shortly we may be carrying out further tests with these air springs applied to a motor bicycle, and will refer to them again in these columns.



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, 'The Motor Cycle,' 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Sluggish Starting.

?

Please tell me how to rectify the trouble I have in starting my 3½-4 h.p. motor cycle (Stevens engine). It always takes me at least ten minutes running before I can get the engine to fire, and I generally have to start it running down hill because the pulley is so stiff. It is always well lubricated, and I inject petrol, and have tried it with the compression tap slightly open, but to no effect. Once started, however, I have no further trouble until the engine has cooled a little, and then I again have the same bother. It is so stiff that the pedal will bear my whole weight with the exhaust valve lifted. —S V.

If you inject a little paraffin into the compression tap instead of petrol we think the trouble will cease. The easiest method of starting a motor cycle is to inject paraffin and then run the engine on the stand. If you have no pedals this cannot very well be done. Does the machine run satisfactorily when it actually is going, and when warm is it really free? If not have it taken down and have the bearings examined. It seems as though something is binding. The perfect adjustment of the carburetter is everything if you wish to obtain easy starting. If the main air intake is too large, easy starting will never be possible.



J. V. Robinson (2½ h.p. Twin Douglas) a competitor in this week's Reliability Trials. This rider won a silver medal in the London-Plymouth and Back Run as well as gold medals in the London-Edinburgh Run, M.C.C. Hill-climb, and a non-stop certificate in the last Quarterly Trial.

Fitting a Free Engine Clutch.

?

I do not at all like running alongside my machine and then stepping on to the pedal when the engine fires, so I am contemplating fitting a Mabon free engine clutch. I have never seen the fitting in question, but it has occurred to me that there may be some difficulty in starting a magneto-ignited engine by means of a handle connected direct to the crankshaft. I am unable to make any experiments in this direction, as I am at present serving abroad, and shall not be returning to England for a few months. The question, therefore, which I desire to settle is this: Would handle starting be reasonably easy under the circumstances, and how many turns of the handle would probably be required to start the engine?—B. A. S.

It is difficult to start a magneto-ignited machine by means of a handle on the crankshaft. It is far better to start the machine by means of the pedals when jacked up on the stand, place the clutch in the free engine position, put down the stand, then sit astride the machine, and gently engage the clutch.

Carburetter Adjustment.

?

I recently purchased a 5 h.p. twin Peugeot, 1908 pattern. My difficulty seems to be exactly the same as that of "C 91," who wrote in a recent issue of *The Motor Cycle*: "I cannot get the machine to run at all slowly, it is a case of about 30 m.p.h. or nothing." This is not an exaggeration, as I tested it by a speedometer. When I first bought the machine it always took full air, and would even start with extra air fully open. I therefore had two holes drilled in the inlet pipe (the holes are about ¼ in. by ¼ in.), and now it runs best with these open and about half extra air, the throttle being half open, spark fully retarded. Advancing the spark accelerates the machine a little, but there is a good deal of misfiring unless the spark is perfectly adjusted. When I mount the machine I start with throttle fully open. I then set air as described, but it does not run at its best till the throttle is slightly closed. Any shutting off of air

causes missing; giving more air produces a dead stop. Originally (i.e., before drilling holes in inlet) it would only run with throttle fully open, now it runs as well with it half shut, but the speed is just the same. Ignition is by two trembler coils and make and break. I have adjusted contacts, etc., very carefully, and it will start in five yards. Besides not being able to run slowly, I am troubled with occasional missing, even when all levers are set very carefully. Any alteration is liable to produce worse missing. Nevertheless, it runs at a very high speed when throttle is fully open, and will usually simply fly up a stiff hill.—L. OWEN.

You might try another make of carburetter with handle-bar control. Your trouble appears to be due to imperfect adjustment of carburetter, or the carburetter is incapable of giving a rich enough mixture at slow engine speed when throttle is nearly closed. Boring the holes in the inlet pipe was, we think, a mistake under the circumstances; the main air openings are probably too large, or the space around the jet is too large for slow engine speed. Also test the level of the petrol. It should rise to within ¼ in. of the top of jet orifice. It is probable that the inlet springs are too strong. If you want to retain the original carburetter you could try a smaller jet and adapter, and purchase a handle-bar control device which will fit.



The only 1909 3½ h.p. Excelsior in the Six Days' Trials is being ridden by H. Berwick, who is seen in the above illustration. We have recently tested one of these models, and shall relate our experiences in an early issue.

Adjustment of Coll. Variable Pulleys.

[?] (1.) Kindly inform me as to the correct adjustment of a trembler coil. Should one try to get as high a note as possible? (2.) Are the automatically variable pulleys as made by the Lloyd Engineering Co. really good? Would you think that one of these would be a success fitted to a 2½ h.p. Bradbury?—J.L.T.

(1.) One should try and get a fairly high note and avoid having the points closer than is absolutely necessary. The quicker the vibrations the less current will be consumed. (2.) We have tried the variable pulley referred to in your query. It is quite satisfactory, and would be likely to suit your machine.

Paraffin as a fuel.

[?] (1.) Will you kindly tell me if I can run my engine on paraffin (White Rose) by having a small tank for petrol on the top bar above the ordinary tank, with tap and connections to carburetter? I thought of starting up on petrol until the engine got warmed, when the petrol tap could be turned off and the one for paraffin opened. I should, of course, fit levers to operate the taps, to avoid dismounting. (2.) Does paraffin deposit carbon more rapidly than the lighter fuel? (3.) Should I get as much power? (4.) Would any alterations in the carburetter jet or choke tube be necessary?—S. HUGH, Penzance.

(1.) Your engine would run on paraffin after it has become warm, but (2) a good deal of deposit would be found on the cylinder, and you might have trouble from pre-ignition eventually. (3.) You would probably get as much power at first. (4.) With some carburetters no alteration is necessary. Taking all things into consideration, we do not recommend paraffin except for cleansing purposes. In our opinion, there is not sufficient difference in the cost of the two fuels to warrant the alterations on a motor bicycle which runs a hundred miles to a gallon of petrol. Paraffin is a very objectionable liquid. It collects dust to a great extent, it reeks, and any machine with a paraffin tank and taps on it always looks messy.



H. Bevir, of Oxford, an amateur who is riding a 3½ h.p. L.M.C. in this week's trials.

Lack of Power. Route Wanted.

[?] (1.) When last out with my 5 h.p. twin-cylinder machine it went fairly well on the level, but would not take the slightest hill. Can you please suggest to me the probable cause of loss of power? (2.) I intend going by boat to Ilfracombe, and thence by road to Looe, in Cornwall. Kindly tell me the best and most direct route for motor cycling from Ilfracombe to Looe.—R.G.T. (South Wales).

(1.) It is difficult for us to say what is the matter with your machine with-



A. G. Fenn, one of the trials competitors, who is riding a Twin-cylinder Bat-Jap.

out examining it. Test the compression, and if this is poor try grinding in the valves, and if this does not bring about the desired result fit new piston rings. See that the carburetter and feed pipe are clear, and that the ignition is in good order; also pay attention to the strength of the valve springs. (2.) Your best route would be as follows: Ilfracombe, Ashford, Barnstaple, Westleigh, Bideford, Monkleigh, Holsworthy, Launceston, Liskeard, Looe.

Engine Fails on Hills.

[?] When climbing even a moderately long hill on practically full throttle, no extra air, spark fully advanced, the explosions when nearing the top become stifled and finally cease. A rest of even half a minute is generally sufficient to enable engine to recover. My machine is one of the old 2½ h.p. Minervas, inclined engine, on a B. and K. frame. Carburetter, Minerva Longuemare; magneto, Eise-man; timing, in order; exhaust valve lifts as soon as tappet starts lifting. I cannot give any extra air even with full throttle, which is curious, as the symptoms seem to me to point to overheating. I have just had cylinder down and cleaned out thoroughly without any improvement.—W. H.

The case seems to be purely one of overheating. We take it that you gradually retard the spark as the engine slows down. We suggest that you try a different brand of oil and lubricate fairly frequently, also take down the silencer and clean it. You do not mention the amount of lift of the exhaust valve. With old engines the valve cams are usually found to be worn, which considerably affects speed and power on hills.

READERS' REPLIES.

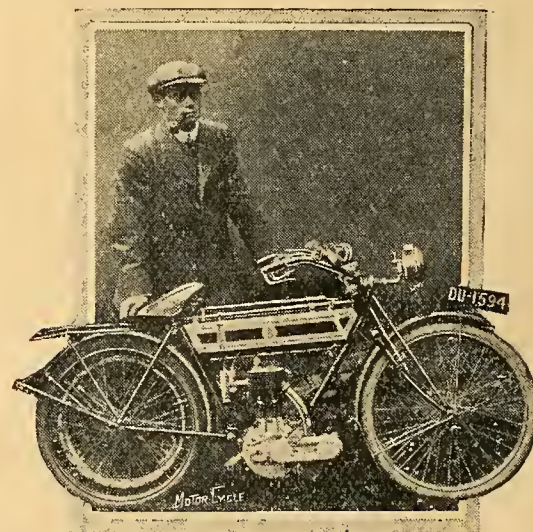
Gear Drive.

In answer to query from 1585, I, too, am a user of the F.N. four-cylinder machine—a finer machine I never rode. I also noticed the same rattling noise as your correspondent mentions. Let him see that the gear cases are well filled with graphite grease. Then fit a set of Bosch plugs and sit back and hold tight. He will have no more trouble with noisy gear wheels.—F.N. 1559.

A reader complains about the noise from his bevel drive. The chattering he complains of is caused from the following: (1.) One of the cylinders missing. Remedy, feel exhaust pipes, the coldest being the missing one. See to plug, or exhaust cotter may be broken. (2.) The cone of back wheel may be loose, and on tightening up the noise will cease. I have just seen a new machine chattering from a loose cone. I am not troubled from this noise, and when I hear the slightest I open the throttle. It may interest riders to know I lubricate my 5-6 h.p. F.N. with Butterworth's "M," one pumpful every five or six miles. The oil is very thin, and does not stop up plugs when past the rings. I have also drilled out my silencer with twenty ¼ in. holes in the inner pipe, and have increased my power greatly, without any more noise.—ERNEST S. DANGER.

Better Compression when Engine Turned Backwards.

Re the query in *The Motor Cycle* about an engine having better compression when turned backwards. I recently had a 2¾ h.p. engine with the same trouble, and traced the cause to the exhaust cam slightly lifting valve dead on compression stroke, although when the cam had just finished lifting valve on exhaust stroke there was a good 1/16 in. clearance. This, I think, would explain the cause of better compression backwards, as the cam would be in a different position. This may also explain "H. A. B.'s" trouble, "irregular compression," for if there is any lateral play in cam and the cam worn on one side more than another, it would cause the valve to lift sometimes and be all right at other times.—F. PIKE.



F. C. Mustard, a consistent performer in long-distance reliability trials, who is taking part in the 1,000 Miles Trials on his T.T. Triumph.

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THE NORTH ROAD DUST AND RAINPROOF OVERALLS.

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Will not rust. Made in aluminium. Will fit all handle-bars. Complete with Ingersol watch that is specially constructed to stand vibration. Watch can be set and wound without removing same from case. Each watch has a written guarantee given with it for 12 months. Price, complete, 8/6. Case only, 3/6. Post free.



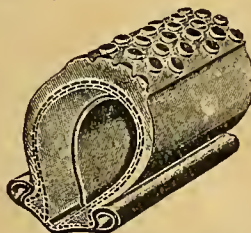
THE LODGE PLUG.

Suitable for magneto or accumulator ignition. Spark brought well away from all cold metal surfaces, enabling maximum power to be obtained from spark and extremely weak mixtures to be fired. Three spark points and centre rod all of absolutely pure nickel and substantial in size. The spark will not burn them away. Porcelain sleeve round central electrode, which keeps hot enough to prevent the deposit of soot or any condensation, and this without the possibility of preignition common to plugs with projecting porcelains. Each plug guaranteed. Price 4/-. Post free.

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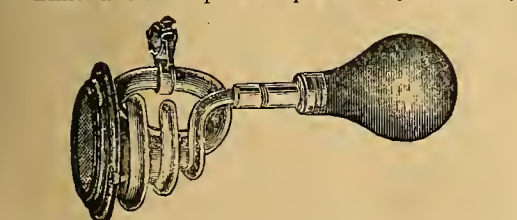
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A New Design in Horns: "LA SERPENTINE." Emits a loud deep note equal to any car horn; finished in nickel; is fitted with dust sieve, best quality bulb, and is suitable for any handle-bar. Price 11/6. Postage 4d.



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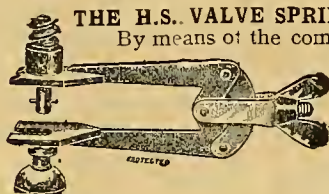
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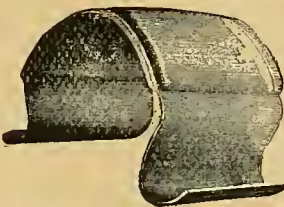


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HANDLE-BARS.

Best quality only. Length, 23 inches. Price 8/9. The P.M. pattern, as illustrated; length 18 in., stem 7 in. or 1 in. Price 7/6. Postage on handle-bars 6d. extra.



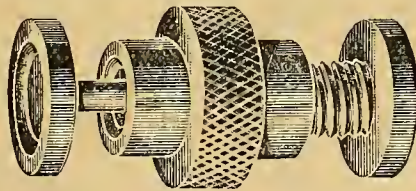
THE H. S. REPAIR BAND.

A useful accessory for cuts or gashes in your outer cover. Consists of a rubber band with canvas lining. No solution necessary.

is fixed by being tucked between rim and cover. Price 1/-. Postage 2d.

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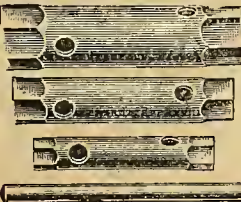
For securely fixing Batteries to prevent them moving in the box. Accumulators cannot move



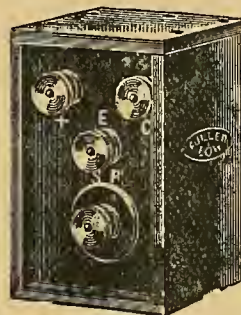
or the celluloid be damaged by vibration. Solid brass. Price 9d. each. Postage 1d.

THE HUNT ALL-METAL HANDLE-BAR SWITCH

Price, one-way, 2/3; two-way, 2/9. Postage 2d. The design of this switch is so extremely simple that there is nothing in it to get out of order; the contact is quick and definite for both make and break. The whole of the switch is made out of heavy sheet brass well finished and nickel plated, the terminal is insulated with extra large ebonite washers, and the fixing clip is attached by a bolt and nut passing through the sides of the metal case, thus ensuring a reliable attachment to the handle bar.



BOX SPANNER, specially made for motor cycle use, including tommy. Sizes 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. These sizes fit all nuts on a standard machine. Price 2/6 per set, postage, 3d.

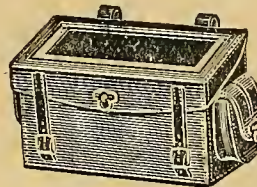


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We only stock the well-known manufactures, whose name is a sufficient guarantee as to workmanship and quality. The Fuller Non-trembler. Size, 2 1/2 x 3 x 4 1/2 in.; price 10/6. The Fuller Twin-cylinder ditto. Size, 5 1/2 x 3 x 4 1/2 in.; price 21/-. The Fuller Trembler Coil. Size, 2 1/2 x 3 x 4 1/2 in.; price 17/6. The Twin-cylinder ditto. Size, 5 1/2 x 3 x 4 1/2 in.; price 35/-. Post free.

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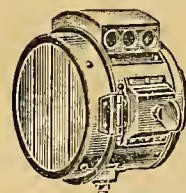


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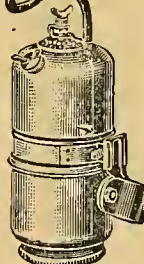
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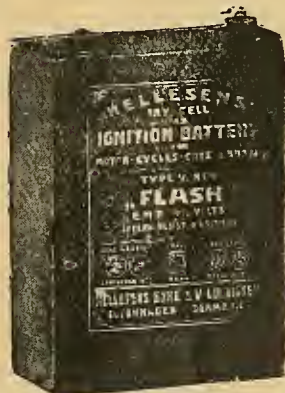
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One quality only—the Best. Well made. No leakage. No corroded terminals. Every one guaranteed. No. 1, 15 amp.; height, 5 1/2 x 3 1/2 x 2 in.; price 9/6. No. 2, 20 amp.; height, 6 x 4 x 2 in.; price 10/6. No. 3, 40 amp.; height, 6 1/2 x 4 x 3 1/2 in.; price 17/6. Postage 6d. extra.

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Newburn.

Passenger :
Miss Vesta
Victoria

Empire Theatre, Shepherd's Bush, June 12th, 1909.

Dear Sirs,—I am returning to you my Shamrock-Excelsior cover for retreading. This cover has been fitted to the rear wheel of my V. S. Twin, pulling sidecar and passenger, and has covered 2,567 miles without a puncture ; this surely must constitute a record. Faithfully yours, GEORGE NEWBURN.

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The most effective Non-Skids.

Unsurpassed for safety and comfort.

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Dear Sirs,—I have much pleasure in informing you that your Shamrock-Gloria Belt took my machine and passenger to Edinburgh and back (800 miles) to my great satisfaction in spite of considerable wet. V. OLSSON.

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COMMENTS

Sydney Jones

Belt Fasteners.

Several unlucky wights ruined the chances of their teams at Daventry by using unsuitable belt fasteners. "Hard luck!" said the onlookers, but I do not remember having broken a belt fastener for two or three years past. Riders should beware of fasteners in which the link consists of a narrow hook. I use two types. In one the link is not a hook at all, but resembles the link of a chain in being endless; in the other there is a hook, but it is a broad, flat hook, with so much thickness of metal that it cannot very well snap. I have never broken a fastener of either of these types. It is true a broken fastener is a trivial matter in ordinary riding, and only serious in a non-stop run. But why be bothered with "frangible" fasteners when unbreakable types are obtainable?

Tank Capacity.

I noticed during the team trials at Daventry that very few of the standard machines had sufficient tank capacity to carry fuel for 100 miles. Some of the riders had strapped or screwed on extra petrol tanks, with flexible connections to the main tank stopper, while others carried reserve supplies in oilcans slung round their necks. This is due to the dual craze for lightness and efficiency. When one maker advertises a touring $3\frac{1}{2}$ h.p. at 150 lbs. other makers have to get down to the same mark somehow, and lightening the tank is a simple way of paring off a few ounces. Again, modern engines are naturally rather thirsty, and so the supply does not go as far as it used to. But I cannot help thinking that any genuine roadster should carry sufficient petrol to cover at least 120 miles of flat road at eighteen miles per hour. Makers might meet the objection by listing a larger tank as an extra.

The Team Trials.

Two organisations deserve our congratulations on the success of the team trials. The first is the M.C.C., which made the most perfect arrangements, handling a huge crowd of rather inexperienced riders with speed and smoothness. The other is the A.C.U., which at last unbent sufficiently to issue a permit licensing all the competitors to ride in competition for one day only without paying 2s. 6d. apiece to headquarters—a notable precedent, the imitation of which in future will save a good deal of unnecessary friction. I have only one suggestion to offer to the M.C.C. A number of riders were compelled to dismount by cattle on the roads, seven or eight being stopped in a bunch by one herd of cows. It is, of course, impossible to keep the roads clear of such obstructions, but when riders experience traffic stops in a non-stop competition there is always the possibility of subsequent difficulties; I remember several instances. Perhaps a yokel tells an official afterwards, "I seed No. 336 get off his sicycle; yus, I did!" The tale goes round. No. 336 has perhaps cleared himself in the eyes of the officials by reporting his stop to the timekeeper at the first opportunity, but after the stop he feels a little

uncomfortable lest accusations should be made against him, and possibly rumour attaches some suspicion to him ever after. When there are lots of officials patrolling the course, and the course is a short one—both of which conditions were fulfilled in the team trials—it might be a good thing to detail a marshal to follow cows, restive stallions, etc., till they leave the course, so that riders who are thus compelled to dismount should be relieved from any discomfort as to whether they will be credited with a non-stop run.

Big Valves.

I notice that a good many 1909 machines are fitted with inlet and exhaust valves of a far larger diameter than was formerly customary. In most cases the greater width of the head has been compensated for by increasing the bulge at the neck where the stem joins the head, but even so I expect there will be a goodly percentage of broken exhaust valves during the year, as the smallest increase in the diameter of the head throws a vastly increased strain on the neck. Riders of machines possessing these enormous valves will do well to make the carrying of a spare valve an invariable rule, and they will be wise if they take out the valve and examine it about once in a thousand miles. Most engines are now designed so that if a valve snaps across, the head cannot find ingress into the combustion chamber.

Spring Tension.

Every elementary handbook on motor engineering touches lightly on the fact that the tension of the valve springs is of some importance in tuning up a petrol engine, but I wonder how many amateurs realise the immense difference which weak and strong springs on the valves of such an engine really make. I was in a testing shop the other day where a firm of engineers were being grievously disappointed with the slow running of an engine from which they expected to get a very high rate of revolution indeed. Tested by a revolution counter, it was only running up to 2,200 r.p.m., which, of course, is a very ordinary speed indeed for a light cycle motor. The next day I saw the same engine tested with a new set of much stiffer exhaust and inlet springs. No other alteration had been made in the fittings or adjustments, yet the speed was now increased by about 1,000 r.p.m. The explanation of the starting contrast is obviously that, though ignition, carburation, and general design were adequate for the higher speed, the engine could not attain it with weak springs simply because the valves refused to operate fast enough. Makers generally fit their valves with a compromise in the way of springs. A stronger spring may, indeed, enable the engine to develop more power, but there are compensating disadvantages. With strong springs the valves pit more easily, the exhaust valve is more apt to break, real elasticity becomes impracticable, and the valve-lifting wire will stretch unpleasantly soon. However, the above facts may interest readers who compete in sprint events occasionally.

CURRENT
CHAT

SPECIAL FEATURES

HERTS. COUNTY A.C. HILL-CLIMB.

MOTOR CYCLE RACING AT BROOKLANDS.

RE IMPROVEMENT IS NE DED.

S ART OF THE SIX DAYS' TR ALS.

TIME TO LIGHT LAMPS.—July 7 .. 9.16 p.m. July 10 .. 9.14 p.m. July 14 .. 9.10 p.m.

M.C.C. Team Trial.

It was stated last week that R. H. Edwards was one of the Birmingham M.C.C. team and covered the course without a stop. It transpires that this rider did not start, his place being taken by Reg. Samson, who rode a $3\frac{1}{2}$ h.p. L.M.C. motor bicycle and obtained full marks.

Police Trap.

We have received information of a police trap two and a half miles out of Kidderminster on the Worcester Road. The trap is shifted from time to time, and sometimes is situated on the Kidderminster side of Ombersley. There are also rumours of another trap on the Bridgnorth Road.

The Third Quarterly Trial of 1909.

The next quarterly trial is on Wednesday, the 28th inst., over the usual course from Uxbridge to Banbury and back. We read that the reason for holding this trial on a Wednesday is to give those competitors who find it difficult to be away from business on Saturday an opportunity to compete.

The Tour de France Trial.

The annual Tour de France reliability trial for motor cycles and voiturettes, organised by L'Autocycle Club, has been postponed until July 25th-August 1st. The total distance to be covered is 1,800 kilometres, the route being *via* Paris, Nancy, Besançon, Nevers, Poitiers, Rennes, Caen, and Paris. This trial will be described and illustrated in *The Motor Cycle*. Entries at ordinary fees close on the 10th inst., to L'Autocycle Club de France, 23 et 25, Rue Jean-Jacques-Rousseau, Paris.

The Road Surface on the Trials Route.

We have to thank a number of readers for sending us reports on the condition of the road on the six days' trial route. Letters on this subject from Messrs. W. H. Morgan (Salop), J. O. Hughes (Shrewsbury), J. B. Webster (Kidderminster), H. Horton (Leominster), H. P. Potts (Broseley), J. R. Wilkins (Derby), J. H. Davis (Leominster), C. Plumb (Crewe), J. Horswill (Chester), G. G. Croft, and I. Kenmore were forwarded to the secretary of the A.C.U. last week, and the information is proving of service to competitors and officials alike.

A Misdescription.

For describing a sidecar as a "Chater-Lea" when it was not so, a Mr. D. Jackson has been ordered by the Clerkenwell Bench to return the money paid (£5 15s.) to the buyer, Mr. G. Want, of Barnsbury, and also to bear the costs of the action.

Three Silver Cups and Two Gold Medals in One Week.

The above is the record success of Mr. P. H. Cockcroft, an enthusiastic Leeds motor cyclist, and a rider of a Triumph. He gained the Langton silver cup and gold medal in the Leeds-Edinburgh and back trial promoted by the Leeds M.C.C., and won the York County M.C.C. Palmer cup outright in the same event. His success in the York County M.C.C. twelve hours' trial for the Triumph cup accounts for the other cup and gold medal.



A. V. Sumner, who is riding a speed Humber in the Six Days' Trials, bridge on competitors

Sumner, who is riding a speed Humber in the Six Days' Trials, bridge on competitors

Products of Six Countries Represented.

Although French, German, Austrian, Belgian, and American motor cycles were represented in last Wednesday's race at Brooklands, an all-British machine scored an easy win.

Address Wanted.

Will Mr. C. Brown, who wrote to us about a steam motor bicycle, and whose residence was given as "398, Devonshire Road, Forest Hill, S.E.," kindly communicate with the editor, as a letter forwarded to that address failed to reach him.

Scottish Five Days' Open Reliability Trial.

In connection with the above event, Mr. Campbell McGregor, hon. trials sec. of the organising club, would like to draw the attention of intending competitors to the fact that the Edinburgh M.C.C. has affiliated to the S.C.U., and that it will be necessary for all competitors to be licensed riders. Consequently, no licensed rider may have any fear that competing in this event will render him ineligible for competing in any other open event. Intending competitors in this trial should note that no entries will be accepted after the 12th inst.

The Team Trials for "The Motor Cycle" Cup.

In the team trials at Daventry fifty-one single-cylinder machines made non-stop runs, and fifteen twin and four-cylinder machines. In view of this unfavourable comparison of the multi-cylinder machines, it is only fair to add that the winning team consisted of five riders of twin-cylinder machines, only one riding a single-cylinder. Another peculiarity about the M.C.C. team was that it was the only one with two-passenger machines in it.

Mr. H. E. Davidson, who was one of the North Islington Conservative and Unionist M.C. team, points out that he made a non-stop run on his $3\frac{1}{2}$ h.p. Rex, the twenty-six and a half miles he was credited with being the mileage accomplished by H. J. Compton, another member of the team.

A Streatham reader considers that not enough has been said of the performance of the St. Albans team in the trials. He points out that every man went through without the loss of a single mark, and if the non-starter had turned up it is reasonable to suppose that with a full team the M.C.C. win would not have been just as easy.

A.C.U. Six Days' Trial.

The total number of entries received for the Six Days' Trial was seventy-five, four entries being received by the A.C.U. after our last issue had gone to press. There was only one absentee.

Olieslagers, Champion of Belgium.

In wet weather, the track being somewhat treacherous in consequence, the motor cycle championship of Belgium, over ten kilometres, was decided at the Velodrome de Karreveld, Brussels, last week. Olieslagers, who has held the title for six years, again won, but a surprise was furnished by the brilliant form of Simon, who, riding with great daring, was only just beaten on the post by Olieslagers in the last fifty metres. André was close up. In 1904 Olieslagers, it will be remembered, paced Walthour to victory in the 100 kilometres world's championship at the Crystal Palace. The speedy rider is twenty-six years of age, stands 5ft. 7in., and scales 10 st. 7 lbs.

Proposed Professional Olympic Games.

A great carnival of professional sport of a week's duration on the lines of the Olympic games held last year, will in all probability be decided during the last week in August at the Stadium. Already most of the world's professional athletes and cyclists have agreed to compete for the large money prizes, that for the track Marathon race alone being £2,000. It is to be hoped that in framing the programme a motor cycle professional Olympic championship will be included in the sports.

First Aid Tricar for Bromley.

Following the last fire—£15,000 damage being caused by a lighted match being dropped near the engine of a chaff-cutting machine that had been cleaned with petrol—Bromley Urban District Council has decided to purchase a motor fire engine and also a first-aid motor tricar, similar to that owned by the Beckenham Fire Brigade, this machine being amongst the number at the Bromley fire referred to.

The Leather Casque again Proves its Worth.

After the race meeting at Brooklands last Wednesday a number of motor cyclists indulged in practice spins on the track, during which an unfortunate accident occurred. W. E. Cook, the rider of the 7 h.p. N.L.G., was travelling well over a mile a minute, when he was suddenly unseated, and sustained a very bad fall. It was fortunate for him that he was wearing a leather helmet, as this saved his head from damage, but his arm and hands were badly lacerated.

New York Policemen Motor Cyclists.

Many of our readers are doubtless aware that New York has a corps of motor cycle policemen. A number of these held a race meeting last month under the auspices of General Bingham, the Police Commissioner of New York City. In England it is hard to imagine our constables and sergeants taking part in track races. Were there motor cycle policemen in this country,

there would undoubtedly be less persecution, the real road hog would be wiped out, and the careful drivers would be free from molestation.

A Hill Climb for Standard Machines.

The Bradford M.C.C. is holding an open hill-climb on July 17th at Denholme Steep, and the officials are tak-

north on that date. "Ixion" wishes them every success, and trusts they will succeed in limiting the roadster classes to genuine tourist machines. If they do, their competition will be the first of the sort for several years.

Motor Union Notes.

The M.U. has been approached by certain of the motor cycling members with an offer of assistance to the War Office in connection with the cavalry manœuvres in September next to act as despatch carriers. As these motor cyclists would be, so far as possible, men of experience either with the Regular Army or Auxiliary Forces, they should be able to render good service in such manœuvres.

The Rev. F. Peel Mears, Northaw, Herts., who has had considerable experience with motor cycling, has been elected a member of the Motor Cycle Committee.

Forty-seven motor cyclists have been enrolled as individual members during June.

Owing to the inability of the Rev. F. W. Hassard-Short, chairman of the Motor Cycle Committee, to attend the deputation of the Motor Union to the Chancellor of the Exchequer on the question of taxation, Mr. Martin J. Tuchmann, who is also a member of the committee, was appointed to represent the Union on behalf of motor cyclists.

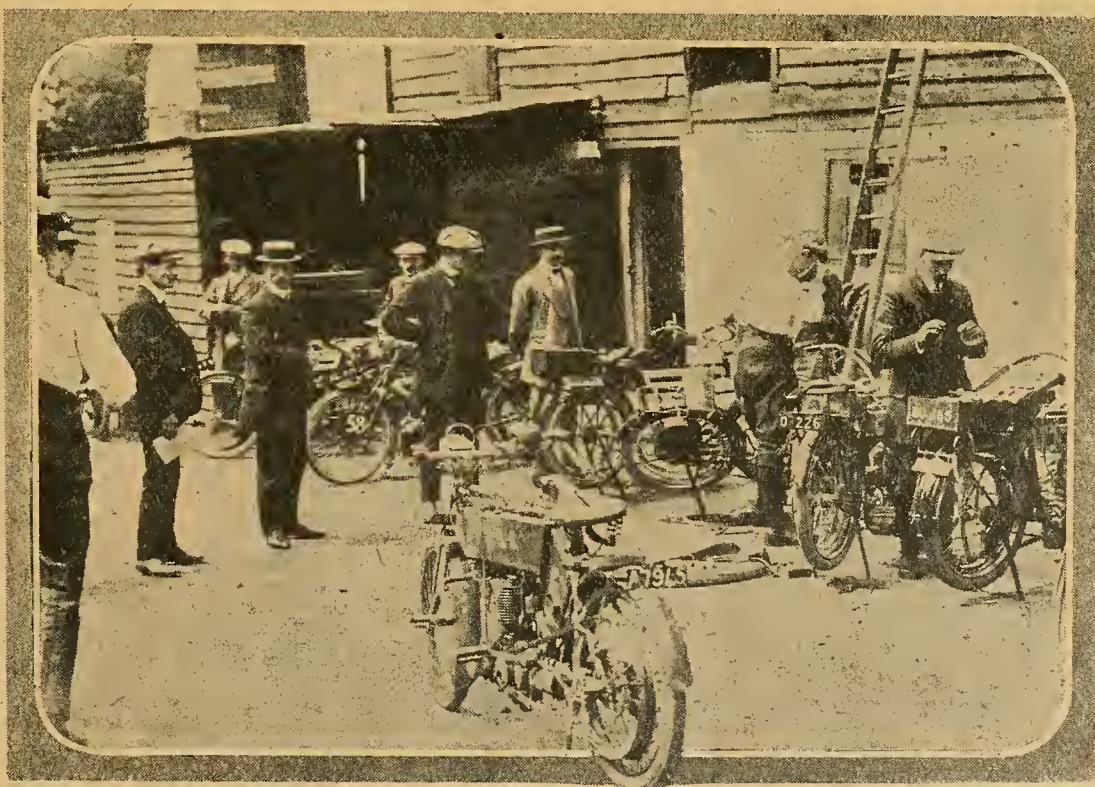
FUTURE EVENTS.

- July 5-10—THE A.C.U. SIX DAYS' RELIABILITY TRIALS. Centre: Shrewsbury.
- " 10-19—Motor Union Tour to South Wales. Speed Trials on Pendine Sands, Carmarthen Bay.
- " 13—Irish End-to-end Open Reliability Trial for Palmer Trophy, promoted by the Ulster Centre M.C.U.I.
- " 14 (Wednesday)—British M.C.R.C. Fourth Members' Meeting at Brooklands.
- " 17—M.C.C. 24 Hours' Reliability Ride for motor bicycles
- " 17—Bradford M.C.C. Open Hill-climb.
- " 19-23—Scottish Open Reliability Trial for motor cycles, Edinburgh to John-o'-Groat's and back.
- " 28 (Wednesday)—A.C.U. Quarterly Trial. Uxbridge to Banbury and back.
- " 25-Aug. 1—The Tour de France Reliability Trials, organised by the Auto Cycle Club de France.
- " 31 & Aug. 2—Race Meetings at Brooklands.
- Aug 2-3—Open 400 Miles Reliability Trial for Muratti Trophy, in connection with the Ulster Centre M.C.U.I.
- " 2—Motor Cycle Races at Cambridge Mammoth Show.
- " 2—Motor Cycle Racing at St. Albans Hospital Sports.
- " 18—British M.C.R.C. Meeting at Brooklands.

ing measures to bar special machines from the roadster classes. They wisely do not attempt to define what is and what is not a standard machine, but have appointed a committee of scrutineers to examine the machines entered, and to decide which machines shall be ridden in roadster classes, and which in racing classes. They have further fixed a minimum weight for riders. They have very kindly invited "Ixion" to act on the committee of scrutineers, but unluckily his engagements do not permit him to be up

Motor Cyclists' Wants.

Is it not high time that the organisations which exist for the benefit of motor cyclists took steps to prove to their own satisfaction that motor cycle members are obtaining proper treatment, from all officially appointed garage owners? During a motor cycle tour undertaken recently we were twice refused a less quantity of petrol than two gallons, the excuse being that it is too much trouble to obtain the necessary measures. In both instances an official sign was displayed.

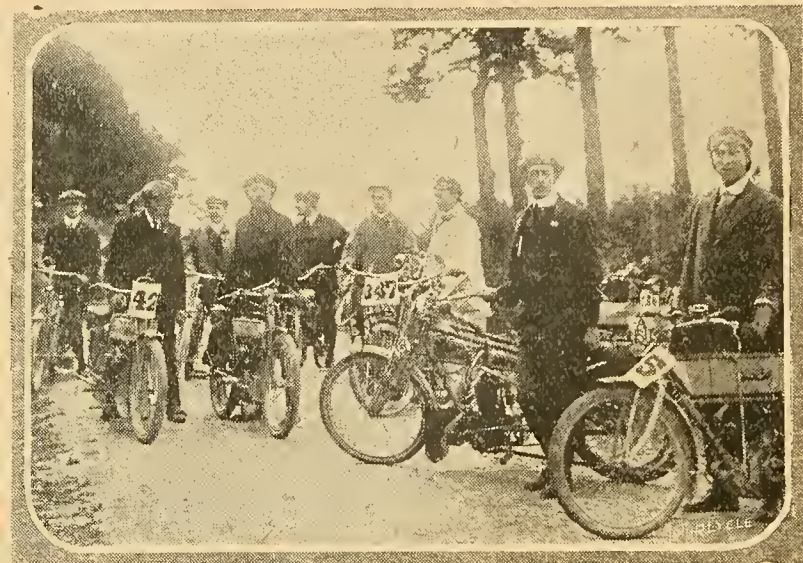
A.C.U. SIX DAYS' TRIALS, JULY 5th TO 10th.

Competitors putting the final touches to their machines in the hotel yard at Uxbridge before the start.

Hertfordshire County A.C. Hill-climb.

FOR their successful hill-climb held last Saturday the Hertfordshire County Automobile Club members were favoured with glorious weather.

The competition was held on Aston Hill, near Tring, an acclivity often used for similar events, possessing the advantage of not being too severe, of having no dangerous turnings, of having practically no



Some of the competitors. At the extreme right is Leslie Munro (4 h.p. N.S.U.), second in Class C; next to him, F. W. Barnes (3½ h.p. Zenette), winner of Classes D and E. No. 42 is F. W. Applebee (5 h.p. Rex), while on his left is J. L. Norton (3½ h.p. Norton) winner of Class B.

traffic passing up and down it, and of being situated in a particularly pretty district. Although the hill road had been swept fairly clear of loose stones, the surface was exceptionally bad, as ruts and channels worn by rain water rushing down the hill caused many of the competitors to swerve badly. Only two horse-drawn vehicles made their appearance during the event, and it is with great pleasure that we have to record that the occupants of both behaved in a thoroughly sportsman-like manner. First came a two-wheeled cart, the driver of which waited until all the competitors in the class then running had gone by before descending the hill, while a little after three ladies in a Victoria starting for a drive changed their plans, sent their carriage off the course, enjoyed watching the fun for about a quarter of an hour, and then drove off in another direction.

Fifty-four Entries in Five Classes.

Fifty-four entries had been received, which were divided into five classes. Class A (for lightweight motor bicycles not exceeding 100 lbs. in weight), Class B (for machines with engines having a cylinder capacity not exceeding 85 × 85 mm., or an equivalent volume), Class C (for multi-cylinder machines, the cylinder capacity of which did not exceed that of two cylinders having a bore and stroke of 80 × 80 mm., or an equivalent volume swept out), Class D (for machines of any capacity),

and Class E (for machines fitted with change speed gears). In Class A, Fletcher (Moto-Rêve, 55 × 70 mm.) came up in excellent style, wonderfully fast for so small a machine. In Class B, Godfrey, Norton, Barnes, and Cooper all travelled well. But it was not until Class C was reached that the competitors began to switch off at the corners. Lee-Evans made a splendid ascent, but on his first attempt he was baulked by a team of cart horses which came on to the course through an adjoining gateway, so he was allowed another try, when he performed equally well. His machine was wonderfully silent. Other performances in this class which appeared good to the eye were made by Genn (who travelled very fast) and F. A. Applebee. Robinson's 2¾ h.p. Douglas came up slowly, but tackled the gradients in good form. In Class D Bashall on a Bat was clearly the fastest, while particularly good ascents were made by Evans, Robinson, Norton, Genn, Colliver, and Fletcher. It was in this class that Bashall distinguished himself by making the fastest time of the day.

The following is a list of the competitors in their order of merit on formula, the differences between them in minutes and seconds being noted, the fastest time in each class being represented as X:

CLASS A.—For lightweight bicycles not exceeding 100 lbs. in weight.

Rider and machine.	Marks.	Time.
G. L. Fletcher (2 h.p. Moto-Rêve) ...	.996 ...	X
W. Smith (2 h.p. Moto-Rêve) ...	1.228 ...	X+14 ³ / ₅
G. L. Andrews (2 h.p. Moto-Rêve) ...	1.370 ...	X+41 ³ / ₅

CLASS B.—Cylinder capacity limit 85 × 85 mm.

J. L. Norton (3½ h.p. Norton) ...	.765 ...	X+ 23 ³ / ₅
F. W. Barnes (3½ h.p. Zenith Gradua) ...	.786 ...	X+ 9 ² / ₅
W. A. Jacobs (3½ h.p. Rex) ...	.811 ...	X+11
H. Lister Cooper (3½ h.p. Triumph) ...	.821 ...	X+ 7 ³ / ₅
O. C. Godfrey (3½ h.p. Rex Speed King) ...	.837 ...	X
H. G. Potts (3½ h.p. Triumph) ...	.910 ...	X+134 ³ / ₅
A. E. Colliver (3½ h.p. Triumph) ...	.955 ...	X+19 ² / ₅
J. S. Harwood (3½ h.p. Triumph) ...	1.017 ...	X+21 ² / ₅
J. Seyfried (3½ h.p. Triumph) ...	1.170 ...	X+30



J. Seyfried (3½ h.p. Triumph) starting.

Hertfordshire County A.C. Hill-climb.—



F. W. Applebee (Twin Rex) climbing Aston Hill. A long stretch of the rise can be seen in the background.

CLASS C.—Multi-cylinders. Cylinder capacity limit 80 × 80 mm. for two cylinders.

W. W. Genn (4½ h.p. Eland) ...	.681	...	X + 2
Leslie C. Munro (3½ h.p. N.S.U.) ...	.904	...	X + 15
G. Lee-Evans (5 h.p. Indian) ...	.993	...	X
T. G. Baxenden (4 h.p. N.S.U.) ...	1.023	...	X + 29
W. H. Wells (5 h.p. Indian) ...	1.051	...	X + 9
F. W. Applebee (5 h.p. Rex) ...	1.176	...	X + 13
J. V. Robinson (2¾ h.p. Douglas) ...	1.197	...	X + 40
F. White (5 h.p. Rex) ...	1.211	...	X + 11
J. Stuart Shaw (4 h.p. Phänomen) ...	1.262	...	X + 25
A. Cumming (6 h.p. Matchless) ...	1.307	...	X + 11
F. A. Applebee (5 h.p. Rex Speed King) ...	1.340	...	X + 2
M. Krause (5 h.p. V.S.) ...	1.405	...	X + 17

CLASS D.—Motor bicycles of any power.

F. W. Barnes (3½ h.p. Zenith Gradua) ...	.791	...	X + 14
J. L. Norton (3½ h.p. Norton) ...	.809	...	X + 11
Leslie C. Munro (3½ h.p. N.S.U.) ...	.833	...	X + 17
E. A. Colliver (3½ h.p. Triumph) ...	.904	...	X + 20
W. W. Genn (4½ h.p. Eland) ...	.961	...	X + 5
G. Lee-Evans (5 h.p. Indian) ...	.996	...	X + 5
J. S. Harwood (3½ h.p. Triumph) ...	.997	...	X + 24
G. L. Fletcher (2 h.p. Moto-Rêve) ...	1.007	...	X + 23
W. H. Bashall (7-8 h.p. Bat) ...	1.057	...	X
M. Krause (5 h.p. V.S.) ...	1.107	...	X + 23
F. W. Applebee (5 h.p. Rex) ...	1.110	...	X + 19
J. Seyfried (3½ h.p. Triumph) ...	1.156	...	X + 33
J. V. Robinson (2¾ h.p. Douglas) ...	1.197	...	X + 46
W. Smith (2 h.p. Moto-Rêve) ...	1.212	...	X + 35
C. J. Stanley (7 h.p. Stanley) ...	1.333	...	X + 14

CLASS E.—Variable geared motor bicycles.

F. W. Barnes (3½ h.p. Zenith Gradua) ...	1.235	...	X + 39
T. G. Baxenden (4 h.p. N.S.U.) ...	1.386	...	X + 27
T. H. Tessier (7 h.p. Bat, P. and M. gear) ...	1.526	...	X

It is interesting to note how closely many of the competitors ran to one another in point of time. In Class E the riders were stopped between two flags fifteen yards apart and then restarted. F. W. Barnes (3½ h.p. Zenith-Gradua) lost time by not bringing his road wheels to rest soon enough. Baxenden (4 h.p. two-speed N.S.U.) also got away comfortably from rest, but managed well otherwise. Tessier (7 h.p. Bat, P. and M. two-speed gear) restarted in splendid style, but Webster (3½ h.p. Triumph, Gradua gear) stopped his engine while restarting. The results were worked out on the following formula: Time × h.p. ÷ weight. The following were the officials: Judge, Mr. S. J. Ellis; clerks of the course, Mr. Jenkins (who did excellent work with his 20 h.p. Rover car), Messrs. Webster and Saker; clerk of the scales, Mr. C. Lowry; timekeepers, Mr. F. Straight at the foot

and Mr. D. K. Hall at the summit of the hill; marshals, Messrs. H. W. Colliver and W. Young; secretary of the meeting, Mr. A. J. Salmon.



W. H. Bashall (7-8 h.p. Bat-Jap) making the fastest ascent of the day in Class D.

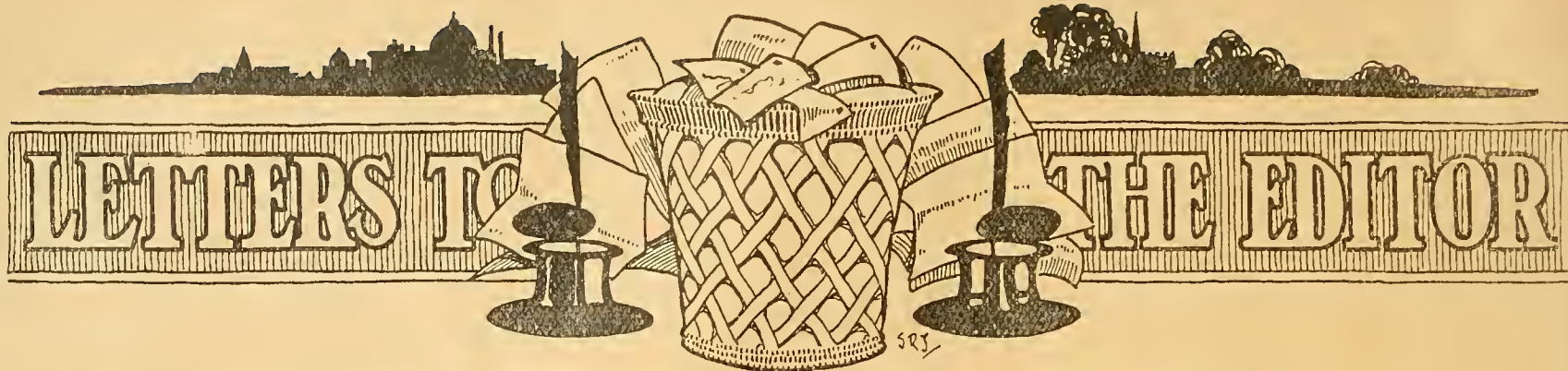
THE SYDENHAM BENCH AND DISPROPORTIONATE FINES.

THE A.A. has drawn our attention to a couple of cases heard before the Sydenham bench on the 16th ult. Below we give the newspaper reports, which surely lead one to suppose that the Sydenham bench have some motive other than that of public safety for inflicting such disproportionate fines:

A motor cyclist was fined £3 and costs for exceeding the speed limit by five miles an hour on the Shooters Hill Road.

A man was summoned by his wife for persistent cruelty. Complainant gave evidence to the effect that her husband was frequently drunk and abusive, had tried to cut her throat, to strangle her, and to burn her. Defendant did not contest the case, but it was practically dismissed upon his offer to do no more than his obvious duty, namely, consent to a maintenance order.

A similar parallel instance is given of cases heard before the Kingston Borough Bench, the motorist's fine in this case being £10.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Standard Machines in Competition.

[4114].—May we point out to Mr. B. H. Davies that the Rex Speed King model was publicly offered for sale prior to Sutton Bank, this being its first competition? May we also add that Sutton Bank was the first speed test in which a Rex has enjoyed the same advantage with regard to weight as other winning makes?

THE REX MOTOR MFG. CO., LTD.

Covered Vans in the Midlands.

[4115].—With reference to the A.C.U. reliability trial, July 5th to 10th, may I, as a motor cyclist knowing the Midlands very well, caution competitors about owners of carriers' carts? As far as I can make out, they seem to think they have absolute right to the road, and you may follow some for a quarter of a mile, blowing your horn for all you are worth, before they wake up.

If county councils have not the power to compel carriers to have their carts open at the back (the only remedy, in my humble opinion), then surely an Act of Parliament might be passed to this effect.

G. G. CROFT.

The End-to-end Record.

[4116].—I notice that Mr. Peck states he can give ample proof that, apart from changing a valve, no other mechanical adjustment was made. He evades, however, the all important point, viz., did he, or did he not, ride the same machine from start to finish? Mr. Peck must be well aware that in all events such as the Six Days' Trial and the T.T. races the machines are officially sealed; and no claim would be passed by the officials if the seals were not intact after the event.

A claim to have beaten the End-to-end record should be above all suspicion, and I understand that Mr. Bentley not only had his machine sealed officially, but the timekeeper even went by train to the other end to time the arrival, and to see that the seals were intact. In addition to this he took the number of the machine at the start and finish.

Unless Mr. Peck can give proofs that he actually did the ride on one machine, I for one shall still look upon Mr. Bentley as the holder of the End-to-end record.

EDMUND G. BURTON.

The Cat and Fiddle as a Test Hill.

[4117].—Just a line *re* Six Days' Trial and the Cat and Fiddle Hill, for the benefit of those who do not know this district.

Let no one be dismayed. At the end of the day all will be asking if they have missed it. To call this a "test" is surely a joke on somebody's part. I dare wager that there will not be a machine, unless previously put out of gear, that will fail to take this hill at over legal limit. It is beautifully graded and good surface, and on a pedal cycle I should never dream of walking any part of it. The first bit out of Macclesfield is paved, and the road rather narrow and steep, with little chance of getting up speed. Later on, at Walker Barn, the road turns sharp to the left with short sharp rise. Here the wind may strike the competitors and give them a check, but once past all is plain sailing.

I am sure there will be many hills encountered during the trial much more difficult than this so-called "test" hill. It makes one smile, and I can fancy I see the lightweight rider's huge grin as he finds himself flying up. Afterwards when he sells his machine he will brag about it.

H. KENMORE.

A Reader's Suggestion to a Coventry Firm.

[4118].—I think most people who have ridden Triumph single-cylinder bicycles, and who will thus have seen how nearly perfect they are, must wish that this firm, "the Purvey of motor cycle manufacturers," would make a two-speeded twin-cylinder machine suitable for passenger work, or even a tricar. Surely if a large number of people wrote to the company on the subject they would turn their attention to it.

PERFECTION.

The Taxation of Motor Cycles.

[4119].—Motorists throughout the country are crying out against the new taxes, but many of those who cry loudest and talk most about what the leading motoring organisations should do are unattached motorists.

May I point out that the leading motoring organisations are, as is known to the majority of your readers, doing their level best to contest these taxes and get them modified, but the good work they are doing cannot be done for nothing, and it is the duty of every motorist to back up the leading organisations by either joining such organisations or their local clubs.

ERIC W. WALFORD,

Hon. Sec. Coventry and Warwickshire Motor Club.

Twin Cylinders for Sidecar Work.

[4120].—I was interested in reading "Ixion's" comments *re* twins for sidecar work, but as there must be numerous people like myself who cannot afford a 5-6 h.p. twin, and have to content themselves with a 2½ h.p. single-cylinder, they may be deterred by those remarks from investing in a sidecar and thus obtaining the most enjoyable part of motor cycling. In my own case I bought a 2½ h.p. second-hand Westfield cycle (not now made), and after I had it about six months purchased a second-hand Montgomery flexible sidecar, and many a pleasant run have my wife and I had on this combination (total weight twenty-one stones). Of course, when I come to a hill like Hand cross I have to pedal hard to get over it, as also I have had to on portions of Hindhead, but when one's means are limited one has to put up with a few disadvantages. Again, as regards speed we came back from Brighton to Sydenham in two and a half hours a day or two ago, which is fast enough for comfort. Of course, I should prefer the higher-powered cycle so as to romp up all hills, but I think you ought to emphasise the fact that anyone who has a good 2½ h.p. machine need not be afraid to fix a sidecar to it if he doesn't mind a little pedalling on stiff hills and the passenger walking up "precipices."

EDWARD PARKIN.

Silence.

[4121].—Replying to your correspondent, Alex. F. Payne, whose letter on the subject of silent motor cycles appears on page 494 of your issue of last week, I would say that I have succeeded in rendering the engine of my 5-6 h.p. V.S. Twin as silent as the smallest lightweight by fitting a Clair silencer, the principle of which is that no flat surfaces are opposed to the passage of the exhaust gases, and, consequently, there is no rebound or frictional resistance, and therefore no back pressure. The exhaust gases pass through a series of metal cups, in each of which a number of holes is drilled, while there is a small space left between each of the cups at the bottom. I get the best results by arranging the cups so that the holes in them are alternately at the top and bottom, and not in a straight, corresponding line

through the silencer. This means that the gases have to take a circuitous course through the silencer in the same way that the products of combustion from locomotive fireboxes are made to circulate about the smokebox without coming in contact with flat surfaces in those locomotives fitted with spark arrestors, before being finally exhausted into the atmosphere.

I cannot speak too highly of the Clair silencer. Not only has it made my engine 95% quieter than formerly, but it has also improved its general capacity for work. The makers allowed me a seven days' free trial of the device, and I decided to keep it before the first day was out. I am not saying all this to advertise the Clair silencer, in which I have not the slightest financial interest, but merely because, having taken to heart your remarks at various times as to the desirability of motor cycles being more silent than at present, I had been hunting for a really efficient silencer, and have at last found one. CHAS. S. LAKE, A.M.I.M.E.

The M.C.C. London-Edinburgh Run.

[4122.]—I have much pleasure in informing you that at a committee meeting held on the 28th ult. it was decided to present to each member who was disqualified from a gold medal award under the fifteen minutes rule in the recent London-Edinburgh run a little memento of the ride. The exact nature of the memento has yet to be decided.

HARRY G. BELL, Trials Hon. Sec.

[4123.]—I am obliged for the insertion of my letter 4107. In your article on page 479 you state that the hon. sec. of the Motor Cycling Club says there were not any secret controls. To prove my statement is correct, I give below copy of letter sent by Mr. Harry G. Bell, the hon. sec. for the trials, to Mr. Percy Platt, of Oldham, giving the reason for the latter's disqualification. JAS. HOWARTH,

General Manager of Bradbury and Co., Ltd.

[COPY.]

P. Platt, Esq., Oldham.

June 17th, 1909.

Dear Sir,—In answer to your letter of the 16th, you have been disqualified for being found 6½m. ahead of time, i.e., 21½m. ahead of schedule time at one of the *secret checking places on the route*. Mr. Eastmead was also too early at the same place (6m.), also too early at the second place.

Yours faithfully,

H. G. BELL.

[4124.]—It is only too evident that considerable dissatisfaction has been caused by the operation of the fifteen minute rule in the recent London-Edinburgh-London run of the M.C.C. It is obvious that hardship has occurred in certain individual cases, such as a man taking a sidecar through 800 miles and receiving no award or appreciation of the fact, because, somewhere or other, he was more than fifteen minutes ahead of his time. Other men made otherwise good performances, but receive no recognition of their run. This risk tends to make the run unpopular, and at the same time does not penalise those who "blind," and yet are cute enough to keep within the letter, if not the spirit, of the rules.

My suggestion is that the gold, silver, and bronze medals for the single and double journeys (these should be different medals) should be awards on the same basis that the challenge cup award is made, viz., taking into account the total error from schedule times over the whole journey. Thus, supposing there were ten checks and the maximum error permissible for a gold medal were fifty minutes, the average error at each check would be five minutes, but to qualify for a gold medal the fifty minutes would not be exceeded. For silver medals the error permissible should be, with ten checks, about 130 minutes, whilst those completing the journey in the prescribed time, but whose error exceeded this, should obtain bronze medals.

Such a system of awards would favour the reliable machines and at the same time render the gold medals more valuable to the gainers. At present any scarebrain with sufficient money to buy a good machine can, with luck, win one, and I do not think that this should be so. The cup winner would be the head of the gold medal class, and the awards would represent more truly the skill of the rider with his machine.

Another point that occurs to me when conning over the rules is the position of Edinburgh to the return journey

men. I heard one man, with 400 miles still to go, told that he was disqualified from receiving any award whatsoever because he had arrived at Edinburgh too late. In this case, had I been running the show, I should have treated Edinburgh as an ordinary control, and started the man back by the amount he came in late, and given him a chance of earning some sort of award. If he had been an hour late at (say) Newcastle he would not have been disqualified, so why at Edinburgh? Under my scheme he would have some chance of retrieving himself on the homeward journey. The one town is no more the finish of his run than the other.

I put forward these suggestions because I think that they are a good solution of the problem, and also because I think that, in these days of reliable machines (as noted in your leaderette), the skill of the rider should weigh equally with the efficiency of the machine. F. G. SMITH.

[4125.]—I have read Mr. A. E. Catt's letter, but really cannot see the logic of this gentleman's complaint.

He apparently after reading the conditions duly entered for the above run, and now, as he frankly admits, after violating the rules, which by entering he agreed to accept, he imagines he has a grievance against the M.C.C. committee.

I happened to be one of those individuals who, after fully understanding the rules, omitted to ride in accordance therewith, but surely it would be unsportsmanlike of me to complain under such circumstances because I am not awarded a medal. Personally, I think it better to put the incident on the credit side of my experience account, and thereby be in a better position to qualify for an award on some future occasion.

The only way to prevent riders getting ahead of time is to disqualify, and to organise a number of secret checks, or a greater number of open checks, would, in my opinion, make the competition less enjoyable, therefore less popular. We should even then have some men who, like your correspondent, would expect special treatment after they had failed to qualify for a prize.

The last paragraph of Mr. Catt's letter, I fear, is somewhat vindictive in spirit, and his sentiments will not be endorsed by many of my fellow club members. Surely the committee are under obligation to serve the best interests of all sections of the club, and it would certainly be unfair to non-competing members, also to winners of awards according to the rules, for club funds to be expended on prizes.



Team Trials at Daventry. A rider of a four-cylinder F.N. being pushed off from the start. These machines always attract attention by reason of their silent and smooth running.

which had not been won in accordance with the rules and regulations governing the club competitions as set forth on the entry forms.

GEO. E. ROBERTS.

[Other letters bearing on this subject have been received, but the above will suffice. We may here remind readers that letters bearing the writer's signature are given preference in all cases.—Ed.]

M.C.C. Team Trials for "The Motor Cycle" Cup.

[4126.]—I shall esteem it a favour if you will allow me through your columns to express my very sincere thanks to the many willing helpers who were good enough to assist me in making the team trial for *The Motor Cycle* Challenge Cup. The success that it turned out to be on Saturday last.

I thank the clubs for the large number of entries, making the event a truly representative one, and I feel that, were it not for the kind help of the many members and friends who turned out with the idea to put a shoulder to the wheel, my own club would have had a very heavy task of handling the large entry we had to deal with. My wish is to thank each one individually, but in many cases this is the only way I have to communicate with many of the club members.

In conclusion, I hope that when the next competition takes place I may be favoured with as good an entry and as much help, and wish those teams that fell short of the coveted 600 marks better luck next year.

J. VAN HOOYDONK.

Two-stroke Engines.

[4127.]—I have noticed lately quite a discussion in your most excellent paper on two-stroke motors, and as I have been interested in this class of engine for a considerable time now, I should like to have the opportunity of informing you that I designed one of these seven years ago privately at home, and find from my accounts that the first set of patterns for test engine was delivered to me on Dec. 10th, 1904. Unfortunately, I was unable to push it much at that time, although on second thought I do not think it would have been so well taken up at that time as is likely to be the case at this moment. I might mention I have protected my designs in this country, on the Continent, U.S.A., Canada, and in Australia. These cover various styles suitable for cars, cycles, boats, or stationary purposes. The principal is a two-stroke cycle with duplex cylinders, there being two explosions per revolution. The cylinders being in pairs, and the cranks at opposite angles, an impulse is given every half revolution. Thus the firing conditions equal a four-cylinder engine. The mixture is not taken into the crankcase, as is usual with most engines of this class, and therefore is not polluted with the splash of lubricating oil, or affected by wear in the bearings and consequent leakage of compression in crank chamber; also the possibility of taking in air through bearings, upsetting the quality of mixture. Moreover, the compression on mixture in crankcase cannot be constant, due to the varying quantity of lubricating oil in crankcase. In my design any number of pairs of cylinders may be arranged along or around a crankcase. It is also a valveless engine. Two test engines of different design have been made, the results from which have been most gratifying. Constant speeds can be kept up anywhere between 200 and 1,600 revolutions per minute. The control is most flexible on either the electric ignition contact, mixture throttle, or air inlet. A motor specialist stated on inspection recently that the control and flexibility of running was far more perfect than any four-cylinder four-stroke car motor that had been through his hands. Further developments are in hand at the moment.

J. H. HOPKINS.

[4128.]—In reply to your correspondent, Mr. W. F. Ritchie, the system of "constant thrust" (whereby the reciprocating parts of the Scott motor are kept in inseparable contact with one another) is maintained at all speeds attainable on the road by means of a careful balance of cylinder pressures and reciprocating weights.

Since the load on the piston due to compression of the charge is always greater than the load due to inertia of the piston at all possible speeds on the road, the system of constant thrust is maintained even when the engine is switched off, as well as when firing.

It must first of all be understood that the cylinder pressure (due to compression of the charge) is only required to keep the piston under load at the end of the upward and during the beginning of the downward stroke, since at the end of the downward stroke the load due to the "resistance to retardation" of the reciprocating weights is sufficiently great to maintain the thrust on the crankpin, although for nearly a quarter of a revolution the piston is under atmospheric pressure only.

For example: At 1,500 revolutions per minute there is 176 lbs. load on the piston of the Scott engine at the beginning of the downward stroke, and 132 lbs. load at the end

of the stroke. The 176 lbs. initial load is arrived at by subtracting 202 lbs. (the effect of the inertia at the beginning of the stroke) from 378 lbs. (the load due to compression of the charge), while the terminal load of 132 lbs. is caused entirely by the inertia of piston and rod.

It will be seen from these figures that the length of connecting rod has a considerable effect in modifying the effect of inertia at the beginning and end of stroke, and that the general effect is to reduce the high initial load and to increase the terminal load on the piston.

THE SCOTT ENGINEERING CO., LTD.

[4129.]—I was very interested in letter 4093, but there are two points on which the Scott Engineering Co. might well enlighten us.

(1.) What happens to the engine if a crank-case explosion takes place? A friend of mine driving a two-stroke car with crank-case compression ruined his engine and nerves by switching on again at the bottom of a hill.

(2.) How will the engine pull at low speeds? It is very hard to get this type of engine to run slowly. In many cases there is only one speed at which it will run satisfactorily. This is due to the fact that the ports of a two-cycle engine designed for high speed are unsuitable for slow running and *vice versa*.

Again, why is the displacer pump motor unsuitable for motor cycles? Certainly it is a little more complicated, but it has the advantage of being able to pull harder at low speeds than the Day type, and, since exhaust ports can be cut all round the base of the cylinder, there is a better chance for exhaust to escape. The weight and bulk need be very little greater than for a single-cylinder four-stroke; the displacer and its parts can be very much lighter than is usual in a working cylinder.

There is another large two-cycle engine on the market, the Oechelhauser, which contains the germs of the ideal cycle motor, and are given below:

(1.) It is balanced, and absorbs most of its own vibration. For this cycle it is essential that two pistons be fitted to a cylinder which move in opposite directions, as in the Gobron-Brillié engine, and it is balanced on the same principle as the Douglas and Gobron engines.

(2.) It is valveless. One piston uncovers exhaust port near the end of its stroke, the other immediately after uncovers an air inlet port, allowing cool air to blow most of the exhaust out at the other end, and further movement uncovers a mixture port, admitting mixture to cylinder.

(3.) Impossibility of premature explosions. The fresh mixture is separated from exhaust by cool air.

(4.) Exhaust is properly scavenged.

To make a neat job of it this engine would have to be exceedingly carefully designed. A very compact way of arranging the parts has occurred to me, and I will send a sketch of it if of interest.

Some people may object to the double-acting air pump necessary to provide the slight pressure of air and mixture, but as this always runs cool there is no reason why it should give trouble.

H. E. RENDALL.

EXPERIENCES WANTED.

"A.F.P." (Harborne) would like readers' experiences of (or suggestions for) springing the back wheel of a $4\frac{1}{2}$ h.p. water-cooled tricar. Weight about 2 cwts.; belt-drive.

"H.U.G." (Eastbourne) desires readers' experiences of the twin Motosacoche. Is it liable to skid?

"A.O.C." (Co. Dublin) would like readers' experiences with the Scott two-stroke motor cycle.

"P 4176" would like readers' experiences of the Osborne four-speed pulley in conjunction with any $3\frac{1}{2}$ h.p. standard machine.

"Renut" (Louth) desires readers' experiences re running the F.N. lightweight, particularly as to making it run quietly.



A twisting handle grip which has been designed to operate a wire controlling carburettor or magneto. Around the outside of the bar is coiled a wire as shown which is secured by soldering. The slide to which the controlling wire is attached is caused to move backwards or forwards by rotating the handle.

PALMER TYRES

Are **STRONG & DURABLE.**
NON-SKIDDERS.
CLEAN & COMFORTABLE,
ALMOST IMMUNE
FROM PUNCTURES.

Write for Manual.

The Palmer Tyre, Ltd.,

119, 121, 123, Shaftesbury Avenue, London
W.C.

1908 WINS

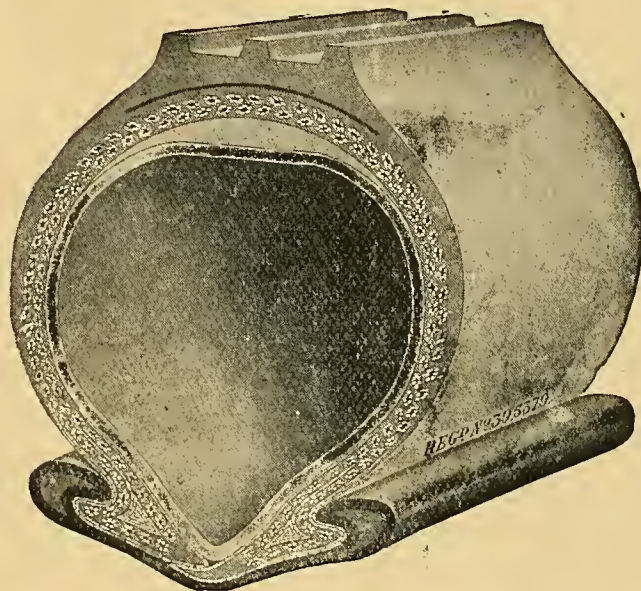
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**PALMER MOTOR
CYCLE TYRES.**



8 Cups & Trophies,

30 Medals,

4 other prizes.



BEAR IN MIND 'THE SIMPLICITY.

? Have you ever considered the absolute lack of complication in the magnificent **GRADUA GEAR**

which is creating such a sensation in the Motor Cycle world.

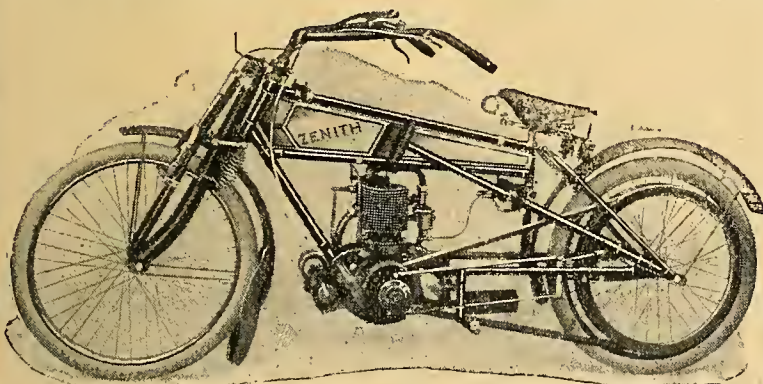
160 variations between free engine and $3\frac{1}{2}$ to 1.

Direct drive on all speeds—no jockey pulley—no slack belt.

Handle-starting. Free engine. No end thrust.

No sudden jamming in of gear, and wear and tear to the machine. No necessity to let the engine slow down—the engine speed is kept up by reducing the gear as gradually as you desire—thus the full efficiency of the engine is retained. The "Gradua" Gear flattens all hills.

THE EVER SUCCESSFUL "ZENITH"



$3\frac{1}{2}$ h.p. Fafnir Engine, Fafnir or Longuemare Carburetter, Whittle or Rubber Belt, Druid Spring Forks, Brooks' Saddle, $26 \times 2\frac{1}{4}$ in. Clincher Tyres, Michelin Butt-ended Tubes, Handle-bar Control. Gear-driven Bosch Magneto. Price 38 guineas nett cash, or with **GRADUA GEAR**—as illustrated—49 guineas nett cash. A machine on view at the Service Co., London.

We will gladly send particulars on receipt of a postcard, or will welcome a personal visit. If you come there will be no importunity to purchase.

ZENITH MOTORS, Ltd.,

WEYBRIDGE, SURREY.

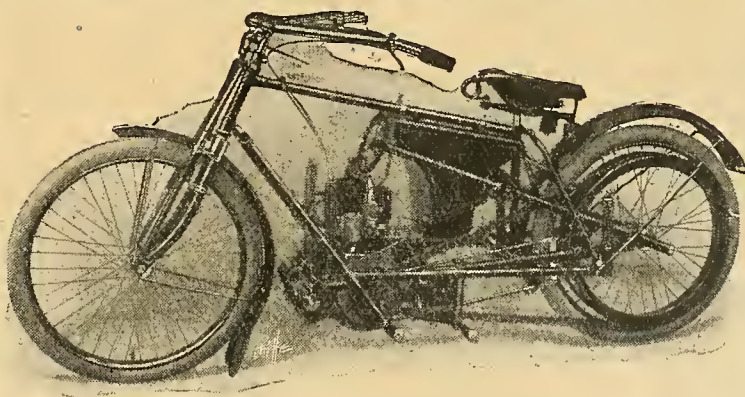
Telephone No. 4, Weybridge.

"The 'Gradua' Gear adds more than fifty per cent. to the comfort, enjoyment, and safety of motor cycling." *Vide letter of enthusiastic rider*
GRADUA GEAR.

The Gradua Gear is the greatest achievement in motor-cycle engineering. A single turn—or partial turn (as the case may be) of a small wheel—suffices to give a gear of 4 to 1, $4\frac{1}{2}$, $4\frac{1}{4}$, $4\frac{1}{2}$, or 5 to 1, 6 to 1, 7 to 1, or any gear desired down to free wheel. We fit the gear to our own machines only.

We have also brought out a conversion on our "Gradua" Patent principle which we will fit to "Triumph" motor bicycles (only). If you possess a "Triumph" write to us at once for a quotation for fitting your machine with the Gradua Gear. We do not supply the gear or parts separately; we only undertake the conversion ourselves.

THE LUXURIOUS "ZENETTE"



or "Double-Scissors" Spring Frame. Every part of frame is alive to absorb shocks. Perfectly steady—low centre of gravity—side-play absolutely impossible. Enormous saving of wear and tear. Price with $3\frac{1}{2}$ h.p. Fafnir Engine, finest fitments, accumulator ignition, 39 guineas nett cash. With **GRADUA GEAR**—as illustrated—50 guineas. A 4 h.p. J.A.P. engine can be fitted to either machine for 2 guineas extra.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, 3 lines. Name and address must be counted. In the case of Trade Advertisements a series of ten insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent by London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should be distinctly under what heading and in what form the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Leeds, Harrogate, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Gloucester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

SECTION VIII.
Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Devon, Dorset, and Cornwall.

SECTION X.
Wales.

SECTION XI.
Ireland and Isle of Man.

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Motor Co., Ltd.

Send for our latest Catalogue of Accessories and smartest devices for the improvement of Motor Cycles.

NEW MACHINES.

1909 3½ h.p. TRIUMPH	£48 0
1909 4 h.p. N.S.U.'s, de luxe	£48 0
1909 5 h.p. REX DE LUXE, two-speed	£55 13
1908 3½ h.p. N.S.U.'s, with 1909 improvements, handle-bar control, etc.	£31 10

SOILED MACHINES.

1909 N.S.U., 2½ h.p., Lightweight de Luxe ..	£38 0
1909 5 h.p. Twin De Luxe REX	£40 0
1909 3½ h.p. REX Tourist	£35 0

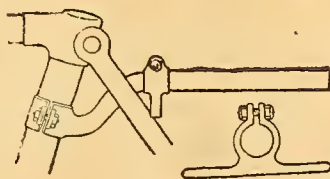
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1908 TRIUMPH, Roc clutch, and two-speed; overhauled, enamelled, and plated	£38 0
3½ h.p. REX, 1909	£35 0
3 h.p. TRIUMPH, perfect condition, 1908 cylinder ..	£25 0
3½ h.p. 1907 VINDEC SPECIAL, magneto, Truffault, just overhauled, plated and enamelled ..	£21 10
3½ h.p. 1906 REX, M.O.V., low frame	£9 0
3½ h.p. 1905 REX, M.O.V., low frame	£7 10
2½ h.p. EXCELSIOR, good order	£7 0
3½ h.p. 1908 N.S.U., magneto, spring forks	£22 0
3 h.p. 1908 N.S.U., magneto, two-speed, and accessories	£23 0
2½ h.p. MINERVA, good going order	£7 0
2 h.p. WERNER	£4 10
3 h.p. ASTER	£7 0
3½ h.p. ZENITH	£7 0
2 h.p. CLARENDON, perfect order throughout ..	£11 0

TWINS.

4 h.p. 1908 N.S.U., two-speed	£35 0
5 h.p. 1908 TWIN ROC PEUGEOT, two-speed ..	£35 0
MOTO-REVE, 1908, magneto, Druid forks	£24 0
FAIRY, 1908, magneto	£25 0
5 h.p. PHENIX Quadcar, coach-built, two-speed ..	£30 0
4 h.p. HUMBERETTE	£30 0
CHATER-LEA Tricar, Garrard engine, water-cooled, two-speed	£14 0
5 h.p. REX, 1906, perfect	£14 10
STEVENS Tricar, 4½ h.p., water-cooled, two-speeds, new Palmer tyres, perfect order	£15 0
REX LITETTE, Twin, 6 h.p., water-cooled, magneto, two-speed, 1908; absolutely perfect ..	£45 0

Our LOW SEAT-PILLAR



still enjoys a lively sale.

Fits all makes. Carries any weight.

Converts the old high-frame machines into modern designs.

Nickel Plated 5/6 each.

Special Long Handle-bars for use with above, if required, 6/6 each.

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ALL OUR GOODS ARE SENT ON APPROVAL.

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Telephone 4310.

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NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be forwarded for forwarding replies. Only the number will appear on the advertisement. Replies should be addressed, "The Motor Cycle, Coventry"; or if "London," "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Messrs. Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answers to their enquiries are requested to regard silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to more by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

2½ h.p. Rover and spares, perfect, splendid condition, £15, or nearest offer.—Pickles, 57, Elleswell Road, Newcastle.

3½ h.p. Triumph, 1907, guaranteed perfect, with spares; seen any time; £25.—Dyer, Sydenham Rd., West Hartlepool.

MOTOSACOCHE, new last year, spring forks, splendid condition, and first-class running order; £20.—Pringle, bootmaker, Morpeth.

1½ h.p. F.N. Lightweight, magneto ignition, new year, smart little machine; clear 18 guineas.—Turvey and Co., The Motor People, Sunderland.

1907 3½ h.p. Fafnir, Chater-Lea, magneto, Phelon Moore two-speed gear, splendid order; £30, near offer.—D. Wright, 99, Stanton St., Newcastle Tyne.

3½ h.p. Rex, in good running order, strong, reliable machine; a bargain, £9.—Turvey and Co., agents for Triumphs, Humbers, N.S.U., etc., The Motor People, Sunderland.

3½ h.p. Minerva, heavy tyres, detachable tubes, variable pulley, two belts, numerous spares, Riches tyres, and complete machine, first-class order; guineas.—115, Sorley St., Sunderland.

1908 3½ h.p. Minerva Motor Cycle, fitted with magneto, spring forks, B. and B. handle-bar control carburetter, guaranteed perfect; any trial given.—£24.—Bolsover, Solicitor, Stockton-on-Tees.

5 h.p. Rex, twin, powerful, fast machine, winner several competitions; price £17 17s.—Above can be seen and tried at Turvey and Co., The Motor People, Sunderland. Agent for Triumph, Humber, N.S.U. Write for lists.

SECTION II.

York and Lancashire.

DOUGLAS, Lincoln Elk, and Norton motor cycle stock.—Gourlay, Fallowfield.

3½ h.p. Rex, spring forks, low, in good running order, a bargain, £12.—Church Villa, Ince, Wigan.

3½ h.p. Ariel, complete, perfect order, little used, £16 fittings; £16 cash.—Russell, Lawrence St., York.

MOTOSACOCHE, sound condition 1908 model; £12 cash.—Alf. Reed, 63, Dale St., New Marske-by-the-Sea.

3½ h.p. Rex, very fast, tyres unpunctured, perfect; price £12 10s.—Hart, 359, Oxford Rd., Manchester.

TRIUMPH, late 1907, handle-bar control, good condition, run 4,000 miles; £26.—Kerr, Mayfield, Halifax.

1908 Triumph, guaranteed perfect, Hella lamp, spares, what offers?—Buckley, 16, Mosley Manchester.

£9.—Twin Werner, going order, long bars, low; Phenix Cob, two-speed, magneto, late 1907, with tricar attachment as spare, £34.—Gregson, Grange, Chorley.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1 h.p. Peugeot, lightweight, low, fast; £7.-86, New King's Rd., Fulham.

1 h.p. Carlton, faultless; £6 10s. or offers. — 124, 4 Dennett's Rd., New Cross, S.E.

1 h.p. Twin Minerva, new last June; what offers? — 2 — Motorist, 53, Highgate Hill, N.

1 h.p. Brown, 1907, in splendid condition; £14.-20, Knight's Hill, West Norwood.

TRIUMPH, 1906, magneto, in splendid condition, fit for touring; £22.—Morgan, Farnham.

FIRST-CLASS Motor Cycle, twin-cyl., 6 h.p., like new; £24.-70, Fortess Rd., Kentish Town.

If you want bargains in second-hand, exchanges, or new, come to 5, Heath St., Hampstead.

9 10s.—2 h.p. Minerva, splendid condition; any trial; long bars.—444, Old Ford Rd., Bow, E.

9 09 Rex de Luxe, two-speed gear, almost new; £39.—Rey, 5, Heath St., Hampstead, N.W.

WIN Antoine, accessories, spares, perfect condition; £17.—29, Eccles Rd., Clapham Junction.

1 h.p. Twin Minerva new last June; what offers? — 2 — G. Kennett, 46, Chapel St., Islington, N.

8.—3 h.p. Auto, vertical, Longuemare, in running order.—T. Gilston, Church Av., Sidecup.

TRIUMPH, 3 h.p., perfect running order; bargain, £10 15s.—W., 112, New King's Rd., Fulham.

h.p. Werner, in good condition; £8; engine overhauled recently.—J. Mitchell, 24, Lee St., Limehouse.

TRIUMPH-MINERVA 2 h.p. Lightweight, new tyres, many extras; £8.—190, Mellison Rd., Tooting.

1 h.p. Ariel, lamp, accumulator, spares, accessories, good order; £10.—South, Potteries, Tottenham.

A.P., 4 h.p., 1908, Chater-Lea fitting, magneto, very low; £25, bargain.—Rey, 5, Heath St., Hampstead.

1 h.p. Cycle for sale, in good order; £6, or nearest offer.—Barton, 2, Porter Rd., West Kensington.

N., 4-cyl., little used, accessories, tools, spares; £28, bargain.—34, Claverley Grove, West Finchley, N.

1 h.p. Werner, good running order; £10; can be seen any time.—Hewett, 99, Churchfield Rd., Acton, W.

HAMPSTEAD Bargains on page 36; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678.

1 h.p. Bat, two speeds, magneto and accumulator, fast, 2 reliable; £23.—D. Fellows, 49, Hertford St., May.

3 h.p. F.N.; £12; sell, or exchange for gent's cycle 4 and cash.—159, Plashet Rd., Upton Park, West m.

TRIUMPH Motor Cycle, magneto, splendid condition; £26.—W. Dale, 43, The Village, Old Charlton, nt.

N., 4-cyl., 1909, soiled only, all accessories; £32, bargain.—5, Heath St., Hampstead. Tel.: 2678.

h.p. M.M.C., low-built, perfect condition; £10.—3, Salisbury Villas, Walpole Rd., South Woodford, ex.

9 09 Wolf Lightweight, Druid spring forks, soiled only, all accessories; £28.—5, Heath St., Hampad.

6.—Minerva, 2 h.p., M.O.V., vertical engine, low machine, good condition.—38, Greenholme Rd., ham.

7 15s. (Look).—3 h.p. Ormonde, very fast, sound tyres, low position; real bargain.—39, St. Albans Rd., utford.

4.—2 h.p. Quadrant engine, frame, wheels, tanks, footboards, belt, gong, perfect.—57, North Rd. Av., entwood.

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QUADRANT, 3 h.p., in good condition; what offers, cash? appointment.—Thomason, 2, Broughton Rd., est Ealing.

1 h.p. Rex, fast, powerful hill-climber, tyres, everything perfect, spray; trial; £7.—17, Bedford, Steppney.

MINERVA, 2 h.p., fast, perfect, guaranteed good condition; £12, or offer.—Newton, 87, Bury Rd., od Green.

h.p. Twin Rex, handle-bar control, stand, carrier, spares, splendid order; £17.—Coombes, 737, High, Tottenham.

8.—Minerva, 2 h.p., good condition throughout, lamp, spares; bargain.—12, Rutland Park, illesden Green.

h.p. Fafnir, Chater-Lea frame, Dunlop tyres, Shamrock belt, good order; £11 10s.—Eagles and Co. gh St., Acton.

9 08 3 h.p. Rex, magneto, H.B. control, non-ski' tyres, lamp; £25, near offer.—Dines, 14, Ridg, Wimbledon.

8 10s., quick sale.—3 h.p. M.M.C. cycle, in good re pair; wants few adjustments; bargain.—30, Aroden, Brixton Hill.

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REX, 3½ h.p., 1906 model, spring forks, spray, good order throughout	£15
ALCYON, 4½ h.p., twin, Minerva, spring forks, very good condition	£17
REX, twin-cylinder, 5 h.p., spray, low built, spring forks	£17
QUADRANT, 3½ h.p., vertical engine, spray, spring forks, low, 26 in. wheels	£15
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MOTO-REVE, 2 h.p., 1908 model, twin-cylinder, spring forks, perfect order	£25
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RIP, 3½ h.p. Peugeot engine, spring frame, Long, spray carburettor, footrests, low built	£18
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60/- deposit secures undermentioned, balance 5/- weekly—

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If You want bargains in second-hand, exchanges, new, come to 5, Heath St., Hampstead.

24 h.p. Clyde, magneto, Longuemare, good condition; £10; after 7.—Poole, Killowen, Golden B Woodside Park, N.

3 h.p. De Dion, Chater frame, perfect condition; £10s.; seen by appointment.—Smith, 122, Nap Rd., Leytonstone, E.

MOTO-REVE, a delightful little machine, in fine rate order; £17 10s. cash; a real bargain Bunting, Wealdstone.

MAUDE'S.—Rex de Luxe, 5 h.p., Roc clutch, magneto, perfect order; £27 10s.—Maude's, 136, Gt. Portland St., London, W.

5 h.p. Twin Kerry, good condition, long bars, footboards, pedals, low machine; £18, bargain.—Egton, Gomshall, Surrey.

3½ h.p. Birmingham Quadrant, 1908, variable pulley; Continental tyres, spares, perfect; what offers? 4, High St., Hounslow.

VINDEC Special, 5 h.p., twin, magneto, spares, no skid back; any trial; £24, bargain.—Hughes, 2 Acton Lane, Chiswick.

LIGHT Motor Cycle, 2½ h.p. F.N. engine, footboards, rubbered, self-adjusting pulley, fast, strong; £16, High St., Swanley.

MOTOSACOCHE, 1908, perfect; £19 10s.; spring forks; owner wants twin for work abroad.—Gilby Lynchmere, Eastbourne.

5-7 h.p. Two-speed Vindec Special for sale, in perfect condition, tyres new; any test.—Stevens, Fairla Hampden Park, Sussex.

3 h.p. International, Watawata, 2½ Peter-Unions, 1 foot; £11 5s., cash for higher power.—Cotes, 3 Strone Rd., Manor Park.

HAMPSTEAD Bargains on page 36; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678, P.O.

24 h.p. Minerva, vertical engine, spring forks (reliable); £8; pedal cycle part exchange.—32, Midland Race, Willesden Junction.

19 09 Triumph, not done 200 miles; must be sold; cash price, £46; inspection invited.—Norris, Derby Av., N. Finchley.

3½ h.p. N.S.U., accumulator, spring forks, handle-bar control, carrier, splendid engine; £13.—Rotherfield St., Islington.

3½ 4 h.p. Chater-Lea and Sidecar, spring forks, 1 speed, handle-bar control, French grey; £17.—Leathwaite Rd., Clapham.

4 h.p. Antoine, good order, footboards, X'fall for French grey; bargain, £12.—20, Batoum Gardens, Shepherd's Bush Rd., W.

24 h.p. Werner, tyres good, H.B. control, running order; £7; 2 h.p. lightweight, £5 10s.—5 Streatham High Rd., S.W.

24 h.p. (De Dion engine) Motor Cycle, first-class working order, £12, or near offer.—A. Hall, 15, Waters, Hemel Hempstead.

£ 5s.—2 h.p. Sarcotea lightweight, about 85 lbs., good condition, running order.—43, Coleraine Rd., G Lanes, Hornsey, London, N.

3½ h.p. Ariel, Minerva engine, good order; £15, exchange twin, give cash.—Davies, 26, Long Park Rd., Peckham, London.

19 07 Triumph, 3½ h.p., magneto, new back tyre, splendid condition; £30.—Herring, 23, Carysfort 1 Stoke Newington, London, N.

3½ h.p. Quadrant, 1906 model, accumulator ignition, complete, tyres as new; great bargain, £11, Jerny, Frimley Green, Surrey.

MINERVA, 2 h.p., perfect running order, tyres under trial allowed; £7 10s.—Apply after 5.30 p.m., Frampton Park Rd., Hackney.

FOR Sale, 2½ h.p. Brown, in splendid condition, powerful, good tyres, trembler coil; £14 10s.—S. Tan Chertsey Rd., Chobham, Surrey.

ARIEL, 3 h.p., 26 in. wheels, vertical engine, low built, very good order and condition; £15.—Maude's, 136, Great Portland St., London, W.

3½ h.p. Minerva, genuine 1907, tools, spares, all accessories; £11 11s.—Wheeler, 140, Boyson Lane, Camberwell Gate, London, S.E.

3½ h.p. Rex, perfect running order, strong reliable machine, splendid condition; £9 10s., bargain, 256, Uxbridge Rd., West Ealing.

4-CYL. F.N., magneto, just overhauled, tyre re-bored, etc.; any offer near £28; exchange Triumph, 1a, Lyall Mews, Eaton Sq., S.W.

24 h.p. Brown vertical Motor Cycle, less coil, carburettor, accumulator, perfect otherwise; £5.—Mar 24, Northumberland Rd., Margate.

WHITTLE'S.—Minerva, 3½ h.p., 82 by 82, M.O.V. vertical, low built, adjustable pulley, good running order; great bargain, £8 15s.

WHITTLE'S.—Clyde, 3 h.p., magneto ignition, vertical engine, Palmer tyres, absolutely perfect heap, £12 10s., offers.

WHITTLE'S.—Fairly Lightweight 2½ h.p. twin B new; bargain, £11 10s.—Whittle's Motor Change, Earlsfield, Phone, 711, Post, Wimbledon.

TRIUMPH, with Mills-Fulford castor wheel side Mabon clutch, complete; bargain, £35, or see late.—Alan, Rectory, Norwood, Southall.

MOTOR BICYCLES FOR SALE.

TAMFORD HILL.—1909 Humbers, two speeds, magneto; £45; from stock; exchanges; liberal allowances.—128, High Rd., South Tottenham.

h.p. Twin Antoine, R.O.M., footboards, all absolutely new condition, good passenger machine; £22.—128, High Rd., S. Tottenham.

3 h.p. Brown, complete, and in excellent condition, lamp, bag, horn; £10.—128, High Rd., S. Tottenham.

1 h.p. Excelsior, 26in. wheels, low built, Longuemare, very powerful; £10.—128, High Rd., S. Tottenham.

1 h.p. Twin Peugeot, spring forks, magneto, Palmer 2 tyres, all in excellent condition; £20.—128, High Rd., S. Tottenham.

3 h.p. Phoenix, two speeds, magneto, handle starting, a real gem, suit doctor; £18.—128, High Rd., S. Tottenham.

1 h.p. J.A.P., low built, £10 10s.; 1 h.p. Minerva, 2 long bars, very good condition, £5; 3 h.p. M.M.C., vertical, girder forks, £6; 2 h.p. Precision engine machine, £5; first cash takes.—128, High Rd., S. Tottenham.

WIN Rex, spring forks, cantilever seat, fine machine, just done up; £16 10s.—S.H.M.C., 128, High Rd., South Tottenham.

HAMPSTEAD Bargains on page 36; finest stock guaranteed.—5, Heath St., Hampstead. Tel: 2678.

1 h.p. Minerva, Mabon clutch, little used, with or without art cane Mills-Fulford castor sidecar; gain.—Seen, 11, Brecknock Rd., N.W.

9.—2 h.p. Enfield-Minerva, M.O. valves, vertical, Clinchers, Longuemare, two brakes, light, or exchange.—40, Stainsby Rd., Poplar, E.

8.—3 h.p. M.M.C., in splendid condition, fast and reliable; £6.—2 h.p. De Dion, in thorough working order.—51, Burnt Ash Rd., Lee.

h.p. N.S.U. Twin, 1908, magneto, spring forks, lin. belt, all accessories, equal to new; £28 10s.; approval.—Eagles and Co., High St., Acton.

1 h.p. Centaur, first-class condition, Palmer tyres, 2 very low, also brown leather suit; £11 10s., or apply, 17, High St., Lewisham, S.E.

TRIUMPH, 3 h.p., magneto, spring forks, perfect compression, thoroughly reliable, smart appearance; 3.—19, Shaftesbury Road, Hammersmith.

1 h.p. Humber Two-speed Cycle, with Montgomery 2 sidecar, perfect condition, spares; £25, take gold or part exchange.—Aldridge, Brentwood.

AURIN and Klement, 1906, 3 h.p., magneto, footboards, excellent condition, spares, tools, lamp; 1.—Morris, 63, Leybourne Rd., Leytonstone.

1 h.p. Rex, 1907, new condition, adjustable pulley, non-skid, lamp, stand, etc., complete; 15 guineas.—52, Wellington Rd., Stoke Newington, N.

1909 Triumph, scarcely used; owner going abroad; all accessories, spare valve; genuine bargain, £41. 03, Carysfort Rd., Stoke Newington, London.

1 h.p. Modern Quadrant, Advance adjustable pulley, spring forks, low frame, accumulators, Clincher added; £15 15s.—84, Redenhurst Rd., Clapham.

MOTOR Cycle, 4 h.p. twin Werner, spring forks, good condition; £12 only; must sell.—Apply, "Kirk-e," 430, Seven Sisters Rd., Finsbury Park, N.

3 h.p. Durkopp, ready for tour, new belt, Longuemare carburettor, handle control, tyres good; 10 guineas; seen before 8.30.—Ware, 217, Rye Lane.

TRIUMPH, 1908, excellent condition throughout, numerous spares, etc.; giving up riding; sacrifice 3 10s., bargain.—51, High St., Tunbridge Wells.

AUDE'S.—Moto-Reve, spring forks, 1908 model, magneto, 2 h.p. ideal lightweight, very good condition; £25.—136, Great Portland St., London, W.

EX, 3 h.p., perfect order, £15; Rex, 3 h.p., with cane sidecar, £13; Ormonde, 3 h.p., less coil and accumulator, £7 10s.—Lucas, 390, High Rd., Chiswick.

h.p. Humber, free engine, tyres good, running order, £7 10s.; 3 h.p. Clarendon, excellent condition, had little use; £8 10s.—Barker, Oxford Rd., Worthing.

BROWN, 2 h.p., spring forks, Palmer tyres, one new, long, low, powerful machine; £10, lowest, or exchange approved furniture.—9, Wellesley Gardens, Ilford.

1 h.p. Humber, low position, long bars, 26 Palmers, Bowden brakes, in good running order; a bargain, £8 10s.—M., 6, Carlisle St., Edgware Rd., N.W.

1 h.p. N.S.U., magneto, 1907, two speeds, free engine guaranteed, £25; 1908 N.S.U. lightweight, done over 500 miles, 20 guineas.—Portland Garage, Portslade

6 10s.—2 h.p. lightweight motor cycle, just been overhauled; owner buying sidecar: can be seen at God's Cycle Works, 32, Fulham Palace Rd. No offers.

h.p. Twin Vindec, new last November, not ridden 1,000 miles, spring forks, magneto, absolutely untouched; £5.—Anglo-Saxon Co., 31 Newgate St., City.

LIGHTWEIGHT F.N., 1 h.p., 1908, perfectly new condition, handle-bar control, oil and petrol gauges; £21.—A.E., 2, Radcliffe Rd., Winchmore Hill, N.

3 h.p. Minerva; sacrifice £12 10s.; must sell; guaranteed not ridden 1,000 miles, perfect condition, tyres, Clinchers, like new.—830a, Old Kent Rd.,

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1908 3 h.p. Two-speed REX, nearly new	29 10
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1908 REX, 3.6 h.p. R.A.C. rating	17 10
1908 3 h.p. Magneto QUADRANT	28 10
1907 3 h.p. Magneto REX	21 0
1907 3 h.p. BRADBURY, 26in. wheels	15 0
3 h.p. two-speed PHILON & MOORE	22 0
1908 3 h.p. 2-speed Magneto FAFNIR	28 10
3 h.p. BRADBURY, low, 26in. wheels	13 10
3 h.p. Magneto VINDEC, Truffault	22 10
1906 3 h.p. REX, spring forks, M.O.V.	15 10
3 h.p. SINGER, belt drive, H.T. magnet	19 10
3 h.p. 1906 REX, spring forks, long bars	15 10
3 h.p. ZEDEL, 26in. wheels, fine mount	14 10
4 h.p. ANTOINE, 26in. wheels	16 0
3 h.p. CLYDE, magneto, long bars	15 0
3 h.p. Magneto SIMMS, 2 in. Palmers	15 0
3 h.p. EXCELSIOR, H.B. control, torpedo	9 10
3 h.p. REX, handle-bar control	11 10
2 h.p. LLOYDS, vertical, spray	6 10
2 h.p. VICTOR, spray	5 10
1 h.p. CLEMENT GARRARD	5 5
2 h.p. WERNER, Lightweight, very low	4 18

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Eight 5 h.p. Twin Rexes, spring forks, long bars, low frames, aluminium finish blue lines, 26in. wheels. £17 17s. Grand sidecar machines.

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3 Lloyd's	£13 10	3 Hobart	£10 0
3 Clyde	15 0	4 Coronet	15 0
4 Antoine	13 10	2 Werner	8 0
3 Humber	10 0	3 Werner	13 10
3 Rex	10 10	1 Thomas	8 0
3 Brown	12 10	2 Humber	8 10
1 Atelier	13 10	3 Bradbury	10 10

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16 h.p. Remo	£185 0	4 h.p. Bradbury	£29 10
10-12 Brush	49 10	4 h.p. Rover, w.c.	22 10
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STANTON.—3 h.p. De Dion, Roc clutch, and speed gear, spring forks, Chater-Lea fittings, handle-bar control, low, absolutely perfect, thoroughly reliable; £20.

STANTON.—3 h.p. Quadrant, spring forks, all brand new condition, reliable as a 1909 Bradbury; £16.

STANTON.—5 h.p. Quadrant, spring forks, fine pulley; exceptional bargain, £10 10s., worth double.

STANTON for 1909 Bradburys, cash or easy payment; get my terms.—619, Lea Bridge Rd., Leyton, don.

N.S.U., 1908, magneto, 3 h.p., spring forks, S rock back, F.R.S. lamp, horn, etc., all in condition; £24, or offer.—"Motor," 2, Atney Rd., ney.

6 h.p. N.S.U. twin, brand new, Bosch magneto, belt, 26in. tyres, 1908 specification; £38; approval; exchanges entertained.—Eagles and Co., High St., Acton.

VINDEC Special, late 1908, 5 h.p., perfect condition, very fast, excellent hill-climber; reasonable price; accepted; what offers?—Waggon, 75, Western Bexhill.

3 h.p. Twin Alcyon, H.Bar control, many extras, 32 feet order; £22 10s., take good lady's cycle in exchange.—Hammond, 7, Cherry Orchard Croydon.

5 h.p. N.S.U. twin, 1908, magneto, lin. belt, 2 in. two-speed gear and free engine, new condition with sidecar; £40; any trial.—Eagles and Co., 1 St., Acton.

TRIUMPH, 1908, perfect condition, just overhauled by makers, looks as new, tyres excellent; any trial; spares; £56.—Ford, Felton Stables, Wickham Rd., ton, Surrey.

MAUDE'S.—Werner, 3 h.p., vertical engine, girder forks, enamelling and plating excellent; truly reliable, only £9 19s.—Maude's, 136, Gt. Portland London, W.

UNUSED 2 h.p. Rex Lightweight, magneto, forced Clinchers, electric headlight, stand, etc.; £20, or would entertain exchange for twin.—32, Fery Av., E.C.

3 h.p. Rex, practically new, spring forks, Continental tyres, long handles, accessories included; giving up riding; price £16, worth £25.—Swann, 26, Q St., Gravesend.

2 h.p. Motor Cycle, good running order, new F.N. coil, tank, long bars, two accumulators, good handlebars, two brakes; £6 10s.—38, Herman Rd., Old Rd., London.

3 h.p. N.S.U., late 1908, spring forks, magneto, built, done about 200 miles, practically perfect; cost £45, reasonable offer accepted.—18, London East Grinstead.

TRIUMPH, not ridden 1,000 miles, spare valves, tube-buttended tubes, Palmer cord tyres, machine new; bought car; best offer £40.—Newcome, More Haywards Heath.

3 h.p. White and Pope, B. and B., handle-bar control, two new accumulators, new back tyre, splendid condition, powerful, accessories; £15.—22, Pl Lane, Wimbledon.

1907 Fafnir, 3 h.p., H.B. control, Continental tyres, perfect, voltmeter, two-way switch, footrests, excellent condition; £13 10s., near offer; any trial.—Aberdeen Rd., Highbury.

N.S.U., almost new, 1908, magneto, not run 100 miles; must sell for cash only; thorough examination or approval (deposit); £25 10s., lowest.—Bolsover St., London, W.

2 h.p. Minerva, B.S.A., high-class, tools and spares in perfect condition; £12, or good three-speed, 28in. frame cycle part exchange, or best make gun.—Spencer Rd., Putney, S.W.

DE DION, 2 h.p., handle-bar control, Chater-Lea frame, spring forks, footboards, new rubber studs, tyre; £17; good allowance for old machine.—Godfr 124, Romford Rd., Stratford.

MOTOR Cycle and Sidecar, 3 h.p. Beeston Hum De Dion, belt drive, long bars, splendid condition; £15, or near offer; seen any time.—Aiton, 2, man Place, Theobald Rd., W.C.

3 h.p. N.S.U. brand new, just delivered, magneto, lin. belt, 26in. wheels, 1908 specification; approval; exchanges entertained; only a few left.—Eagles and Co., High St., Acton.

5 h.p. Twin Rex, Roc clutch, magneto, twin wheel, nearly new, not ridden 400 miles, fast and powerful; money wanted; what offers? per—Hicks, 148, Seaside, Eastbourne.

TRIUMPH, 3 h.p., Tourist Trophy model, 1908, tern, handle-bar control, Brooks B105 saddle, skids, new condition, plenty of spares; £29 10s.—F will, 182, Green St., Forest Gate, E.

4 h.p. Twin Minerva, 2 in. tyres, Michelin non-slip on back wheel, £21; sidecar attachment to all £5, if sold separately, or both together £25.—Jack Percival Parade, Worcester Park, Surrey.

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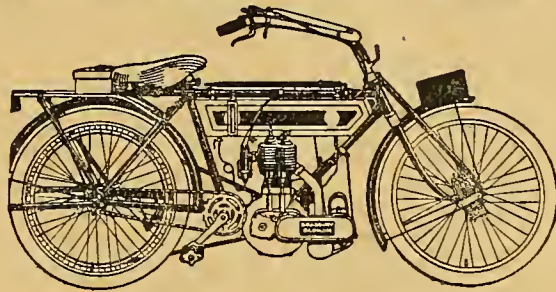
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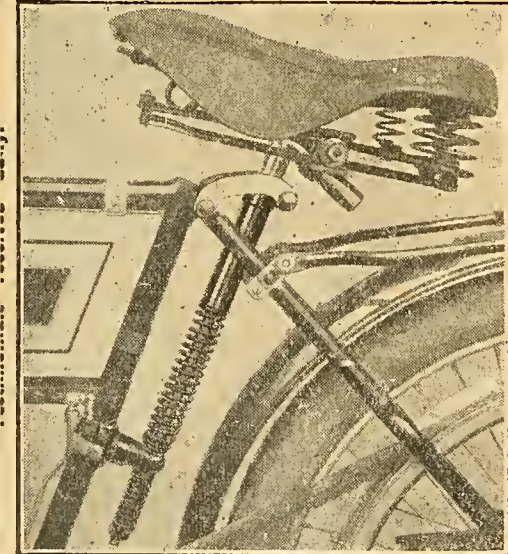
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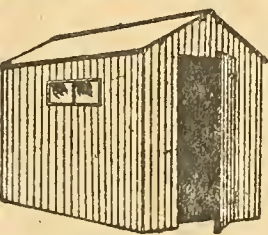
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3½ h.p. GRIFFON, spring forks, low frame, twin engine; £21. Guaranteed.

4½ h.p. 1908 1½-in. cylinder MINERVA, round tank, spring forks, nice useful machine; 23 guineas lowest. Guaranteed.

3½ h.p. Lady's PHENIX Cob, two-speed gear, handle starting; £32 10s. Guaranteed.

4½ h.p. 1908 WOLF, condition as new, twin Sareolea engine; £17 10s. Guaranteed.

6 h.p. BAT, J.A.P. engine, sprung frame, nice machine; £25. Guaranteed.

2½ h.p. MINERVA, spring forks, 1907 model; £12 10s. Guaranteed.

6 h.p. ANTOINE, twin engine, very powerful; £12 10s. Guaranteed.

3½ h.p. SIMPLEX, Fafnir M.O.V. engine, spray carburetter, low frame, spring forks, magneto ignition; £32 10s. Brand new machine. Guaranteed.

5-6 h.p. 1909 Four-cylinder F.N., standard model, just new, non-skids both wheels, 20in., low frame; £25. Guaranteed.

3 h.p. BRADBURY, 1908 model, brand new; lowest price 19 guineas. At Wauchope's. Guaranteed.

4 h.p. N.S.U., 1909 model, spring forks and magneto, as new, nice machine; lowest cash £32 10s. Guaranteed.

MONTGOMERY Flexible Joints Artistic Cane Case; £5 10s.

Rigid Sidecar, new, fit any make of machine, well made; £8 10s. best price.

PHENIX Forecar Attachment, as new; price £8.

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In answering these advertisements it is desirable to mention "The Motor Cycle."

THE MOTOR CYCLE

Vol. 7. No. 329.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

The Six Days' Trials.

BY the time this issue is in the hands of our readers the 1909 Six Days' Trials of the Auto Cycle Union will be concluded, and we shall know a great deal more about the capabilities and reliability of 1909 models than we have done up to the present. Unfortunately for the competitors, the trials have not been favoured with particularly fine weather, but as trials are organised for the purpose of showing the capabilities of motor cycles under all conditions, it is perhaps not altogether unfortunate from the buyer's point of view that the machines have had to encounter adverse conditions in the way of heavy roads, showers of rain, and steep hills. Gradients are, of course, very much more difficult to ascend when the roads are wet. If the trials have shown the necessity of one thing more than another, it is the use of a good change speed gear. The steep hill at Dinas Mawddwy in Wales unseated over half the competitors, and, although they might have been able to have kept in the saddles with a very much lower fixed gear, it is very irksome to drive a motor cycle with a gear low enough to enable it to tackle any hill in the country, when with a variable, or two-speed gear it is possible to have the engine turning round comfortably under all conditions of gradient and surface. That the perfect motor cycle change speed gear has not yet been devised is quite as apparent as the demand for a gear, particularly among heavyweight riders. More than one competitor with a variable geared machine found Dinas Mawddwy too much for his gear ratio. Hills are not the only obstructions which cause the use of a change speed gear to be appreciated. Traffic, greasy roads, start-

ing, etc., are all rendered very much easier with the aid of a low gear. We notice that the organisers have discarded the appearance awards as far as concerns the riders. It is questionable whether this is wise, as it must be patent to anyone that a rider who can keep a smartly attired appearance is the one who has the least trouble with his machine, presuming he is clean and smart at the start. Trouble with belts, tyres, engines, etc., usually means a dirty appearance at the end of a day's ride unless one has time to stop for the necessary ablutions. As far as the machines are concerned, marks will be awarded for their general condition during and after the trial.

The 'passenger class' was disappointing. This was only to be expected. There are so few people making a good passenger motor cycle that the trade entries were naturally small. A passenger machine of the motor cycle class also has to be of the very best description to enable it to successfully complete a lengthy trial of this nature, and, of course, it would be perfectly ridiculous to enter with the knowledge that the risk of failure was great, for the simple reason that failure in the trials is a very bad advertisement. However, the day of the motor cycle passenger machine will eventually come. What form it will take it is impossible to say, but the advantages are too great for this type to be discarded.

Competitors seem to have had the usual trouble with tyres and belts. Curiously enough, the belt troubles seem to have been suffered on the first day. This is probably accounted for by the fact that inexperienced riders would start with a brand new belt which had not been stretched, and they would be dismounting two or three times during the day to take up the slackness. A 1,000 miles competitor should start with a

stretched belt, and a spare on the machine which has also been stretched, but experience can only be gained in actual competition. The sealing of the machines was efficiently carried out by the officials in charge of the Trials, but we think they might have improved on the method of sealing the engine. In many instances the wire was placed round the base of the cylinder and sealed. Now this does not prevent removal of the cylinder and the replacement of the piston, gudgeon pin, or other parts, such as rings, whereas if the cylinder had been sealed to the frame it would have been impossible to remove it without breaking the seal. It is a great pity that the climb up Birdlip Hill could not be officially timed. We know the reason why it was not, viz., because the use of the hill has been abused in the past, and the authorities now refuse to allow anything in the nature of a competition on it.

Saturday being the last day of the Trials was naturally the day when the machines were somewhat out of tune, having covered approximately 950 miles, therefore a timed performance on a hill like Birdlip at the conclusion of 950 miles would have been even more valuable than the other timed climbs.

Taking everything into consideration, the Trials have been a huge success. The entries were large, and as far as we can make out the competitors were satisfied except, of course, those who failed to survive the Trials. They must accept the fortune of war and prepare for better things in 1910. The experience gained in 1909 will no doubt be of considerable help to them, and we venture to say that not one single competitor or firm who has taken part will have failed to gain some valuable information from the 1,000 Miles Trials ridden under official observation.

A Simple Change Speed Gear.

OUR French contemporary *La Vie Automobile* prophesies that the tricar type of vehicle will eventually be reborn, and illustrates in a recent issue a system of change speed gear for tricars which will interest readers of *The Motor Cycle*.

Reference to the illustration shows that the engine-shaft B is fitted with an outside flywheel C, whose function is not only to increase the regular running of the engine, but has to do also with the change speed device. Cast with the flywheel is a recess D, in which revolves a ball bearing E carrying a square shaft F. This shaft is supported at the end G by a bearing which can be fitted to any convenient part of the tricar frame.

obtained with a direct drive. A pedal J moving around a centre K causes the fork L to withdraw the internal portion of clutch by bearing against the ball thrust bearing M, and so compressing the spring.

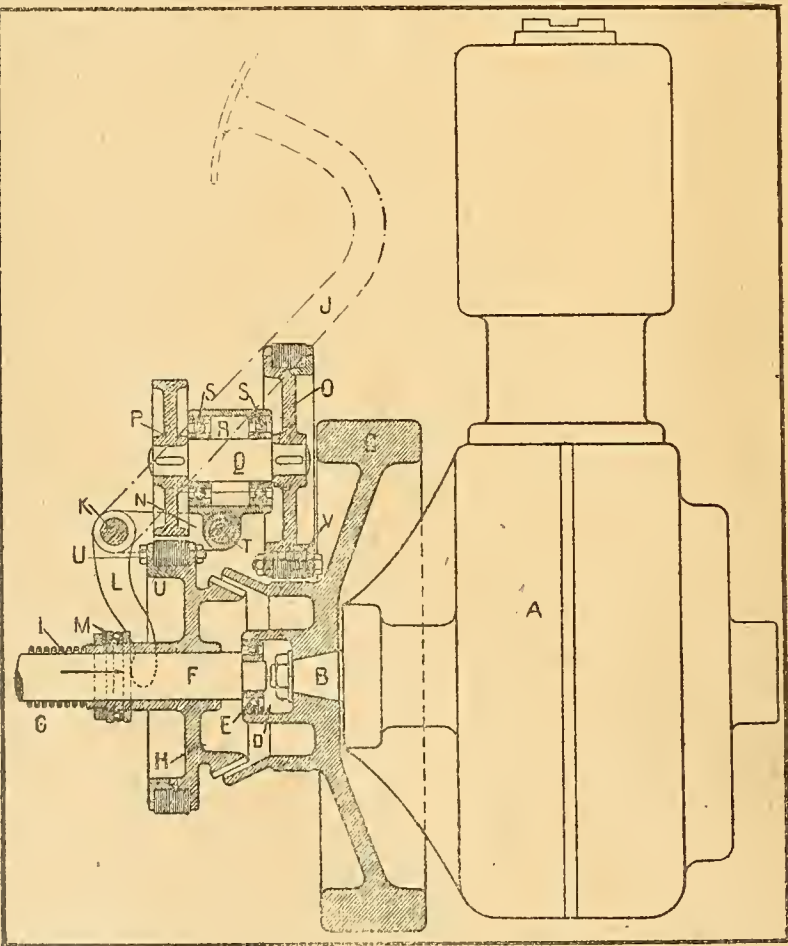
The above refers to the high or normal gear and free engine. We now come to the device for obtaining a low speed gear for hill-climbing, etc.

Fixed on the shaft K are two short levers N carrying a pair of friction wheels O and P of different diameters. These wheels are keyed to a shaft Q, and the shaft is provided with ball bearings S S, the bearings being surrounded by a cage R, on which is cast a lug carrying a transverse shaft T, which also connects up to suitable holes in the levers N. The cage R carrying the axle Q, etc., is therefore compelled to follow any movement of the pedal J. Suitable arrangement of parts is made, so that an increased leverage is obtained when the pedal is depressed.

We now come to the method of operation, and it will be as well to observe at this juncture that the pedal J can be just as easily replaced by a hand lever if desired.

To start the machine it is generally advisable to apply the low speed gear, and in case of the gear under review all that is necessary is to depress the pedal, which movement will bring the low speed into operation. The two levers N will simultaneously cause the friction wheels O and P to bear with more or less pressure on two cylindrical parts—one a portion of the flywheel C and the other of the cone H. The gear is so made that when the friction wheel P bears on the cone H the latter is just withdrawn sufficiently to come right underneath the wheel and register with it, or if desired the wheel can be made wider than the cylindrical part of clutch, so that it always engages with it, no matter what position the clutch may be in. Friction wheel O and cylindrical part of clutch U are leather faced. It will be noticed that when the friction wheels are in engagement with the respective surfaces against which they bear the engine is driving the friction wheel O, and P is driving the shaft on which is fixed the chain wheel, belt pulley, or gear wheel which is driving the tricar.

The only fault that we can see in connection with the gear is that there does not appear to be any arrangement made for enclosing the friction wheels, but this, of course, is quite easy.



A friction cone H is free to slide on the squared shaft F, and can be caused to bear more or less strongly against the external part of the clutch cast on the flywheel. When the two portions internal and external of this clutch are engaged the high speed is

CURRENT CHAT.

Special Feature:

THE A.C.U. SIX DAYS' RELIABILITY TRIALS

Copiously Illustrated Description.

TIME TO LIGHT LAMPS.—July 14 .. 9.10 p.m. July 17 - 9.8 p.m. July 21 .. 9.3 p.m.

R.A.C. Provincial Meeting in Warwickshire, July 24.

On the occasion of the Royal Automobile Club's provincial meeting in Warwickshire, on Saturday, the 24th inst., a number of motor cycle works will be open for inspection in Coventry.

Police Traps.

An Oxford motorist was fined £10 and costs for exceeding the legal limit on Sunrising Hill, between Banbury and Stratford-on-Avon.

On main road from Leeds to Bradford, beginning at Bramley Station, distance 440 yards. Unfair methods are employed for trapping, as a policeman walks alongside a passing vehicle and waves his handkerchief to begin timing. Obviously, the car, or motor cycle, will already have travelled some distance before the signal is made.

Hill Climbs in N.S.W.

The Motor Cycle Club of New South Wales held a hill-climb on May 29th on Baden Hill, Coogee. Contestants numbered twelve, and competed in pairs, winners meeting winners. In the final A. J. Powell's 3½ h.p. L.M.C., the same owner's 2¼ J.A.P., and H. K. Eaton's 5 h.p. Peugeot met and finished in that order.

Imports of Motor Cycles.

Imports of motor cycles during June were 187 complete machines (valued at £5,413) and £1,951 worth of parts, total £7,364, as compared with £6,424 in June, 1908, and £8,031 in the corresponding month of 1907. The import figures for the six months ended 30th June were:

1907.	1908.	1909.
£49,637	£36,207	£35,360

Exports of British Motor Cycles.

Ninety-five British-made machines were exported last month (value £3,293) and £2,258 worth of parts, total £5,551, compared with £2,839 in June, 1908, and £2,508 in the corresponding month of the previous year. The value of our exports during the six months ended 30th June was:

1907.	1908.	1909.
£26,132	£24,485	£36,336

It will be seen from the above that British exports have caught up, and are now well ahead of the import figures.

Re-exports of Foreign Motor Cycles.

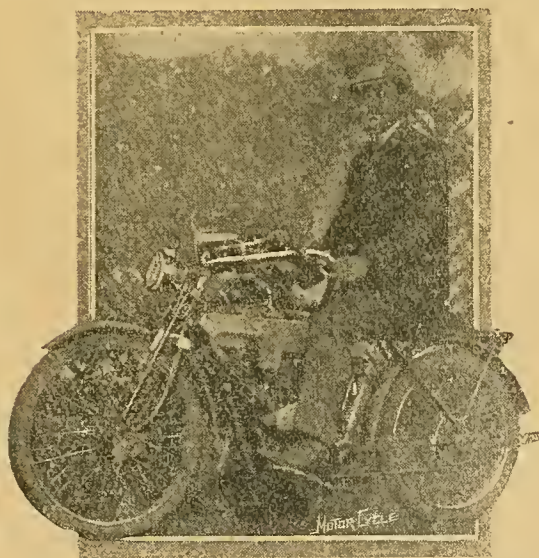
Foreign made motor cycles have been re-exported from this country to the value of £1,451 during the first six months of 1909, together with £8,075 worth of parts—£9,526 in all.

Mr. Lloyd George and the Motor Taxes.

It is considered that the deputations from the Motor Union to the Chancellor of the Exchequer have advanced the discussion on the motor taxes considerably. The Chancellor has given expressions of his opinions amounting almost to assurances on the following points: (1.) That an Advisory Committee, on which motorists shall be represented, will be associated with the Central Authority in the distribution of the Road Grant. (2.) That the Road Grant shall be devoted to the improvement of the roads as distinguished from maintenance. (3.) That he will consider the possibility of making arrangements to exempt foreign, colonial, and Indian visitors to this country from the car tax. (4.) That doctors shall have a rebate of fifty per cent. on the petrol tax.

From Cape Town to Johannesburg.

Mr. J. Hegarty, a well-known motor cyclist in the Cape Peninsula, is depicted in the accompanying illustration on his 3½ h.p. 1908 Phelon and Moore. This rider is shortly to attempt the journey to Johannesburg, about 1,000 miles distant from Cape Town. His trip is sure to be an adventurous one, as we are told the roads are in a terrible state after heavy rains. None of the rivers, except the very large ones, have bridges, and the roads, or rather cart tracks, having never been made, are a mass of washaways. The machine he will use on this ride is an 8-9 h.p. m.o.v. 1909 Bat, with Phelon and Moore two-speed gear and combined belt and chain transmission.



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The Bradford Open Hill-climb on Saturday.

The Steep, Denholme, the venue of the Bradford M.C.C. open hill-climb next Saturday, appears, from photographs kindly sent to us by Mr. H. Somers, to be an ideal hill for a competition. There are two gradual bends—one near the starting post, the other near the finishing post. There is a low wall at each side of the road, so that spectators will be able to see the competitors during the greater part of the climb.

The Tourist Trophy Race in the Isle of Man.

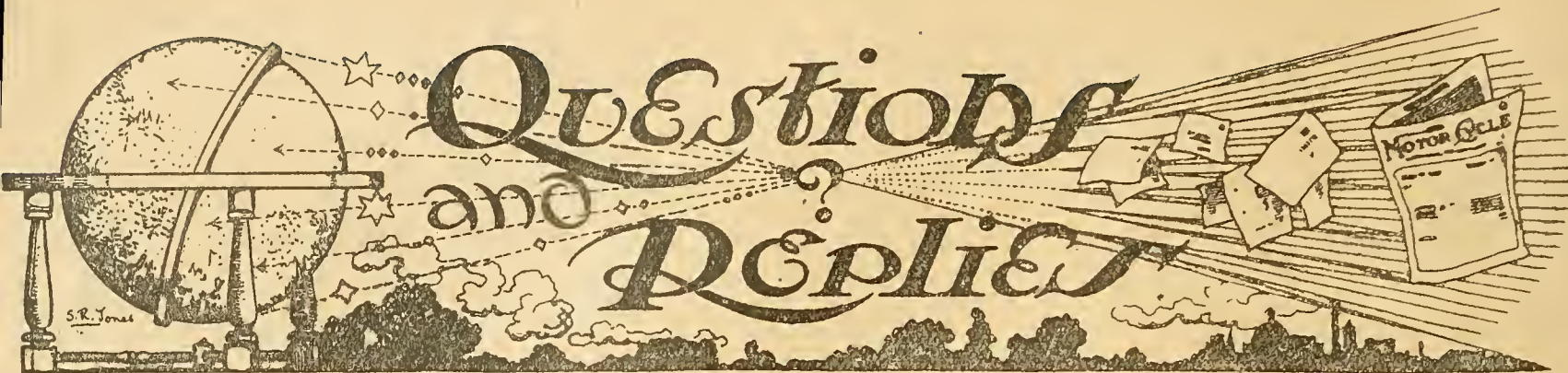
Mr. Straight, secretary of the Auto Cycle Union, informed us one day last week that the Committee has definitely decided upon a date for the Motor Cycle Tourist Trophy Race in the Isle of Man. The date fixed is Thursday, September 23rd. This year's race will be more interesting, if anything, than any previous T.T., as single and twin-cylinder machines race together in competition for the trophy. Full details will be announced in a subsequent issue.

A.C.U. Quarterly Trials.

The next Quarterly Trials will take place on Wednesday, July 28th, over the usual course—Uxbridge to Banbury and back. Entries can now be accepted, and should be addressed to the secretary, the Auto Cycle Union, 18, Down Street, Piccadilly, W. The Quarterly Trials are a splendid advertisement for any private owner who wishes to dispose of his mount, as the A.C.U. certificate is a guarantee that the machine is in perfect running order.

New York M.C.C. Hill Climb.

The New York Motor Cycle Club's seventh annual hill-climb was not the success anticipated. It appears that American motor cyclists have hitherto regarded rules more in the light of unnecessary formalities, and although engines with bottom exhaustholes were barred according to the rules, a number of competitors attempted to use engines of this type. The referee naturally disqualified them all, but it led to much wrangling, and delayed the start of the competition two hours. Two riders carried off all the honours, Classes A and B being won by Fred Voelker (3 h.p. twin N.S.U.), the remaining four being won by Walter Goerke (Indian). The first place of all the competitors on Professor Callendar's formula was also secured by Fred Voelker.



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

A Stoppage of the Petrol Supply.

? I wonder if you could account for my motor cycle refusing to take air. It is a 1909 Triumph, and I have covered about 3,000 miles on it, and only recently I found that it wouldn't fire properly unless I practically closed the air lever, so I took off the cylinder and cleaned away the carbon deposit. I also took the carburetter to pieces and cleaned it thoroughly, but still it refused to take as much air as formerly, consequently the speed is very much reduced.—W.L.G.

It is difficult to account for your machine taking less air unless the jet or petrol pipe are partially stopped up. We should, however, recommend you to verify this carefully. A further reason may be owing to the gauze in the carburetter being choked with dust.

Tyres and Starting by Pushing.

? (1.) I have a 6 h.p. N.S.U. and sidecar, and find I wear the back tyre and the sidecar tyre out in 500 miles. This is too heavy for my pocket, so would it be possible to have a solid rubber tyre on the back wheel? I do not want to go faster than twenty miles per hour. If not, what sort of tyre is the hardest wearing? (2.) I have often seen in *The Motor Cycle* that to start a machine with or without a passenger is easy if you have a speed gear, as you only have to push it along at four miles an hour on the low gear, and drop the exhaust and it starts. If I push mine along at eight miles per hour and drop the exhaust the back wheel only skids, being unable to overcome the compression. I have to jack mine up, start by the pedals, then turn to free engine, lower jack, get on, and then engage the low gear—a laborious task, especially in traffic. An article on how to start passenger machines would be interesting.—F. W.

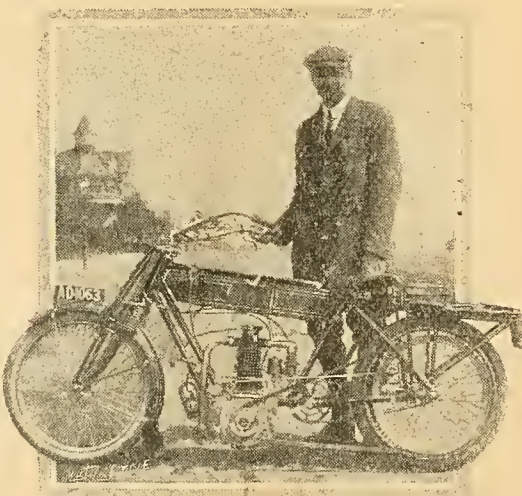
(1.) It would not be satisfactory to fit a solid tyre upon your motor bicycle. It would jolt the spokes out in a very few miles, and would be most uncomfortable. The best thing you can do is to fit tyres proportionate to the work they are called upon to do. Heavy motor cycle tyres would be satisfactory, and would overcome your

trouble, though it would naturally entail extra initial expense. (2.) There is a knack in starting by pushing on the low gear. With high compression engines it is not advisable to release the valve lifter suddenly, as this causes the back wheel to skid, but let it down gradually so that some of the compression can escape. If you practise this a few times you should be able to start without skidding the back wheel, although, of course, everything must be properly adjusted for easy starting. We are afraid with your particular gear there is no alternative but to jack up the machine to start it, and then put the gear in neutral.

A Route from the Midlands to Brighton Avoiding London.

? I am wanting to go from Tuxford to Brighton by road (avoiding London). Will you please give me the best route? —B.G.

Your best route will be as follows: Tuxford, Newark (beware of traps between Long Bennington and Great Gonerby and Colsterworth and Ponton, on each side of Grantham), Stamford, Stilton, Biggleswade, Baldock, Stevenage, Welwyn, Hatfield; here turn to left and go through St. Albans, Watford, Rickmansworth, Uxbridge, Colnbrook, Staines, Shepperton, Esher, Cobham, Leatherhead, Dorking, Reigate, Crawley, Hand Cross (beware of traps), Piecombe, and Brighton.



A. D. Draper, a competitor in the Six Days' Trials. The motor cycle—a 3½ h.p. Matchless-J.A.P.—was built with A. M. Tatham's in 1907 and both had covered upwards of 10,000 miles at the start of the trial.

A Loss of Compression.]

? I have a 3½ h.p. Rover engine. Compression is very bad, but on turning the pulley backwards it is very good. The gas escapes with a hissing noise, but I cannot trace where. You can perhaps help me. The rings have been in use about 200 miles, and on examining I find them bright all over.—A. A.

You need not take any notice of the compression when the machine is wheeled backwards. All you have to concern yourself about is the compression with the engine rotating in the proper direction, and if this is not good you must look for the loss of compression past the valve caps, unless, of course, the machine is fitted with a compression tap and this is not gastight. If you are convinced that all joints are tight, we should suspect a crack in the cylinder.

Slow Running. Carburetter Flooding.

? (1.) I have a 6 h.p. twin bicycle and sidecar, magneto ignition, automatic inlet valves, and I find I cannot keep the speed down under fourteen or fifteen miles an hour. I have tried shutting off the bottom air which only makes the engine run badly. I should be glad if you would tell me how to run at about seven or eight miles, without losing power for hills? (2.) The points of my contact breaker separate about one-eighth of an inch at their fullest. Would this make any difference? The only way to remedy this, I suppose, would be to cut or file the fibre ring. (3.) My carburetter floods slightly. How is it possible to judge the right level, for when the carburetter is disconnected you naturally lose the exact position or angle it is when on the engine? What do you mean by a dummy jet?—B.B.

(1.) Probably the inlet valve springs are too strong, though it would be a pity to alter these if the machine starts easily and runs well in other respects. Weak springs enable easy starting and slow running. A strong mixture will prevent the engine running slowly, so if the consumption is excessive try a smaller jet. (2.) Before touching the magneto we should advise you to put your troubles before the Bosch Com-

pany, as they will be glad to help you. One eighth inch is certainly too much break at the contact points. We do not advise filing or cutting anything before consulting them. (3.) A dummy jet is really a pipe slipped over an old jet cut down, or the boss on which the jet screws, which is wide enough to allow the level of the petrol to be seen. As your carburetter floods, it proves that there is either a leak somewhere or the level of the petrol is too high. The needle valve requires grinding in occasionally.

Attention to Leather Belts.

? Might I ask for full and detailed instructions as to dressing new leather belts, and the methods used to keep the same supple and in order,

such belts as Rawido, etc.?—DR. R. A new leather belt is usually properly dressed to begin with, but if it shows signs of being very hard and dry it would be as well to rub Collan oil (obtainable from A. W. Gamage, Holborn, E.C.) into it with a soft rag, and then hang it up for a couple of days with a fairly heavy weight at the end of it. This should take out the initial stretch. To keep a leather belt in good order it should be periodically scraped with an old knife so that all particles of grit are removed from it, after which it should be again dressed with Collan oil.

Various Interesting Queries.

? (1.) I have a 1907 2½ h.p. Minerva motor bicycle which has run about 1,500 miles. When I push it along before mounting I hear a sort of thumping in the cylinder, which, however, disappears after it has run a short distance. Should this be the case, or is it what is called knocking? The engine has not been dismantled since I had it. (2.) I always drive it with full air open, and find that it goes much more powerfully like this on a cold damp day than on a warm bright day. Does this mean that I should supply more air in the latter case, or is it simply that the engine is cooled more by the draught on a dull day? (3.) I have always driven the bicycle in my ignorance with the throttle full open. This I find is a mistake, having now read "Motor Cycles and how to Manage Them." I find the engine not nearly so powerful as it should be, and nearly stops on some absurdly slight gradient. Is this the result of my Jehu-like driving? The exhaust valve is slightly pitted; would a new valve improve the power? I cannot test the compression by standing on the pedals as there are none, there being a Roc two-speed gear fitted. If I had the engine dismantled and the piston cleaned and valve seen to, would there be much difference in power? (4.) How fast should I be able to travel on this machine, and what is the steepest gradient it should take on the high gear?—H. F. M. B.

(1.) Probably the noise is the suction of the piston and the clattering of the valve. A rumbling noise is caused by

worn bearings. (2.) This seems to be simply a question of carburation, and it would appear that better results would be obtained by increasing the air supply. (3.) Naturally, the machine is not so powerful with the throttle closed. What you should do is to keep the throttle partially closed and the spark advanced on the level, and open the throttle when you come to a hill or want to go fast for a short stretch. The exhaust valve can probably be ground in, and a new one will not be necessary. Do not have the engine dismantled unless it has fallen off greatly in power. You can test the compression by pushing the machine along with the valve lifter released. If the compression cannot be overcome and the back wheel is skidded, the compressor cannot be very poor. (4.)

hot through conduction; it is only when the crankcase gets excessively hot that leakage past the rings should be suspected.

Compression and Suction.

? My 1907 3½ h.p. Rex motor cycle losing power and speed led me to make an examination. Among other things, I noticed that it has practically two compressions. In addition to the ordinary one there appears to be another one on the down or power stroke, almost as tight as the proper up compression stroke. It immediately disappears on opening the compression tap. It is not pressure in crankcase, as it happens with relief valve taken out altogether. Surely this is not as it



A.C.U. Six Days' Trials. F. C. Mustard (3½ h.p. Triumph) climbing Dinas Mawddwy in the rain and against a head wind. This climb is extremely severe at the best of times, but the rain and wind accounted for many failures.

You should be able to reach forty miles an hour with this machine on level ground comfortably, and climb 1 in 9 on the high gear, if your weight is not above the average.

Position of Magneto. Heat of Crankcase.

? (1.) Is it detrimental for the field magnet of Bosch magneto to be touching base of cylinder? (2.) The crankcase of my 2½ h.p. Rex featherweight gets very hot after a journey of about six miles, and this although the compression is very good and will stand my weight (ten stones) on pedal. Can you give any explanation for this?—M. 1044.

(1.) There is no actual harm in the magnets touching any other part of the machine except that excessive vibration may tend eventually to destroy the magnetism. (2.) We should say that your crankcase gets

should be, and I feel sure it is the cause of my losing power and speed. Caps, valves, and plug all in good order, compression good when warm.—J. H. H.

What you imagine is the second compression is really suction. You can test this for yourself by opening the compression tap of the engine and holding your finger over the hole. When the engine is on compression there will be a tendency for your finger to be blown away, but on the "second compression" you mention there will be a distinct sucking action.

The 1d. Edition of "The Autocar."

Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.



First Day.—London to Shrewsbury via Oxford and Worcester. 143½ miles.

AS stated in last week's issue, all the entrants started with one exception. The names of those who left Uxbridge on Monday of last week, and the machines they rode, are given hereunder:

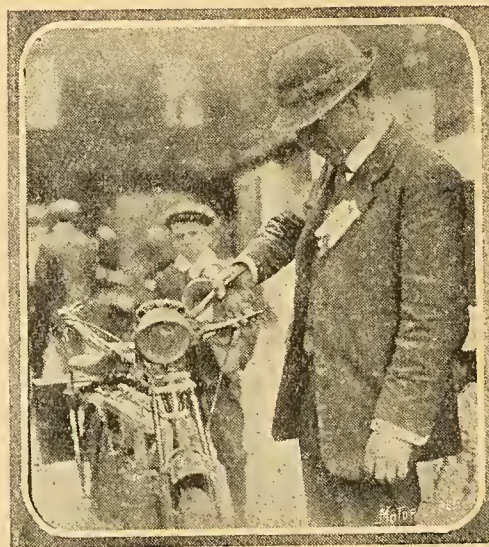
No.	Rider and machine.	No. of cyl.	Bore and stroke. mm. mm.
*1.	W. H. Outwin (3½ h.p. Triumph)	1	84 × 86
*2.	E. Nelson (5 h.p. Rex)	2	76 × 80
*3.	A. D. Draper (3½ h.p. Matchless)	1	85 × 76
*4.	A. M. Tatham (3½ h.p. Matchless)	1	85 × 76
*5.	C. Williams (3½ h.p. Triumph)	1	84 × 86
*6.	G. H. Lake (3½ h.p. Triumph)	1	84 × 86
7.	W. W. Douglas (2¾ h.p. Douglas)	2	60 × 60
8.	J. V. Robinson (2¾ h.p. Douglas)	2	60 × 60
9.	P. Phillips (2¾ h.p. Douglas)	2	60 × 60
*10.	F. Dover (3½ h.p. Triumph)	1	84 × 86
*11.	W. O. Bentley (3½ h.p. Rex)	1	82 × 89
*12.	F. G. Boddington (3½ h.p. Rex)	1	82 × 89
*13.	B. H. Davies (6 h.p. Advance)	2	76 × 82
*14.	A. L. Ommaney (5 h.p. Rex)	2	76 × 80
*15.	H. Bevir (3½ h.p. L.M.C.)	1	84 × 88
16.	W. H. Wells (5 h.p. Indian)	2	70 × 83
17.	G. Lee Evans (5 h.p. Indian)	2	70 × 83
18.	W. Pratt (3½ h.p. P. and M.)	1	82 × 88
19.	R. Moore (3½ h.p. P. and M.)	1	82 × 88
*20.	W. Milnes (3½ h.p. P. and M.)	1	82 × 88
*21.	Thos. Canby (3½ h.p. P. and M.)	1	82 × 88
22.	R. M. Brice (3½ h.p. Brown)	1	85 × 85
*23.	J. Slaughter (3½ h.p. Triumph)	1	84 × 86
*24.	J. T. Bashall (3½ h.p. Triumph)	1	84 × 86
*25.	W. H. Bashall (6-7 h.p. Bat)	2	76 × 95
*26.	H. H. Bowen (6-7 h.p. Bat)	2	76 × 95
27.	A. G. Fenn (6 h.p. Bat)	2	85 × 76
28.	T. H. Tessier (7 h.p. Bat)	2	85 × 85
29.	W. Smith (2 h.p. Moto-Rêve)	2	52 × 70
30.	G. L. Fletcher (2 h.p. Moto-Rêve)	2	52 × 70
*31.	G. L. Andrews (2 h.p. Moto-Rêve)	2	52 × 70
32.	A. J. Sproston (5 h.p. Rex)	2	76 × 80
34.	O. C. Godfrey (Rex)	1	82 × 89
35.	F. Phillips (3½ h.p. Scott two-stroke)	2	66 × 63
*36.	A. H. Ormerod (3½ h.p. Scott)	2	66 × 63
*37.	F. Southam (3½ h.p. Triumph)	1	84 × 86
*38.	R. W. Duke (3½ h.p. Triumph)	1	84 × 86
*39.	F. C. Mustard (3½ h.p. Triumph)	1	84 × 86
*40.	J. O. M. Dixon (5 h.p. Vindec)	2	75 × 75
41.	J. Holroyd (1½ h.p. Motosocoche)	1	62 × 70
43.	J. F. Crundall (3½ h.p. Humber)	1	83 × 90
44.	F. Edmond (3½ h.p. Humber)	1	83 × 90
45.	A. V. Sumner (3½ h.p. Humber)	1	83 × 90
46.	O. Parker (3½ h.p. Humber)	1	83 × 90
47.	P. J. Evans (3½ h.p. Humber)	1	83 × 90
*48.	F. C. Wood (4 h.p. N.S.U.)	1	82 × 105
49.	W. F. Newsome (3½ h.p. Triumph)	1	84 × 86

No.	Rider and machine.	No. of cyl.	Bore and stroke. mm. mm.
50.	J. Marshall (3½ h.p. Triumph)	1	84 × 86
51.	Gordon Gibson (3½ h.p. Triumph)	1	84 × 86
52.	H. Berwick (3½ h.p. Excelsior)	1	83 × 90
53.	H. D. Teage (3¾ h.p. Premier)	2	66 × 80
54.	G. E. Stanley (3½ h.p. Premier)	1	85 × 85
55.	R. W. Walker (3½ h.p. Premier)	1	85 × 90
56.	A. Weatherill (3½ h.p. Zenette Gradua)	1	80 × 80
57.	F. W. Barnes (3½ h.p. Zenith Gradua)	1	85 × 85
58.	J. W. Morris (3½ h.p. Bradbury)	1	87 × 87
59.	G. Simpson (3½ h.p. Bradbury)	1	87 × 87
60.	P. Platt (3½ h.p. Bradbury)	1	87 × 87
61.	J. Eastwood (3½ h.p. Bradbury)	1	87 × 87
62.	A. T. Stanton (3½ h.p. Bradbury)	1	87 × 87
*63.	G. E. Carrow (3½ h.p. T.T. Triumph)	1	84 × 86
*64.	Robert King (3½ h.p. Triumph)	1	84 × 86
*65.	F. S. Barnwell (3½ h.p. Triumph)	1	84 × 86
66.	T. Woodman (7 h.p. V.S.)	2	80 × 98
67.	S. Osborne (3½ h.p. Osborne)	1	80 × 90
*68.	H. B. Lewis (3½ h.p. Triumph)	1	84 × 86
*69.	Robert Fletcher (3½ h.p. Premier)	1	85 × 85
*70.	Rev. Basil Aston (3½ h.p. Triumph)	1	84 × 86
71.	A. Baker (1½ h.p. Wolf)	1	62 × 65
72.	A. J. Stevens (3 h.p. Wolf)	2	62 × 65

PASSENGER MACHINES.

33.	R. Lord (5 h.p. Rex and sidecar)	2	76 × 80
*73.	P. E. Tolfree (5 h.p. Roc and sidecar)	2	75 × 76
*74.	J. Miller (4 h.p. Zenith Gradua and sidecar)	1	85 × 85
75.	W. Pershke (6-7 h.p. Puch and sidecar)	2	80 × 110

*Private owners.



H. G. Cove, one of the judges, affixing the seals to a competitor's machine before the start.

The teams competing for the team prize are: Douglas (Messrs. Douglas, Robinson, and Phillips), Phelon and Moore (Messrs. Pratt, Moore, and Milnes), Bat (Messrs. Bowen, Fenn, and Tessier), Rex (Messrs. Sproston, Lord, and Godfrey), Humber (Messrs. Crundall, Edmond, and Sumner), Triumph (Messrs. Newsome, Marshall, and Gordon Gibson), Premier (Messrs. Teage, Stanley, and Walker), Platt, Eastwood, and Stanton).

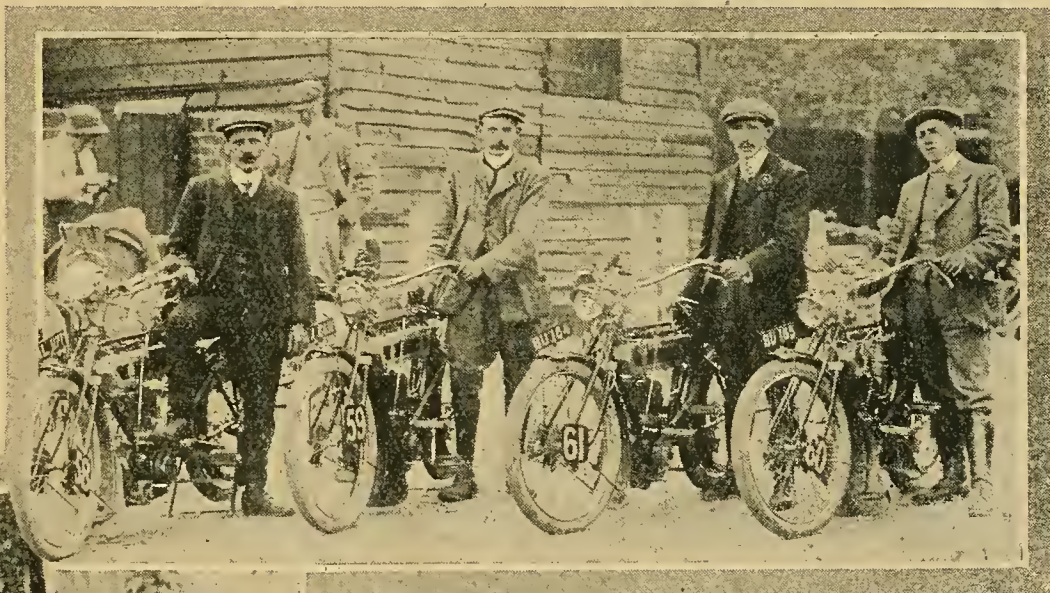
The Six Days' Reliability Trials.—

The day certainly began well. It was fine and sunny, and there was little or no wind. As far as Wheatley, six miles from Oxford, the well-known Quarterly Trials' route was followed, and consequently this particular section of the road was familiar to many of the competitors. Outside Uxbridge many of the men were seen in temporary trouble by the roadside, some suffering tyre and others belt troubles, among whom was Tessier, who at Gerrard's Cross lost a bundle off his luggage-carrier, and then had a puncture. In Wycombe F. Dover ($3\frac{1}{2}$ h.p. Triumph) had a whole series of tyre troubles, which lost him many marks. At Dashwood, up which the little 10 h.p. Delage placed at my disposal carried me in excellent form, Mr. J. R. Nisbet arrived with his 30 h.p. Humber car bearing several of the officials, while shortly after came a 20 h.p. Rover with other officials on board. Nearly all the machines successfully conquered the famous hill, but H. Bevir ($3\frac{1}{2}$ h.p. L.M.C.), a rider of a Moto-Rêve, and other lightweight riders pedalled. Seen from the summit, a huge batch of motor cyclists climbing in close order presented an interesting spectacle.

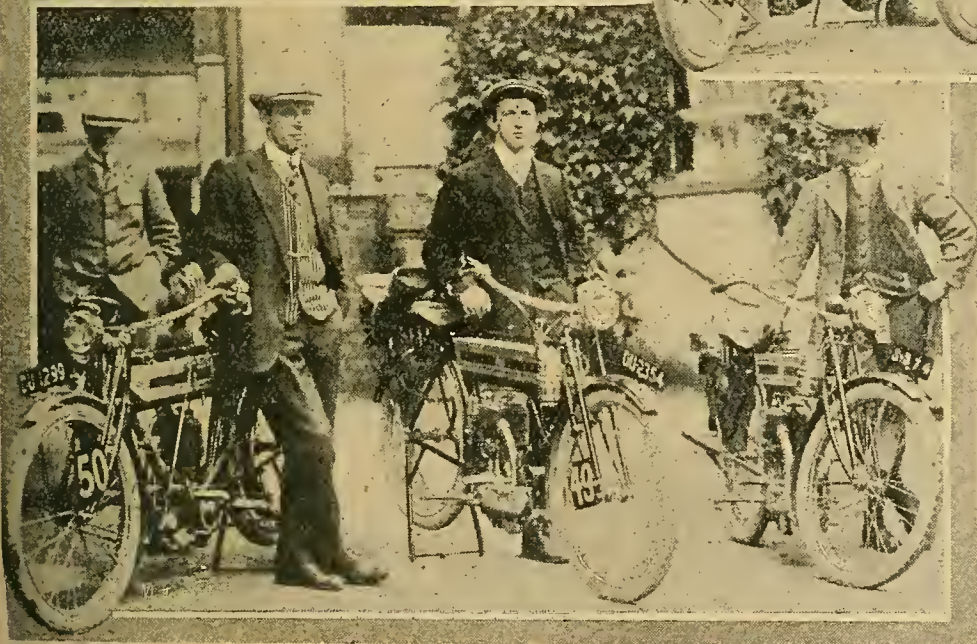
The Oxfordshire roads were only in fair condition, and in places steam rollers were at work effecting tardy

Near Enstone several stiff hills had to be negotiated, but beyond the third check, Chipping Norton (outside which a good many riders had to wait through being too early), the hills became more severe. The district was then entered where the villages have treble-barrelled names, such as Moreton-in-the-Marsh, and near it Stow-on-the-Wold and Bourton-on-the-Hill. The latter is certainly well named, as more than one rider found the ascent none too easy. The lightweight Wolf failed to make the ascent through a slipping belt, and later in the day the magneto-shaft almost seized.

The road surface for about the third of the way down Fish Hill, Broadway (which was the scene of a hill-climb two years ago), was perfectly execrable, and almost unsafe, but happily it improved lower down. In Worcestershire the roads were very much better, and



Four of the five riders of 1909 Bradburys in last week's trials. The team representatives were Platt, Eastwood, and Stanton.



The Triumph team in the Six Days' Trials—Marshall, Newsome, and Gibson.

repairs and considerably hampering the riders. At Tetsworth, R. W. Walker ($3\frac{1}{2}$ h.p. Premier) had a short circuit in his magneto, and in Oxford met further misfortune, being thrown from his machine by a dog on Magdalen Bridge. Oxford did not look its best, as both Queen's and Christ Church were covered by scaffoldings. Leaving the dear old university city by the Woodstock Road, the going varied considerably. At times the surface was smooth, then a steam roller was encountered, and for a time the surface was shockingly worn. In fact, it is not too much to say that the Oxfordshire roads are not well enough kept for the increase in traffic they now have to stand. The repairs done are good so far as they go, but they are not sufficiently extensive.

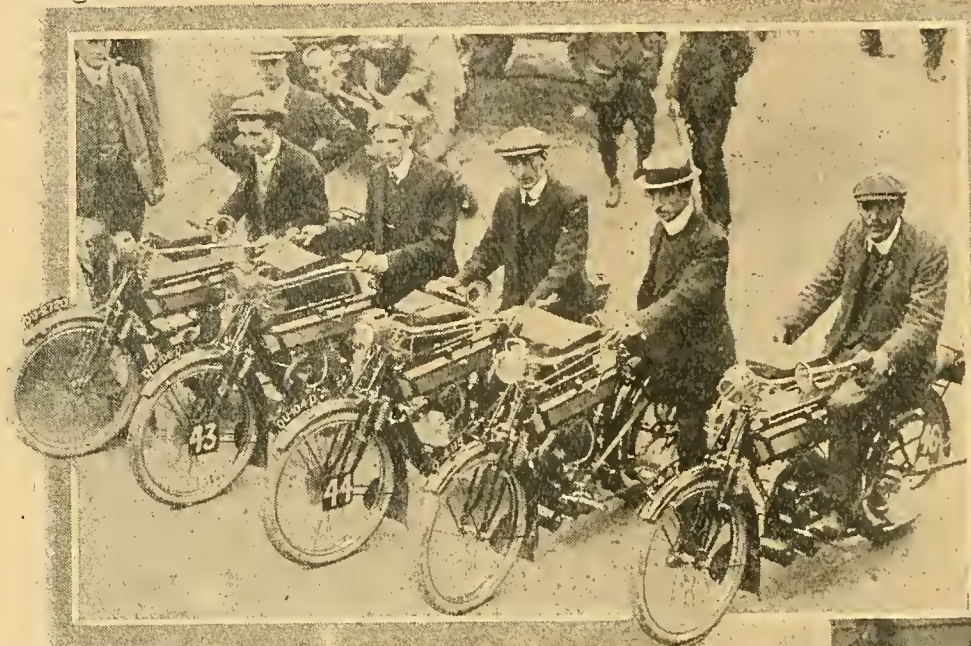
a good run was made to the county town, where a stop was made for lunch. Here Phillips's $3\frac{1}{2}$ h.p. Scott, which had been the centre of attraction since the start, suffered a series of punctures from a nail, and Dixon's Vindoc was in a similar plight owing to the canvas having gone inside his brand new front cover. The ninety-five miles run from Uxbridge to Worcester made the men only too ready for lunch, but afterwards on good roads they felt better, and made a comfortable journey to Kidderminster.

After leaving this town a series of steep hills were encountered, on which many spectators assembled to watch the fun. The gradients, however, though trying, were by no means insurmountable. Bridgnorth—that curiously picturesque town built on a rock—was then passed, and after the ascent and descent of Wenlock Edge, an easy run was made to Shrewsbury, the destination for the day, and the centre from which the succeeding days' run are to be made. The western slope of Wenlock Edge, from which a fine view of the Wrekin is first seen, is marked "Danger (1 in 6)," and it is up this hill that the men were to climb next day. A heavy shower, fortunately of brief duration, was experienced beyond Bridgnorth, which happily did no more than lay the dust. Otherwise the weather was excellent. All the officials are covering the course on cars, except

The Six Days' Reliability Trials.—

Reynolds, who is mounted on a $3\frac{1}{2}$ h.p. two-speed Humber.

Of the seventy-four starters whose names have been mentioned, only one—Ormerod ($3\frac{1}{2}$ h.p. Scott)—has failed to arrive. Several of the riders complained of nails being strewn on the road near Shrewsbury. Those picked up were new, and consequently people are unwillingly inclined to be suspicious. The following, besides those mentioned above, suffered troubles: R. Lord (5 h.p. Rex), tyres; P. E. Tolfree (5 h.p. Roc and sidecar), loose exhaust pipe union; F. C. Boddington ($3\frac{1}{2}$ h.p. Rex), repaired petrol pipe; and H. B. Lewis ($3\frac{1}{2}$ h.p. Triumph), tyres.



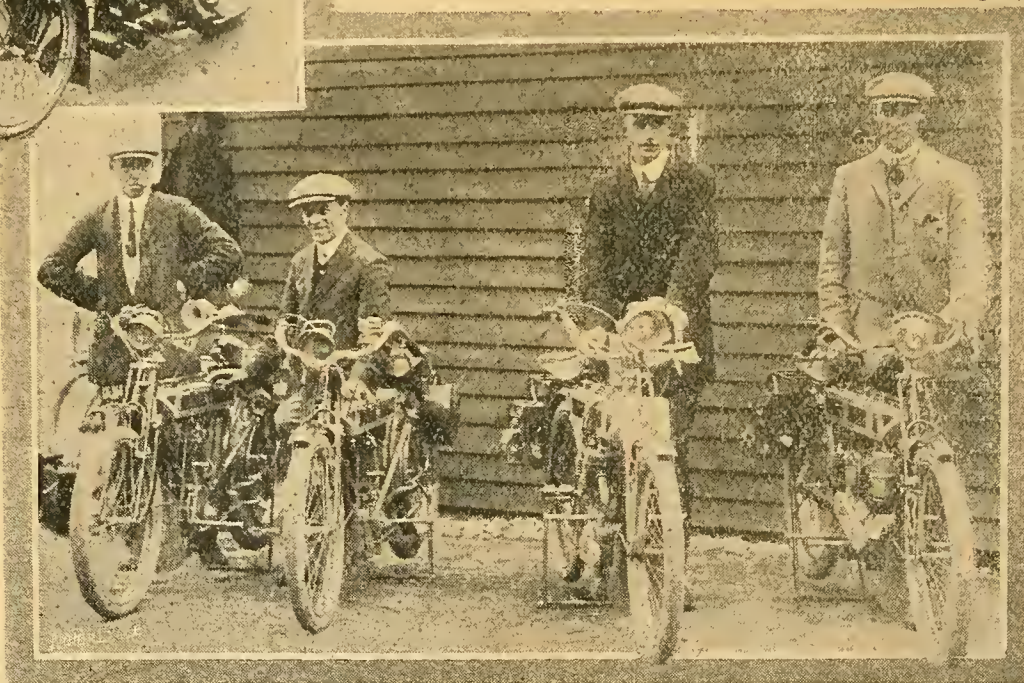
The team of Humber motor bicycle riders. Crundall, Edmonds, and Sumner competed for the Team Prize.

On their arrival in Shrewsbury the machines were carefully stored in Mr. H. Luff-Smith's commodious garage, in a portion specially set apart for them. The first day's run has certainly been successful, and most of the men appear to have enjoyed the run thoroughly. The journey for the day has been over average English roads, and much the same sort of country will be traversed to-morrow. On the third and fourth days, however, matters will be quite different.

In addition to the troubles mentioned previously, one of the Bradburys had its engine almost seize up owing to bad oil, but the rider was fortunately able to free it. The following lost marks on the day's run: F. Dover ($3\frac{1}{2}$ h.p. Triumph), ran hairpin in tyre (the spare tube he was carrying did not fit, and he had to return to Wycombe to get another, and so lost two hours), 116 marks; R. W. Walker ($3\frac{1}{2}$ h.p. Premier), short circuit and fall in Oxford, 34 marks; A. H. Ormerod ($3\frac{1}{2}$ h.p. Scott), retired (reported through tyre troubles); A. G. Fenn (6-7 h.p. Bat), late at control through belt trouble, 7m.; A. T. Stanton ($3\frac{1}{2}$ h.p. Bradbury), trouble not stated, 78m.; A. Baker ($1\frac{1}{2}$ h.p. Wolf), belt and tyre troubles, 173m.; A. L. Ommaney (5 h.p. Rex), trouble not stated.

The following lost no marks: W. H. Outwin ($3\frac{1}{2}$ h.p. Triumph), E. Nelson (5 h.p. Rex), A. D. Draper ($3\frac{1}{2}$

h.p. Matchless), A. M. Tatham ($3\frac{1}{2}$ h.p. Matchless), C. Williams ($3\frac{1}{2}$ h.p. Triumph), G. H. Lake ($3\frac{1}{2}$ h.p. Triumph), W. Douglas ($2\frac{3}{4}$ h.p. Douglas), J. V. Robinson ($2\frac{3}{4}$ h.p. Douglas), P. Phillips ($2\frac{3}{4}$ h.p. Douglas), W. O. Bentley ($3\frac{1}{2}$ h.p. Rex), F. G. Boddington ($3\frac{1}{2}$ h.p. Rex), B. H. Davies (6 h.p. Advance), H. Bevir ($3\frac{1}{2}$ h.p. L.M.C.), W. H. Wells (5 h.p. Indian), G. Lee-Evans (5 h.p. Indian), R. Moore, W. Pratt, W. Milnes, and T. Canby ($3\frac{1}{2}$ h.p. P. and M.'s), R. M. Brice ($3\frac{1}{2}$ h.p. Brown), J. Slaughter and J. T. Bashal ($3\frac{1}{2}$ h.p. Triumphs), W. H. Bashall (6-7 h.p. Bat), T. H. Tessier (7 h.p. Bat), W. Smith, G. L. Fletcher, and G. L. Andrews (2 h.p. Moto-Rêves), A. J. Sproston and R. Lord (5 h.p. Rexes), O. C. Godfrey ($3\frac{1}{2}$ h.p. Rex), F. Phillips ($3\frac{1}{2}$ h.p. Scott), F. Southam, R. W. Duke, and F. C. Mustard ($3\frac{1}{2}$ h.p. Triumphs), J. O. M. Dixon (5 h.p. Vindec), J. Holroyd ($1\frac{1}{4}$ h.p. Motosacoche), J. F. Crundall, F. Edmond, A. V. Sumner, and O. Parker ($3\frac{1}{2}$ h.p. Humbers), F. C. Wood (4 h.p. N.S.U.), W. F. Newsome, J. Marshall, and Gordon Gibson ($3\frac{1}{2}$ h.p. Triumphs), H. Berwick ($3\frac{1}{2}$ h.p. Excelsior), H. D. Teage and G. E. Stanley ($3\frac{1}{2}$ h.p. Premiers), A. Weatherilt ($3\frac{1}{2}$ h.p. Zenette Gradua), F. W. Barnes ($3\frac{1}{2}$ h.p. Zenette Gradua), J. W. Morris, G. Simpson, P. Platt, and J. Eastwood ($3\frac{1}{2}$ h.p. Bradburys), G. E. Carrow, R. King, and F. S. Barnwell



The four competitors on Premier motor cycles—three single cylinders and one twin. The three riders on the right—Stanley, Walker, and Teage—composed the Premier team.

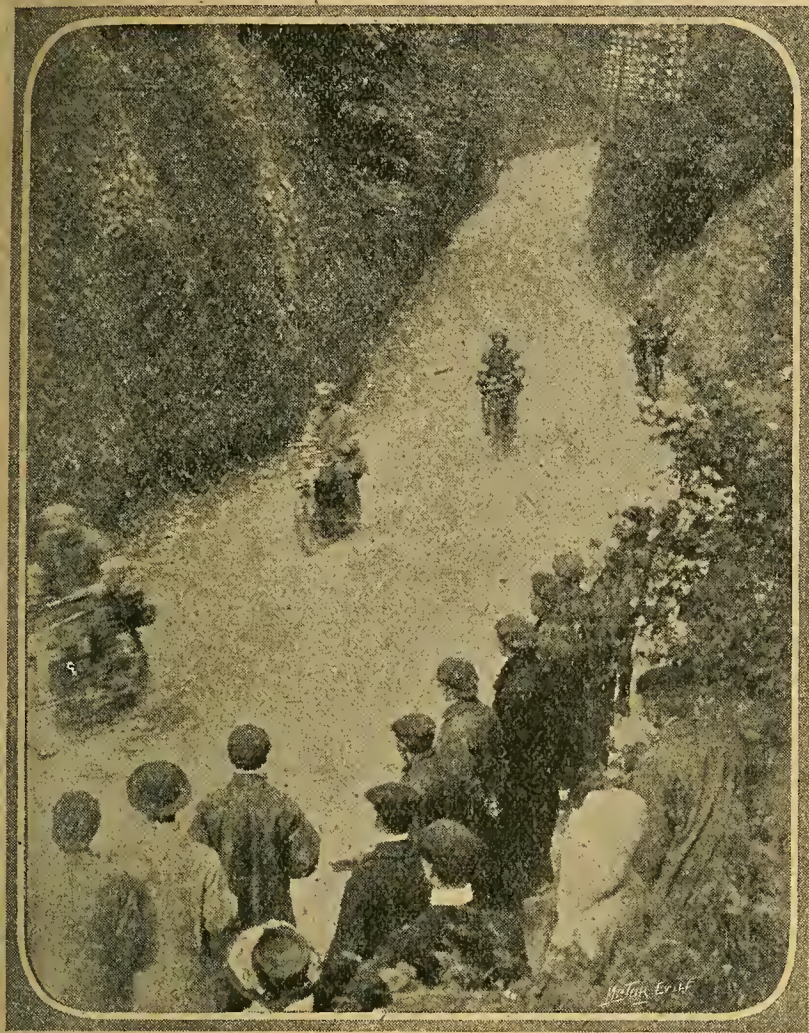
($3\frac{1}{2}$ h.p. Triumphs), T. Woodham (7 h.p. V.S.), S. Osborne ($3\frac{1}{2}$ h.p. Osborne), H. B. Lewis ($3\frac{1}{2}$ h.p. Triumph), R. Fletcher ($3\frac{1}{2}$ h.p. Premier), Rev. B. Aston ($3\frac{1}{2}$ h.p. Triumph), A. J. Stevens (3 h.p. Wolf), P. Tolfree (5 h.p. Roc and sidecar), J. Miller (4 h.p. Zenith Gradua and sidecar), and W. Pershke (6 h.p. Puch and sidecar).

Second Day.—Circular Tour from Shrewsbury via Wenlock, Stourbridge, Bromsgrove, Evesham, Tewkesbury, Ross, Ludlow, and back to Shrewsbury. 173½ miles.

The first machines were booked out at 8 a.m. from Mr. Luff-Smith's garage. The morning was fine, and the roads, with the dust laid by the previous night's rain, were in first-class condition. As far as the foot

The Six Days' Reliability Trials.—

of Wenlock Edge the route was practically level, and for the most part pretty fast, with the result that most people hurried along to the foot of this severe hill and then stopped, either to cool their engines or alter their



Climbing Much Wenlock Hill, 12½ miles from Shrewsbury, on the morning of the second day's run. The gradient at the steepest part is 1 in 6.

variable pulleys. The surface of the road over Wenlock Edge—which has two sections of about 1 in 6—was magnificent, but in spite of this there were a few failures. The performances on this hill do not in any way count officially, but in my opinion it is a pity they do not, as every machine which did not make the ascent satisfactorily should not qualify for a gold medal. Still, it must be first seen how the Cat and Fiddle Hill compares with Wenlock. A short account of the performances from personal observations may be of interest, showing as it does how the machines are behaving in this the early part of the week.

Very good ascents were made by C. Williams (3½ h.p. Triumph); W. Douglas and P. Phillips (3½ h.p. Douglas) pedalled slightly; W. O. Bentley (3½ h.p. Rex), G. Lee-Evans and W. H. Wells (5 h.p. Indians), H. Bowen (6-7 h.p. Bat), A. M. Tatham (3½ h.p. Matchless), A. D. Draper (3½ h.p. Matchless), A. G. Fenn and T. H. Tessier (6-7 h.p. Bats), F. C. Mustard (3½ h.p. Triumph), F. Phillips (3½ h.p. Scott), W. Milnes, R. Moore, and W. Pratt (3½ h.p. P. and M., on low gear). B. H. Davies (5 h.p. Advance) passed me in good style, but some way up the hill he dismounted to change his belt and alter his adjustable pulley. C. H. Lake (3½ h.p. Triumph), F. Dover (3½ h.p. Triumph), A. L. Ommaney (5 h.p. Rex), W. H. Bashall (6-7 h.p. Bat), travelled very fast; Smith and Fletcher (2 h.p. Moto-Rêves) pedalled slightly; H. D. Teage (3¾ h.p. Premier), F. S. Barnwell (3½

h.p. Triumph), G. L. Andrews (2 h.p. Moto-Rêve), G. Gibson (3½ h.p. Triumph), G. E. Stanley (3½ h.p. Premier), J. F. Crundall (3½ h.p. Humber), J. Marshall (3½ h.p. Triumph); A. V. Sumner (3½ h.p. Humber), F. W. Barnes (3½ h.p. Zenith), F. Edmond (3½ h.p. Humber), S. Osborne (3½ h.p. Osborne), W. F. Newsome (3½ h.p. Triumph), G. E. Carrow (3½ h.p. T.T. Triumph), P. Platt (3½ h.p. Bradbury), J. W. Morris (3½ h.p. Bradbury); B. Aston (3½ h.p. Triumph), T. Woodman (7 h.p. V.S.), R. W. Walker (3½ h.p. Premier), R. W. Duke (3½ h.p. Triumph), A. J. Sproston (5 h.p. Rex), O. C. Godfrey (3½ h.p. Rex), A. Baker (1½ h.p. Wolf), pedalled slightly; and W. Pershke (6 h.p. Puch and sidecar).

Of the less fortunate riders, E. Nelson (5 h.p. Rex), W. H. Outwin (3½ h.p. Triumph), J. V. Robinson (overalls caught in and broke advance spark lever), J. T. Bashall (3½ h.p. Triumph), F. G. Boddington (3½ h.p. Rex), J. O. M. Dixon (5 h.p. Vindec), J. Holroyd (1¼ h.p. Motosacoche), H. Bevir (3½ h.p. L.M.C.), P. J. Evans (3½ h.p. Humber), J. Miller (3½ h.p. Zenith and sidecar), R. King (3½ h.p. Triumph), P. E. Tolfree (5 h.p. Roc and sidecar), and A. J. Stevens (3 h.p. Wolf), dismounted. R. M. Brice (3½ h.p. Brown) and R. King (3½ h.p. Triumph) were among those who pedalled; while the engines of J. Eastwood's 3½ h.p. Bradbury and F. Fletcher's 3½ h.p. Premier knocked rather badly. Several machines failed almost at the top of the hill. Much interest was taken in the ascent by the spectators assembled on the summit.

Leaving Much Wenlock, the men followed the outward route covered yesterday to Bridgnorth, and after leaving this town the road to Stourbridge was covered.



Passing through Ludlow on the afternoon of the second day. The archway being narrow rendered this rise a slow hill-climbing test. B. H. Davies (5 h.p. Advance) is leading the string.

Here the surface was somewhat bumpy, and several steep pitches were encountered. Bromsgrove, Evesham, Tewkesbury, and Ledbury were traversed, and then Ross was reached, where lunch was served. The lunch and attendance at the Swan Hotel were all that could

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be desired, but a charge of 3d. garage for each machine was met with by righteous indignation on the part of the competitors, and their resentment at one time nearly assumed serious proportions. It then began to rain, and to save further unpleasantness the men paid and tried to look pleasant. All the way from Ross through Hereford to the foot of Dinmore Hill the rain pelted down, but fortunately the roads were not exceptionally greasy, and through Herefordshire their surface was splendid. On the summit of Dinmore the rain ceased,



W. Milnes and W. Pratt (Two-speed P. and M.'s) leaving Worcester after the luncheon stop on Tuesday.

and the going became more pleasant. The hill is beautifully graded, and the climb presented no difficulties. Many of the men had to shorten their belts owing to the rain.

The check at Leominster was by no means clearly marked, and Draper and Bentley missed it altogether. At the level crossing outside the town several men were delayed through the gates being closed. Ludlow was then reached. It is a picturesque town, which is entered by a narrow archway (situated half-way up a steep hill), which allows only one vehicle to pass through at a time. About 5.30 another sharp shower was experienced. After an exceedingly pretty run through Church Stretton, Shrewsbury was reached at about 7 p.m. Great interest is being taken in the trial here, and many of the inhabitants turned out to see the men come in. The police have been of the greatest possible assistance in all the counties traversed. All those who started this morning have reached here by 11 p.m., except Nelson, who suffered inlet valve trouble, and Stanton, who is reported to have retired. Among to-day's unfortunates are Dixon, Wells, and Teage, who have suffered tyre troubles. Edmond (3½ h.p. Humber) was among those who had belt trouble; while the Roc and sidecar (carrying the only lady in the trial) has experienced a broken frame, which probably means its retirement.

Save for the retirements mentioned previously, and Osborne (3½ h.p. Osborne) 35m., and Baker (1½ h.p. Wolf) 98m., the performances on the second day's run were most satisfactory, as all the remainder lost no marks. Nelson appeared at Shrewsbury at 4 p.m. the next day, and after a brief interval started off again to complete the course.

Third Day.—Circular run [from Shrewsbury via Welshpool, Llanfair, Dinas, Mawddwy (hill climb), Cross Foxes, Machynlleth, Aberystwyth, Newtown, and back to Shrewsbury. 167½ miles.

To-day's run has been exceptionally arduous; not only has the course been most severe, but the elements have been far from kind. Seventy-one competitors started from Shrewsbury at 8 a.m. in fine but rather cold weather, and leaving the town by the Holyhead Road, bore left and continued to Welshpool and Llanfair Caereinion. Up to the latter village the surface was smooth and the gradients easy, but for some miles beyond the roads were bumpy and greasy after the heavy rain which had fallen in the night. From Pen-y-bont the route ascended over a well graded pass to an altitude of 832 feet, and then descended with few bad corners to Mallwyd, where a sharp turn to the right was made leading into Dinas Mawddwy. Instead of going into the village the left hand fork was taken, and a few miles further on the real climb began. The pass is certainly long, but the gradient does not strike one as being exceptionally severe. Still a strong wind blowing down the course made matters as bad as they could be, and, added to these adverse conditions, the tops of the mountains became covered in clouds, and rain soon began to fall heavily. The surface, however, was superb. All things considered, the machines behaved in a disappointing manner on the hill, which shows how necessary these trials are to show up the weak points.

The following is a record of the performances of the machines as they passed just below the bend before the summit is reached: A. M. Tatham (3½ h.p. Matchless) excellent; C. Williams (3½ h.p. Triumph) pedalled; A. D. Draper (3½ Matchless) dismounted, belt slipping; W. Douglas (2¾ h.p. Douglas) came up well till the last bend, and then dismounted; G. H. Lake (3½ h.p. Triumph) dismounted; P. Phillips (2¾ h.p. Douglas) dismounted; W. O. Bentley (3½ h.p. Rex) dismounted and ran; W. H. Wells (5 h.p. Indian) dismounted; G. L. Evans (5 h.p. Indian) dis-



Held up at a level-crossing near Leominster.

mounted; W. Pratt and W. Milnes (3½ h.p. Phelon and Moore) excellent; R. Moore (3½ h.p. Phelon and Moore) dismounted on corner; T. Canby (3½ h.p. P. and M.) dismounted and restarted; R. M. Brice (3½ h.p. Brown) pedalled vigorously, but got up; W. H. Bashall (6-7 h.p. Bat), A. G. Fenn (6-7 h.p. Bat), J. T. Bashall (3½ h.p. Triumph), H. H. Bowen (6-7 h.p. Bat), and T. H. Tessier (7-8 h.p. Bat) all



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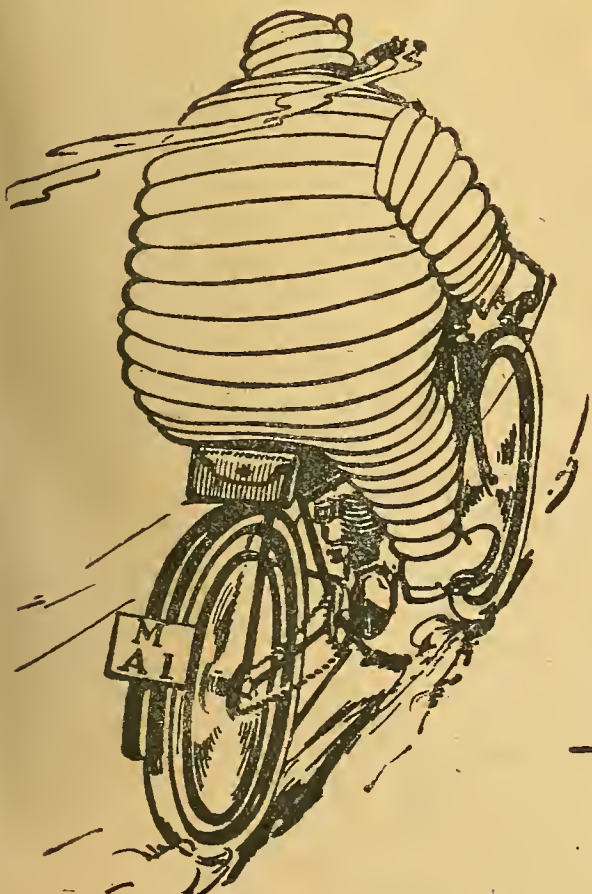
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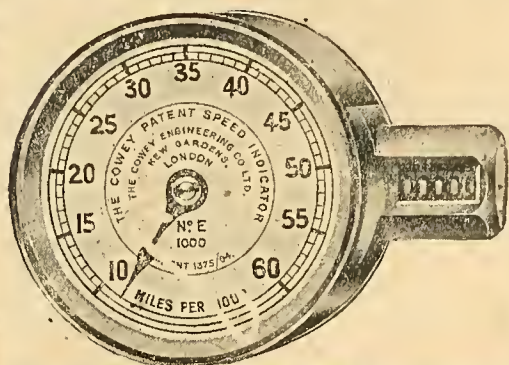
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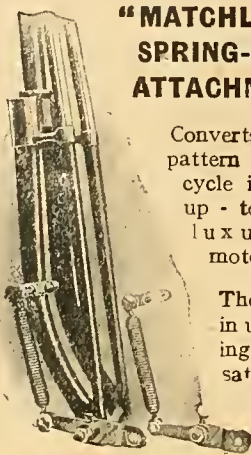
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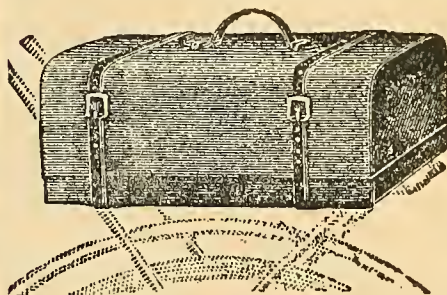
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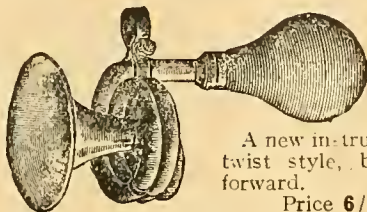
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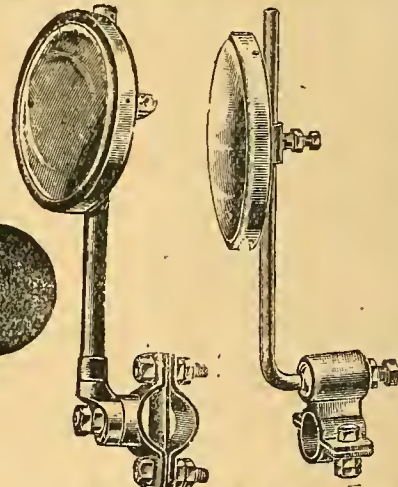
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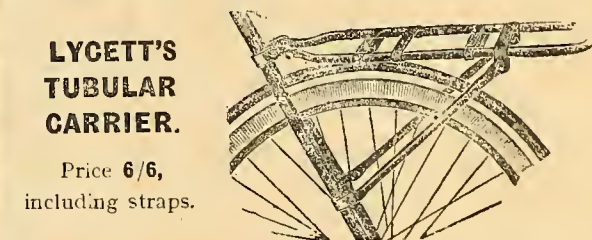
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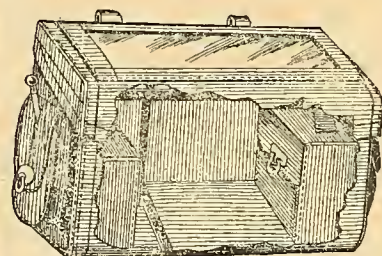
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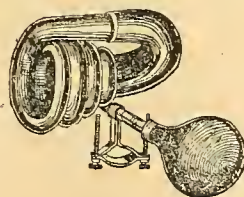
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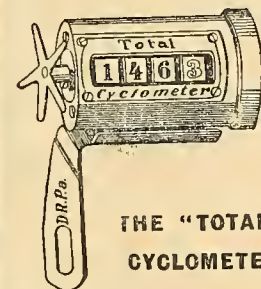
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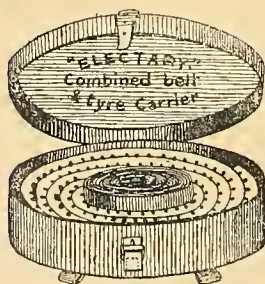
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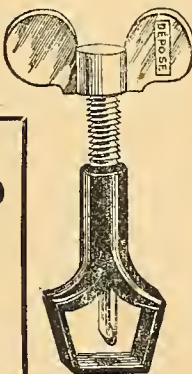
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In answering this advertisement it is desirable to mention "The Motor Cycle."

The Six Days' Reliability Trials.—

came up in splendid form in quick succession; J. Slaughter (3½ h.p. Triumph) pedalled but got up; B. H. Davies (6 h.p. Advance) failed at corner through throttle jamming; F. Dover (3½ h.p. Triumph) failed at corner; W. Smith (2 h.p. Moto-Rêve) pedalled but got up successfully; F. C. Mustard (3½ h.p. Triumph) excellent; F. Southam (3½ h.p. Triumph) excellent; A. L. Ommaney (5 h.p. Rex) dismounted; R. W. Duke (3½ h.p. Triumph) pedalled but completed the ascent; F. G. Boddington (3½ h.p. Rex) dismounted; J. F. Crundall (3½ h.p. Humber) pedalled but got up; H. Bevir (3½ h.p. L.M.C.) pedalled vigorously but got up; F. C. Wood (4 h.p. N.S.U.) came up well on low gear; J. Holroyd (1¼ h.p. Motosacoche) pedalled but came up in excellent form; P. J. Evans (3½ h.p. Humber) pedalled hard but got up; G. E. Stanley (3½ h.p. Premier) dismounted; O. C. Godfrey

latter town by the shortest way, and, to my astonishment, met B. H. Davies with his tank empty walking towards Dinas Mawddwy, the reason being that he had been wrongly directed by a policeman. The remainder of the road into Aberystwyth was easy and the surface for the most part good, while the rain ceased. From Aberystwyth to the Devil's Bridge the road rises to a great height, and is level with the tops of the surrounding hills. In sections several of the men were seen in trouble. The Devil's Bridge Hotel, where the men had lunch, is beautifully situated, facing as it does a lovely gorge, in the centre of which is a splendid waterfall. From time to time heavy showers fell, but after lunch the going was for the most part good. Two miles from the bridge the road was badly marked, and at two road forks there was no indication of which was the route. One well-graded pass had to be climbed, and then for many miles was the



At the top of Dinas Mawddwy—the Welsh precipice—in the rain; a Motosacoche and a Humber in the foreground.

(3½ h.p. Rex) pedalled but got up; W. F. Newsome (3½ h.p. Triumph) stopped, waited, and then came up in good form; F. W. Barnes (3½ h.p. Zenith Gradua) excellent; J. Marshall (3½ h.p. Triumph) dismounted, restarted, and came up in good form; O. Parker (3½ h.p. Humber) dismounted; G. Gibson (3½ h.p. Triumph) dismounted; H. D. Teage (3½ h.p. Premier) dismounted; A. Weatherill (3½ h.p. Zenith Gradua) dismounted; P. Platt (3½ h.p. Bradbury) pedalled but got up; G. L. Andrews (2 h.p. Moto-Rêve) pedalled but got up in good form; H. Berwick (3½ h.p. Excelsior) pedalled but got up; and A. V. Sumner (3½ h.p. Humber) dismounted. Some dozen of the remainder failed to make the ascent, and the Rex and sidecar shed its passenger.

These are the majority of those who made the ascent. Though the rain was more than unpleasant, the hill-climb was a sight not to be missed. For nearly a mile the men could be seen coming up the long ascent amid splendid scenery. All the morning the country passed through had been delightful, but its beauty was marred by the drenching rain. Leaving the summit of the pass, the men proceeded to the Cross Foxes Inn, and then passed through Machynlleth. I, however, descended the hill and made for the

road downhill, and in most places in fine condition. Near Bishop's Bridge, which was a very difficult town to traverse, but very well marked, there were several stiff hills.

The following are stated officially to have climbed the Dinas Mawddwy test hill successfully: Nos. 4, 18, 20, 22 (p), 23, 24, 25, 26, 27, 28, 29 (p), 37 (p), 38 (p), 39, 41 (p), 43 (p), 56, and 70 (p). P signifies with pedal assistance.

Marks were lost by: P. J. Evans, 11; H. D. Teage, 11; Simpson, 189; Miller, 29; Outwin, 16 (kicked by a horse); Boddington, —; Ommaney, 10; Bevir, 7. The following retired yesterday: 55, Walker; 62, Stanton; 67, Osborne; 71, Baker; 73, Tolfree; 2, Nelson (running unofficially); 8, J. V. Robinson; 35, Phillips.

Fourth Day.—Circular Run from Shrewsbury, through Llangollen, Corwen, Bala, Blaenau Festiniog, Llandudno, Chester, and back to Shrewsbury. 191½ miles.

The competitors were started off at 8 a.m. by Mr. C. E. Rackham, of the Palmer Tyre, Ltd., who is acting in the official capacity of starter. The morning was fine, but very chilly for the time of year, but eventually the day turned out gloriously fine. For fifty-two miles

The Six Days' Reliability Trials.—

The route lay along Telford's magnificent road, probably the best graded in the British Isles, the surface of which was for the most part in first class condition. Almost the whole way to Llandudno the cold north-west wind blew in the faces of the riders, rendering the travelling unpleasant. Just beyond Corwen the road to the left to Bala was taken, which was in very fair order. The gradients were easy for the first nine miles, and just on entering the latter town a beautiful glimpse of the lake and the high peaks beyond it was obtained. The higher mountains were capped with clouds, and, though it rained slightly, no heavy showers fell. In Bala a turn to the right was taken up a steep hill, and then a pretty glen was traversed. Next followed a long easy ascent leading into wild and picturesque country. Gradually the road deteriorated into a mere mountain track, the milestones only indicating that it led to anywhere in particular. The gradients also became steeper, and several severe pitches were encountered. To add to the competitors' difficulties, four or five gates had to be opened. On reaching the summit there was a fine gorge to be seen on the left, through which a mountain torrent leaped down the rocks, and the scenery on all sides was superb. Then came a somewhat abrupt descent into Festiniog, where later I was joined by Mr. Nisbet's car, which was placed at the disposal of the A.C.U. by the Bowden Syndicate, followed by A. J. Reynolds on the 3½ h.p. Humber, of the performance of which over the mountain road just traversed he spoke in glowing terms, eulogising to the skies the two-speed gear with which it was fitted. The Rover came later, and then all three cars proceeded to Blaenau Festiniog, that curious village surrounded on all sides by slate quarries, the scene of the second hill-climb. The Humber car carried Straight, who with Reynolds took the times, to the summit, while the allant little Delage brought Brooker to his post just below the finish on the steepest portion. The surface of the hill was much inferior to that on Dinas Iawddwy, but I do not think the gradient was so severe, nor was the course so long. The wind blew hastily down the course, but, fortunately, there was no rain.

The following is a record of the performances of the men as they passed the observer (Mr. Grove) about half-way up and myself near the summit: First section (half-way up).—40 got off and ran, 17 very good, 11 very good, 19 good, 8 good, 20 good, 21 good, 4 good, 24 pedalled, 3 just got up, 22 good, 28 splendid, 3 good, 51 very good, 43 very good, 26 splendid, 14 ran into side and fell, 5 pedalled, 16 good, 66 good, 65 good, 10 pedalled, 46 pedalled, 23 running alongside, 25 splendid, 48 good, 34 good, 32 very good, 27 very fast, 44 fair, 43 good, 52 good, 39 very fair, 6 good, 5 very good, 63 good, 57 good, 56 dismantled, 15 dismantled, 70 pedalled, 1 dismantled, 47 good, 8 good, 9 pedalled, 7 pedalled, 64 dismantled, 39 good, 58 pedalled, 60 good, 61 good, 68 pedalled, 2 assisted by pushing with foot from good, 50 very good, 59 dismantled, 62 pedalled, 69 failed, 30 pedalled after impeded by 69, 72 pedalled, 54 splendid, and 74 shed passenger. Second section (near summit).—17 excellent, 40 dismantled, 11 dismantled, 19 failed just below the finish, 18 good, 20

excellent, 21 good, 4 excellent, 29 pedalled slightly (excellent), 22 excellent, 13 dismantled, 28 took the hill in magnificent form, 3 excellent, 51 excellent, 49 excellent, 26 a performance only equalled by 28, 27, and 25, 5 excellent, 16 successfully climbed the hill, slipping the driving clutch, 14 good, 66 excellent, 65 good, 10 pedalled, 46 pedalled, 24 excellent, 23 dismantled, 48 excellent, 32 excellent, 34 excellent, 43 good, 44 good on low gear, 52 dismantled, 39 excellent, 6 dismantled, 63 good, 45 came up slowly on low gear, 57 excellent, 56 dismantled, 70 pedalled, 15 dismantled, 47 pedalled, 9 pedalled and got up comfortably, 7 a similar performance, 37 excellent, 50 probably the best performance of a single-cylinder, 1 dismantled, 64 dismantled, 59 (who yesterday ran into a dog, then ran short of petrol and successfully reached Aberystwyth on paraffin) pedalled, 30 pedalled lightly, 69 pedalled, 71 good, 54 pedalled, 58 good, 59 good, 61 (belt slipping) pedalled, 74 dismantled, 68 pedalled, and 12 dismantled.

Leaving the summit the competitors descended into a beautiful valley leading into the Fairy Glen, and



Restarting from Devil's Bridge, near Aberystwyth. (Wednesday's luncheon stop), T. Woodman (7 h.p. V.S.) in the foreground.

joined the Holyhead Road at Bettws-y-Coed. Here they took the right fork and proceeded along a winding road to Llanrwst and on to Llandudno, where they lunched at the L. and N.W.R. Hotel. The latter section proved trying on account of the number of turns, and the men found it difficult to maintain the legal limit. At Llandudno the sun shone gloriously in a cloudless sky, the weather became warm, and with a strong wind behind a good journey was made through Flint, Chester, and Wem to Shrewsbury. I left the route just south of Bettws-y-Coed and journeyed back by the Holyhead Road. At Cerrig-y-Druoidion I met Andrews (2 h.p. Moto-Rêve) in tow of the G.W.R. motor omnibus. He had stripped some teeth off the magneto driving wheels, and was out of the competition, so I took charge of him and towed him towards headquarters. Near Chirk I came upon Pershke (6 h.p. Puch and sidecar) hopelessly broken down through magneto trouble. With the aid of Andrews's Watawata

The Six Days' Reliability Trials.—

and a strap I took him also in tow and brought them safely back to Shrewsbury. On our arrival the sad news came to hand that the ever-energetic Reynolds had been run into by a motor cyclist who came out of a side road near Chirk, and was severely shaken, but fortunately not seriously hurt. He was, I am glad to say, well enough to be brought back in the Rover. Compared with yesterday, to-day's run has been comparatively easy, and troubles have been few. There were the two retirements referred to above, and, besides these, Bevir (3½ h.p. L.M.C.) retired through a broken timing wheel, and Wells was reported to have had carburettor trouble. Tatham and Draper both had punctures. Davies again had a stuck throttle, and similar slight *contretemps* were experienced by other riders.

The 5 h.p. Rex and sidecar driven by Lord was driven 120 miles after an encounter with a ditch. I saw the machine, and marvel at Lord's grit in sticking to his mount. The front forks were twisted all on one side, but Lord quickly straightened them, and,



A few puncturing instruments collected by F. G. Cove in a length of ten yards on the test hill, Blaenau-Fesuniog. The mill is close to some slate quarries, and it is thought the articles depicted have fallen from carts used to transport the slate.

although the front tyre was practically rubbed through, he succeeded in reaching Shrewsbury at a somewhat late hour.

The following reached Shrewsbury this evening: 40, 11, 17, 4, 19, 20, 18, 21, 28, 3, 22, 5, 49, 10, 34, 65, 29, 43, 44, 38, 52, 56, 64, 39, 63, 26, 7, 9, 50, 37, 32, 24, 33, 51, 18, 48, 1, 47, 25, 45, 46, 13, 56, 57, 54, 69, 16, 30, 70, 6, 74, 61, 58, 60, 72, 68, 62, 59, 41, 12, and 33. 14 retired (broken piston).

The following lost marks in to-day's run: Boddington, 17; Ommaney, 68, retired (broken piston); Teage, retired (tank leaking); Lord, 86 (spill at corner); Holroyd, 121; Wood, 110; Simpson, 15; Fenn, retired (had fall and damaged magneto drive).

A smoking concert, organised by the Shropshire M.C. Club, was held this evening (Thursday), and proved a great success. At the concert R. M. Brice announced that, in appreciation of the valuable assistance rendered by the S.M.C.C., the competitors have subscribed amongst themselves for a silver cup. Great regret was expressed regarding Mr. A. G. Reynolds's

accident, and everyone heartily wished him a speedy recovery. Mr. F. Straight, the secretary of the A.C.U., thanked the Shropshire Club for its valuable help, and referred particularly to the assistance given by Mr. A. Benham.

Fifth Day.—Circular Run from Shrewsbury, through Market Drayton, Middlewich, Macclesfield, Cat and Fiddle, Matlock, Derby, Uttoxeter, Stone, Crudgington, and back to Shrewsbury. 177 miles.

To-day's journey was begun in splendid weather, and thanks to Mr. Straight I was given a seat on the Humber car, which soon caught up the stragglers on the Market Drayton Road. The surface of the roads was excellent, and few riders were seen in trouble. Middlewich was an exceedingly difficult town to negotiate. First of all the men had to turn sharply to the right, and then came an abrupt turn to the left over a very steep and narrow bridge. Near Hankelow, at a sharp corner, we came upon the Zenith and sidecar which had run into the hedge, smashing the sidecar seat, but fortunately doing no further damage. Miller, the driver, successfully patched things up well enough to proceed, and he was last seen at the luncheon stop. Beyond a few corners the road to Macclesfield presented no serious difficulties, but at Nantwich news came to hand that Tatham (3½ h.p. Matchless) had broken his exhaust valve some twenty miles away, and was unable to obtain a spare one. After the officials had consulted together the previous night, it was decided to omit the Cat and Fiddle Hill from the list of timed ascents, owing to the gradient being too easy, and with this I entirely agreed. So well graded is the pass over the moors that a 2¾ h.p. Douglas, driven by an amateur spectator, easily held its own with a 20 h.p. car. Moreover, the corners proved quite difficult enough under ordinary conditions. B. H. Davies fell and broke his rear brake rod at one corner, and Tatham, who got going later, had a similar *contretemps* and was put out of the running.

Here, as everywhere, there were a number of motor cycling spectators; in fact, in every part of the country traversed have people taken a great interest in the competition, while the police have been of the greatest possible assistance. From the summit the road descends into Buxton, and after the climb up to Tadlington it is downhill all the way into Matlock Bath. The ride through the dales was particularly beautiful, the road was in good order though dusty, and, fortunately, there was no rain here, as when the surface is wet it is particularly treacherous. At Matlock Bath the men had a most excellent lunch at the Royal Hotel. Then they proceeded through Belper and Derby to Uttoxeter, Stone, Eccleshall, and High Ercall to Shrewsbury. After lunch several showers were encountered, and about thirty miles from Shrewsbury it began to rain in earnest, and a wet evening set in. To the list of retirements must be added the names of Tatham (who had hitherto lost no marks, and retired through a spill about a mile from Macclesfield), Davies (who stripped a pin in his timing gear near Buxton), Outwin (who fell at a bad corner near Stone in trying to avoid a motor cyclist and a cart), Brice (who in trying to evade a child in the roadway collided with a wall near Hodnet not long after the start), and Miller (the driver of the Zenith and sidecar, who up to the time of writing has not arrived).

The Six Days' Reliability Trials.—

Sixth Day.—Shrewsbury to Uxbridge via Much Wenlock, Kidderminster, Worcester, Malvern, Gloucester, Birdlip Hill, Cirencester, Henley-on-Thames, Maidenhead, and Slough. 171½ miles.

It was with much regret that we all said good-bye to Luff-Smith's garage at Shrewsbury, at which the competitors had been so well looked after during the past week. The morning was gloriously fine, but a cold strong north-west wind blew, fortunately, in favour of the competitors during the day's journey. After an easy run of ten or fifteen miles the men had to climb Harley Hill again, near Wenlock, a report of the performances over which I sent down in my report of the first day's run. From Bridgnorth to Kidderminster the road is hilly, but it is not so severe as on the outward journey. Bridgnorth is an awkward town to traverse, but the route was admirably marked by means of the now famous A.C.U. arrows. From Kidderminster on a good run was made to Worcester, where at the Cross a turn was made to the right which led to Malvern, through glorious country, and on to Newent, Ledbury, and Gloucester. From the latter town the men proceeded straight to Birdlip Hill, on the summit and at the steepest portion of which a good crowd of spectators had gathered. The following is a report of the performances from two points at the Knap and at the summit:

At the Knap, gradient 1 in 5½.

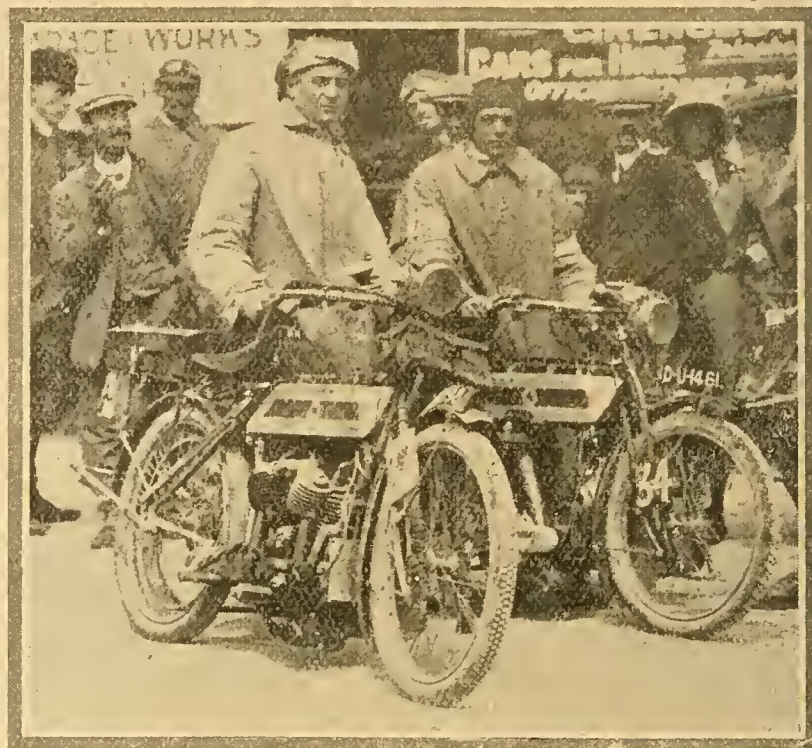
W. O. Bentley (3½ h.p. Rex) dismantled; T. H. Tessier (7 h.p. Bat), a splendid performance. The behaviour of the Bat machines on all the hills throughout the trial has been quite remarkable. W. H. Wells and G. Lee Evans (5 h.p. Indians) covered the steepest portion in excellent style, but, though the former was successful, the latter was less fortunate. W.



A competitor climbing Birdlip Hill at full speed on Saturday last. The behaviour of some of the pedalless machines was quite remarkable, and caused great excitement among the spectators.

Douglas (2¾ h.p. Douglas) pedalled but got up in good form; J. O. M. Dixon (5 h.p. Vindec) good; P. Phillips (2¾ h.p. Douglas) pedalled but got up well; A. D. Draper (3½ h.p. Matchless) pedalled;

C. Williams (3½ h.p. Triumph) pedalled; T. Canby, W. Milnes, and W. Pratt (3½ h.p. Phelon and Moores) came up comfortably on the low gear; R. Moore (3½ h.p. Phelon and Moore) dismantled. Owing to an experimental high compression engine,



A. J. Sproston (5 h.p. Rex, 76×80 mm.) and O. C. Godfrey (3½ h.p. Rex, 82×89 mm.) on the summit of Birdlip Hill. These two riders performed very consistently throughout the trials.

Moore has been unsuccessful on the hills for the first time in the numerous long distance trials in which he has entered. P. J. Evans (3½ h.p. Humber), belt slipping, pedalled hard; F. C. Mustard (3½ h.p. Triumph) and G. E. Carrow (3½ h.p. T.T. Triumph), both excellent; H. H. Bowen (6-7 h.p. Bat) excellent; A. V. Sumner (3½ h.p. Humber) dismantled; T. Woodman (7 h.p. V.S.) dismantled; R. Fletcher (3½ h.p. Premier) dismantled; R. W. Duke (3½ h.p. Triumph) excellent; J. Marshall (3½ h.p. Triumph) splendid; F. Southam (3½ h.p. Triumph) splendid; G. H. Lane (3½ h.p. Triumph) dismantled; G. Gibson (3½ h.p. Triumph) excellent; A. J. Sproston (5 h.p. Rex) dismantled; F. S. Barnwell (3½ h.p. Triumph, with Roc gear) came up in excellent style on low speed; O. Parker (3½ h.p. Humber) excellent; F. W. Barnes (3½ h.p. Zenith Gradua) excellent; H. B. Lewis (3½ h.p. Triumph) dismantled; W. H. Bashall (6-7 h.p. Bat), a splendid performance; A. Weatherill (3½ h.p. Zenith Gradua) dismantled; J. Slaughter (3½ h.p. Triumph) excellent; the Rev. B. Aston (3½ h.p. Triumph) dismantled; G. L. Fletcher (2 h.p. Moto-Rêve) pedalled but came up in good form; O. C. Godfrey (3½ h.p. Rex) excellent; P. Platt (3½ h.p. Bradbury) pedalled; F. C. Wood (4 h.p. N.S.U.) excellent on low gear; W. F. Newsome (3½ h.p. Triumph) excellent; W. Smith (2 h.p. Moto-Rêve) dismantled; J. F. Crundall (3½ h.p. Humber) dismantled, belt slipping; J. Holroyd (1¼ h.p. Moto-sacoche) pedalled lightly, and came up in excellent form; J. T. Bashall (3½ h.p. Triumph) excellent; G. E. Stanley (3½ h.p. Premier) good; A. J. Stevens (3 h.p. Wolf) excellent; F. G. Boddington (3½ h.p. Rex) dismantled; G. Simpson (3½ h.p. Bradbury) pedalled; R. King (3½ h.p. Triumph) dismantled.

The Six Days' Reliability Trials.—

Those competitors who soared over the top of the hill without pedalling and deserve special mention are T. H. Tessier (Bat), W. H. Wells (Indian), J. Slaughter and J. T. Bashall (Triumphs), W. H. Bashall and H. H. Bowen (Bats), O. C. Godfrey (Rex), R. W. Duke, F. Southam, F. C. Mustard, W. F. Newsome, J. Marshall, and G. Gibson (Triumphs), G. E. Stanley (Premier), F. W. Barnes (Zenith Gradua), G. E. Carrow (Triumph), and A. J. Stevens (Wolf). The following made clean ascents, using the low gear: W. Pratt, T. Canby, and W. Milnes (P. and M.), F. C. Wood (N.S.U.), A. V. Sumner (Humber), and F. S. Barnwell (Triumph).

At Birdlip came the news that H. Berwick (3½ h.p. Excelsior) had retired near Malvern through a broken gudgeon pin. Lunch was served at the Royal George Hotel, after which the men started on the last portion of their journey. All the morning the roads had been magnificent, but from Birdlip on they became very rough and full of holes almost the entire way to Uxbridge. Outside Cirencester I passed Lee-Evans (Indian) in trouble by the roadside, and later on learned that he had suffered a seized piston and retired.

The route after leaving the picturesque old town of Cirencester lay through Fairford, Lechlade, and Abingdon, to Dorchester, where the Oxford-Henley road was joined. It had rained all down the route previously, and the dust was consequently not nearly so trying as on the first day. The weather kept gloriously fine the whole time, and, though it rained heavily in London nearly all day, the competitors escaped it all. Out of Henley-on-Thames, and between that town and Maidenhead, several stiff hills had to be negotiated, but after that the country was flat. Once through the unnecessarily long ten-mile limit in Slough the journey was almost over. Then came a turn to the left near Colnbrook, a short section of by-road, and then Uxbridge was reached, where a crowd of people welcomed the survivors.

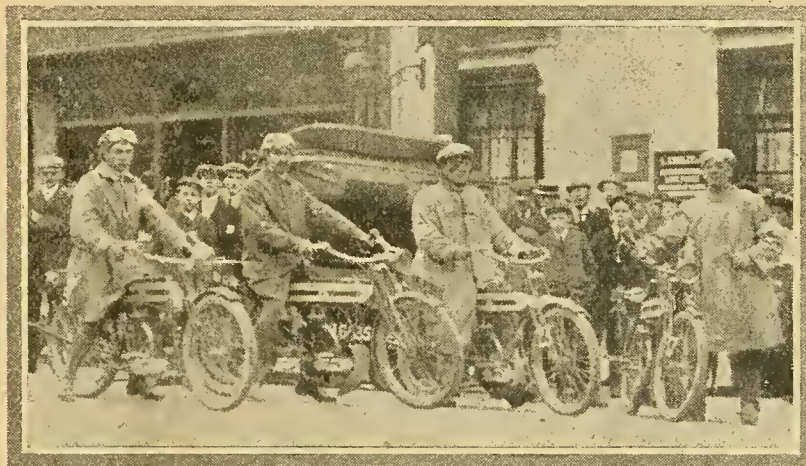
Those who arrived up to 9.30 p.m. are the following: A. D. Draper (3½ h.p. Matchless), C. Williams and G. H. Lake (3½ h.p. Triumphs), W. Douglas and P. Phillips (2¾ h.p. Douglas), W. O. Bentley and F. G. Boddington (3½ h.p. Rex), W. H. Wells (5 h.p. Indian), W. Pratt, R. Moore, W. Milnes, and T. Canby (3½ h.p. Phelon and Moore), J. Slaughter (3½ h.p. Triumph), W. H. Bashall, H. H. Bowen, and T. H. Tessier (6-7 h.p. Bat), W. Smith and G. L. Fletcher (2 h.p. Moto-Rêve), A. J. Sproston (5 h.p. Rex), O. C. Godfrey (3½ h.p. Rex), F. Southam, R. W. Duke, and F. C. Mustard (3½ h.p. Triumph), J. O. M. Dixon (5 h.p. Vindec), J. Holroyd (1¼ h.p. Motosacoche), J. F. Crundall, F. Edmond, A. V. Sumner, O. Parker, and P. J. Evans (3½ h.p. Humber), F. C. Wood (4 h.p. N.S.U.), W. F. Newsome, J. Marshall, and G. Gibson (3½ h.p. Triumph), G. E. Stanley (3½ h.p. Premier), A. Weatherilt (3½ h.p. Zenette Gradua), J. W. Morris, G. Simpson, P. Platt, and J. Eastwood (3½ h.p. Bradbury), G. E. Carrow and F. S. Barnwell (3½ h.p. Triumphs), T. Woodman (7 h.p. V.S.), H. B. Lewis (3½ h.p. Triumph), R. Fletcher (3½ h.p. Premier), B. Aston (3½ h.p. Triumph), and A. J. Stevens (3 h.p. Wolf).

In addition to the retirements of Evans and Berwick mentioned above, must be added J. T. Bashall (3½ h.p. Triumph), who broke his engine-shaft ball race near Abingdon; O. Lord (5 h.p. Rex and side-

car), reported broken frame—he came in very late on Friday night, but started this morning; F. Dover (3½ h.p. Triumph) and R. King (3½ h.p. Triumph), neither of whom arrived at Uxbridge by 9.30 p.m. Altogether there have been twenty-six retirements, and forty-eight have come through successfully.

Owing to the accident to A. G. Reynolds, the other judges—J. W. G. Brooker, H. G. Cove, and H. A. Macdonald—were short-handed, and were consequently unable to get out a provisional list of those who had lost no marks. We, however, hope to publish the results in full in next week's issue.

The Trial has certainly been the most arduous ever held by the Auto Cycle Union, and probably it will result in the 1910 machines being vastly improved. The organisation was good throughout, thanks to the good work put in by the judges and Mr. Straight and his assistant Beesley, and everyone agrees that the Trial was a great success. Though severe, it is comforting to note that nearly all the machines which finished were in first-class condition, some looking as if they had but just been delivered instead of having undergone one of the most severe tests ever organised



Safely back at Uxbridge last Saturday evening. Reading from left—J. Marshall, ———, J. Slaughter, and F. H. Southam, who all rode 3½ h.p. Triumphs.

for motor cycles. Everywhere the men were well received, and not a single case of any trouble with the police is reported. Great assistance at Shrewsbury was rendered by Mr. A. Benham, the secretary of the Shropshire Motor Cycle Club; Mr. R. O. Phillpot, Mr. E. L. Fehr, of the Liverpool M.C.; and Mr. J. Haslam, secretary of the Sheffield and Hallamshire M.C.C. All round Uxbridge the arrangements were most ably carried out by Mr. F. H. Mullett, secretary of the Western District M.C.

THE NEXT BROOKLANDS MEETING.

Five events for motor cycles will be run on Saturday, July 31st, and August Bank Holiday, August 2nd. They are as follows:

THE JUNIOR MOTOR CYCLE HANDICAP. Cub. capacity under 500 cub. centimetres.

THE AUGUST MOTOR CYCLE HANDICAP. Cub. capacity over 350 and under 750 cub. centimetres.

THE SENIOR MOTOR CYCLE HANDICAP. Cub. capacity over 500 and under 1,000 cub. centimetres.

THE SECOND CHAMPION MOTOR CYCLE PLATE. Cub. capacity under 1,000 cub. centimetres.

THE SECOND ROADSTER MOTOR CYCLE HANDICAP. For roadsters; cub. capacity under 1,000 cub. centimetres.

Owing to great pressure on our space due to the Six Days' Trials, we are compelled to hold over several of the usual features, including many club items.

CLUB NEWS.

Bradford M.C.C.

Entries for the open hill-climb at the Steep, Denholme, on Saturday next, close to-morrow (Thursday), and should be forwarded to Felix Scriven, Alma House, Bradford.

Ayr and District M.C.

A petrol consumption test was held on the evening of the 11th inst., over a circular course extending from Ayr to Laybole via the Shore Road, returning by Minnishant, a distance of twenty-three miles. There were fourteen competitors, and results, based on formula, were as follows:

SINGLE-CYLINDER CLASS.

	Fig. of merit.	M.P.G.
Chas. Carver (3 h.p. N.S.U.)	23.65	122.4
John Robertson (3½ h.p. Minerva)	22.41	103.4
John Merideth (3½ h.p. Triumph)	22.08	97.7
Matt Brown (3½ h.p. Bradbury)	21.92	89.1

TWIN-CYLINDER CLASS.

	Fig. of merit.	M.P.G.
Alf. Sommerville (5-6 h.p. Rex)	27.36	85.3
Quintin Clark (5-6 h.p. Rex)	26.11	81.8
D. Robertson (4-5 h.p. Minerva)	21.28	82.1
Geo. Cocker (5-6 h.p. Rex)	19.37	63.0

Lincolnshire M.C.C.

The hill-climb arranged by the above club at Bully Hill on Saturday last proved quite successful. The hill is exceptionally severe, and was in bad condition, the rain having cut gullies across the road and loosened the surface. Some of the machines failed, but good time was made, particularly by J. W. Clarke (5 h.p. twin Rex). The gear ratio reckoned in the formula, but as the results were not ready when our report was despatched, we hope to give the results next week.

Daimler M.C.C.

A successful reliability run to Cheltenham was held on the 11th inst. The following successfully completed the run, the unsettled weather limiting the number of starters: R. B. Verney (3½ h.p. Rex), L. Carter (3½ h.p. W. and P.), R. M. S. Maxwell (3½ h.p. Triumph), A. E. Gorton (3½ h.p. Rex), C. Evans (3½ h.p. Rex), A. Turner (3½ h.p. T.T. Triumph), C. Moulder (3½ h.p. Triumph), C. Williams (3½ h.p. Rex), and S. Davis (3½ h.p. Rex).

Silver medals were gained by R. B. Verney, A. E. Gorton, and R. M. S. Maxwell, these being nearest to the set speed of nineteen miles per hour, and making non-stop runs.

New Inter-club Hill-climbing Competition.

Mr. F. A. Bolton, J.P., president of the Derbyshire and North Stafford Automobile Club, having inaugurated an annual hill-climbing competition for motor cyclists and presented a handsome silver challenge cup, the first contest was held on Saturday last at Oakamoor, North Staffs. The clubs taking part were the Derbyshire and North Stafford, Derby and District, and Mid-Staffs. Automobile Clubs, and the Birmingham University Motor Club. There were eighteen competitors. In addition to the cup, a silver medal was awarded to the winner, a bronze medal to the runner-up, and a silver medal to the one making the fastest ascent. This was secured rather easily by H. R. Fowler, of the Birmingham University Club, on a 5-6 h.p. Rex, the course (nearly a mile long) being covered in 1m. 24½s.



Competitors at the foot of Bully Hill, Lincolnshire, on the occasion of the Lincolnshire M.C.C. Hill-climb on Saturday last.

Saturday's contest was run off on handicap lines, a formula being used to ascertain the theoretical time in which each machine should complete the course, and the handicap fixed accordingly. Some exciting finishes were witnessed, particularly in the final, when the two riders were within a length of one another. Details:

First round. Heat 1.—C. E. Fowke (3½ h.p. Triumph), 5s. start, 1; W. H. Scott (3½ h.p. Triumph), 2. All others were given byes in this round.

Second round. Heat 1.—E. Russell, Derby (4 h.p. Chater Lea-Antoine), 1; B. L. Nicholson, Derbyshire and North Stafford (3½ h.p. Triumph), 7s., 2.

Heat 2.—C. E. Wallis (3½ h.p. Triumph), 1; C. T. Leech, Derby (2 h.p. Moto-Rêve), 31½s., 2.

Heat 3.—D. C. Bolton, Derbyshire and North Stafford (5-6 h.p. F.N.), a bye.

Heat 4.—W. B. Rudge, Mid. Staffs. (3½ h.p. Triumph), 2½s., 1; C. E. Fowke, 2.

Heat 5.—T. Waring, Mid. Staffs. (3½ h.p. Triumph), 2½s., 1; J. W. Cox, Derby (3½ h.p. Triumph), 2.

Heat 6.—H. R. Fowler, Birmingham University (5-6 h.p. Rex), 1; C. R. Wilkins, Derby (3½ h.p. Triumph), 13½s., 2.

Heat 7.—M. Nicholson, Birmingham University (7-9 h.p. Vindec Special), 1; W. Bennison (5-6 h.p. F.N.), 15½s., 2.

Heat 8.—J. C. Nevitt, Mid. Staffs. (3½ h.p. Triumph), 8½s., 1; E. J. Bolton, Derbyshire and North Stafford (5-6 h.p. F.N.), 2.

Third round. Heat 1.—C. E. Wallis, 11½s., 1; E. Russell, 2.

Heat 2.—W. B. Rudge, 14s., 1; D. C. Bolton, 2.

Heat 3.—T. Waring, 20½s., 1; H. R. Fowler, 2.

Heat 4.—J. C. Nevitt, 11½s., 1; M. Nicholson, 2.

Semi-final. Heat 1.—W. B. Rudge, 2½s., 1; C. E. Wallis, 2.

Heat 2.—T. Waring, 1; J. C. Nevitt, 2. Level start.

Final.—T. Waring, 1; W. B. Rudge, 2. Level start.

The competitors and their friends were afterwards entertained to tea at Moor Court, Mr. F. A. Bolton's residence.

Scarborough and District M.C.

The committee of the above club has decided to give notice to the Auto Cycle Union of its intention to terminate in December next the agreement of affiliation with the A.C.U., a vote of the general members having resulted in a majority of twenty in favour of withdrawal. A hill-climbing competition (confined to members only) was held last Wednesday evening on Cloughton Bank, and proved most enjoyable to all who took part in it. The positions of the competitors, worked out on handicap formula, are as follows:

Actual times.

CLASS I. LIGHTWEIGHTS.	M. S.
Herbert Swift (2 h.p. Moto-Rêve)	1 22½
T. Jackson (2½ h.p. B.M.)	Withdrew.
G. Storey (2¾ h.p. Minerva)	Withdrew.
G. Coates (2 h.p. Moto-Rêve)	Withdrew.

CLASS II.	M. S.
H. Plewes, Goole (3½ h.p. Triumph)	0 37½
J. Wilks (3½ h.p. Minerva)	0 37½
C. Pugh (3½ h.p. Minerva)	0 50
A. Hart, Hunmanby (3½ h.p. Triumph)	0 47½
Dr. B. Forman, Cloughton (3¾ h.p. N.S.U.)	0 58
H. Swift (2 h.p. Moto-Rêve)	1 18
T. S. Webster, Seamer (3½ h.p. Brown)	0 55
E. Dent, York (3½ h.p. N.S.U.)	Did not start.
T. Lambert (3½ h.p. Triumph)	Dismounted on hill
J. Hornby (3½ h.p. Brown)	"
J. W. F. Stanmer (3½ h.p. Brown)	"
H. Frain (3½ h.p. Humber)	Withdrew.

As a result of the slight difference of time, ½s., between the winner H. Plewes and J. Wilks, a sporting event between them is being arranged.

The End-to-end Record.

As we go to press we are advised that a well-known Midland rider started from John-o'-Groat's early Wednesday morning to break the End-to-end record. If he is successful a full account of the ride will appear next week.

Club News.—

Bristol Bicycle and M.C.

A penalty run for motor cyclists has been arranged for the 24th inst., starting from top of Filton Hill to Tetbury and return, the distance being about seventy-two miles.

Wimbledon and District M.C.

This club includes Epsom in its district, and the secretary, Mr. E. A. Roberts, would be pleased to hear from any Epsom motor cyclist as to joining. His address is 33, Griffiths Road, Wimbledon. The club is affiliated to the A.C.U.

Edinburgh Waverley M.C.

Three riders obtained full marks in the recent reliability trial. The route was by Berwick across to Greenlaw, then on to Carfraemill, and up Soutra Hill (on which competitors were timed) to Edinburgh, the distance being 120 miles. The riders were: J. M. Dobson (5 h.p. Vindec), A. H. Alexander (3½ h.p. Rex), and T. Durie (3½ h.p. Triumph).

Warrington and District M.C.C.

The winners of the hill-climb have now been declared on A.C.U. formula as follows: 1, Dr. J. Howard (3½ h.p. Triumph); 2, H. Cartwright (3½ h.p. Triumph); 3, J. Wilding (3½ h.p. Triumph). Passenger class—C. H. Woods (3½ h.p. Raleighette). Prize for fastest time on hill, Mr. Jordan (3 h.p. Twin Bat). The fixture was so successful that another is to be held on August 2nd.

Sheffield and Hallamshire M.C.C.

The club's reliability trial for the Hutton shield takes place on Saturday next, the 17th inst., the route being Sheffield to Holyhead and back, a distance of 324 miles. The competitor running nearest the average of eighteen miles per hour holds the shield for twelve months, and takes the club's gold medal. Second and third awards are given and bronze medals to those riders doing an average of seventeen miles per hour.

The club's hill-climb, which takes place between July 12th and 31st is to be run under rather novel conditions this year. Competitors, who will be handicapped from a dummy time, will be allowed six ascents any time between the above dates, the best of these times to count. Notification to be made to timekeeper when wishing to make an ascent. For handicapping purposes the following data will be taken into account: Bore and stroke of engine, weight combined of machine and rider, known capabilities of rider. The idea of the committee is to give every rider a chance, be he novice or expert. Members please remember this and enter.



A.C.U. Six Days' Trials. Some of the officials at the summit of Blaenau Festiniog. Mr. J. R. Nisbet is sitting on the running board of his 30 h.p. Humber, Mr. F. Straight is in the car, Mr. Brooker on the left, and Mr. Macdonald next to him.

Motor Cycling Club.

The twenty-four hours reliability trial for motor bicycles starts on Friday evening next at 8 from Taplow. The competitors will run *via* Henley to Oxford and back through High Wycombe, Beaconsfield, to Taplow, distance about seventy-five miles. This route will have to be traversed six times in all, making a total distance of approximately 450 miles.

Coventry and Warwickshire M.C.

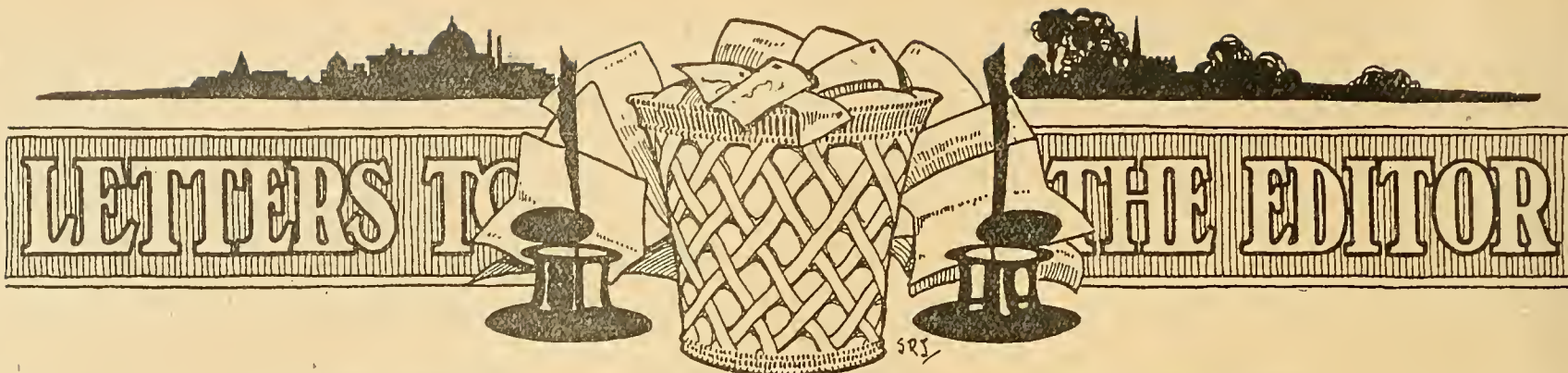
The winners of the special prizes in the Holyhead run are: 1st, G. T. Mills (3½ h.p. Triumph); 2nd, H. Williamson (3½ h.p. Rex).

The open hill-climb is fixed for Saturday, August 21st, and entry forms and rules will be available very shortly.

Four members visited Shrewsbury on Thursday evening last to have a chat with the A.C.U. trials competitors and officials. Mr. J. K. Starley drove the party on a 20 h.p. Rover, and the return journey in the early hours of Friday was most enjoyable.

LAST WEEK'S
RELIABILITY
TRIALS.

Starting point of the Blaenau Festiniog hill-climb amongst the slate quarries. This hill, although very severe, is not so bad as Dinas, but it was included in Thursday's run of 188 miles.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Belts for Passenger Work.

[4130.]-In reply to "AP 5" [4059] who wrote in *The Motor Cycle* regarding belts for use with sidecar, I can recommend him the lin. Giant Watawata. I tried several until I got a lin. intermediate, and with this I did thousands of miles during 1907-1908, but the Giant is even more satisfactory.

W. E. NEWBERY.

Engine Speed and Vibration.

[4131.]-I understand that the generally accepted idea is that the greater the engine speed of a motor cycle the less perceptible is the vibration, eliminating vibration from road shocks. Now, in practice, I have found this quite the reverse, i.e., that the faster the engine is run the greater the vibration, when, according to popular supposition, it should have been less. I may add that my experience has been gained from more than one machine.

H. B. DEAN.

Valve Cap Washers.

[4132.]-Perhaps the following will be of some use to "E. T." regarding compression of 6 h.p. J.A.P. engine. I have an 8 h.p. three-cylinder same make, automatic valves, and ground seatings. I found great trouble in keeping the compression good owing to the yoke which holds down the seatings not being dead true. There is not depth enough for copper and asbestos washers. After several experiments, I found that three very thin brass washers cut out of a blank stencil plate, procured from a dealer in the latter for twopence, quite overcame the trouble. I also notice that a stronger inlet spring prevents a good deal of the blowing back—one fault of automatic valves.

NEMO.

The Brake Question.

[4133.]-Having followed correspondence on front v. back brakes for motor cycles, I would like to point out one advantage of a front brake, viz., suppose a motor cyclist is riding a machine fitted with back brakes only down an incline at a good speed, and rear tyre becomes suddenly deflated, the rider at once applies his brake in order to pull up, but in doing so back tyre tends to slip round the rim, causing inner tube to become damaged by tearing out valve, etc. On the other hand, if machine is fitted with front brake, not only does rider avoid this trouble, but also tends to throw more weight on to front wheel, thus saving back rim from damage.

D. COLTMAN.

Lubrication.

[4134.]-I think I can inform "Oile," who writes regarding lubrication, the reason of his difficulty. I do not think it is a matter of lubrication. I have had a similar experience with my Triumph, and I found this to be the cause. When the piston rings become worn, they expand slightly, and the compression is slightly weakened, the charge blowing past between the rings and the piston; a gradual sooting takes place in the bottom of the groove, which gradually forces out the ring against the surface of the cylinder. This, I think, accounts for the slight loss of compression, and the unwonted stiffness in starting. If the grooves were thoroughly cleaned with some sharp instrument and new rings fitted, I think his difficulty would disappear.

C. FORTESCUE READE.

A Veteran Rider.

[4135.]-In a recent "Current Chat" paragraph I notice an account of a cyclist who started riding in 1872. Perhaps my experience may be of interest.

I began "wheel life" in 1862 on a three-wheel Rantoon. In 1864 I had a Dublin velocipede (four-wheel), built to order; it weighed about 120 lbs., but I had plenty of fun out of it. In 1869 this gave way to my first "bone-shaker," by Micheau, of Paris. Then followed a Paragon, Excelsior, Challenge, Rudge Rotary, 'Xtraordinary, and Sparkbrook National, bought in 1899. This is still in use with the original covers. In 1900 came the Werner F.D. motor cycle, giving place in 1905 to a 2½ h.p. Lurquin and Coudert. This, after 10,044 miles, is doing well, the engine never having been touched, so you see I have been a regular rider for forty-seven years. I am now just sixty-three years of age, and in good running order. Next, please!

T. FREDK. HUNT.

A New Departure in Hill Climbing Competitions.

[4136.]-With reference to the articles that have appeared in *The Motor Cycle* on standard machines in competition, I should like to draw your attention to the fact that the Bradford Motor Cycle Club will hold an open hill-climb on July 17th, the great feature of which is that machines competing in the ordinary classes must be absolutely standard touring machines and standard in every possible respect, whilst Tourist Trophy and special racing machines will only be eligible for the classes set apart especially for them. Amateur riders may therefore enter with the assurance that they will have a good sporting chance of winning.

It is to be hoped that amateur riders throughout the country will respond to this effort of the Bradford Motor Cycle Club to cater for the average rider, and support it in its endeavour to run a hill-climb on these lines. A committee will be appointed to classify the competing machines before the event. There are eight classes, so nearly every type of machine is catered for.

FELIX SCRIVEN,
Hon. Trials Sec. Bradford M.C.C.

Low Voltage Coils.

[4137.]-It may be of interest to adherents of coil ignition generally to hear of the behaviour of low voltage coils under racing conditions.

The rate of saturation in a two-volt coil is necessarily slow, and I found on first applying the Voltcoo to my 85 by 60 mm. single that with ordinary adjustment of the points there was an inclination to misfire at high speeds. A close adjustment, however, overcame this difficulty, and its performance now is quite satisfactory.

My remarks are, of course, mainly applicable to the extremely high engine speeds necessary for my purpose. At ordinary road speeds I should say no alteration would be necessary.

As to economy in current consumption, for which, I presume, the coil is primarily intended, I can give no definite experience; but, judging from the ampèrage on "short" in conjunction with slow rate of saturation, I should think it would certainly be extremely economical, and certainly possesses many advantages over the ordinary four-volt coil.

C. R. COLLIER.

Appreciation of a Light Tricar.

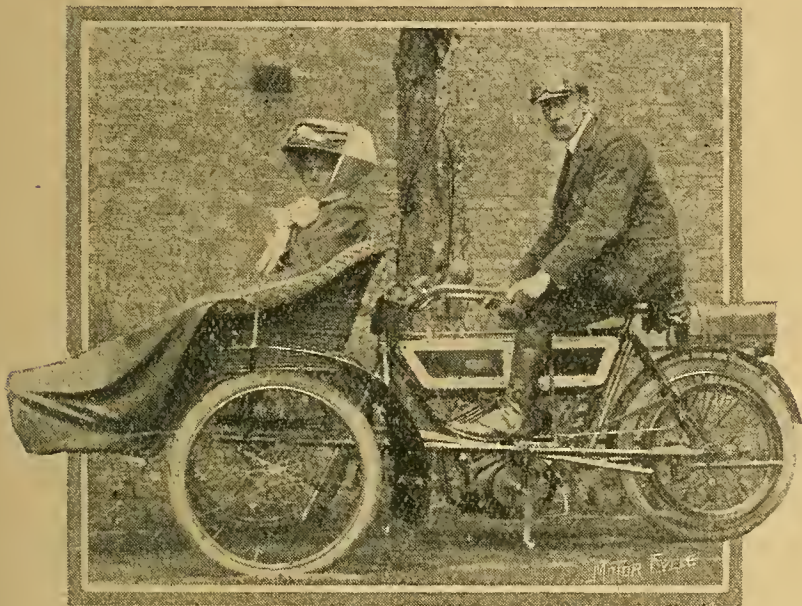
[4138.]-After several journeys to London in search of a reliable British two-seater, which should enable one to travel easily over the ordinary roads, and also entail the least expense for running and upkeep, I finally arrived at Messrs. Brown Bros., Great Eastern Street. My search ended here, and I promptly placed an order for a 1909 5½ h.p. Brown, fitted with a Mills and Fulford forecar, belt drive, and the Brown two-speed gear and free engine.

Messrs. Brown Bros. spared no pains in building the machine to my particular requirements.

The engine is most substantially made, and its heavy fly-wheel, long bearings, and low position enable the machine to run with exceptional smoothness and steadiness. For flexibility it will be hard to beat. When road traffic demands extra care, one can quickly slow down to a crawl; and when the road is clear, a slight opening of the throttle as quickly brings it into its regular stride.

The Brown free engine and two-speed gear is a great boon, and is very simple to use and most efficient—foolproof, I should think—that is why I had it.

When the passenger is safely seated, one turn of the starting handle starts the engine in nine cases out of ten, thanks to the excellent trembler coil and make and break with which the machine is fitted. Then stepping into the saddle and



letting in the low gear, the machine glides forward, smoothly and gracefully, and in a few seconds has attained sufficient speed to enable the high and normal gear to be brought into use by a slight forward movement of the same lever. One can start and get under weigh as easily as a well-tuned car.

My journeys so far have been confined to the roads of Surrey and Hants. I have several times been to Salisbury *via* Guildford, Hog's Back, Farnham, Alton, Winchester, and Romsey, and it simply romps up all the hills on the top gear. The way it settles down to business when a hill has to be climbed, and the rhythmic humming of the exhaust, is a treat.

The combined weight of my passenger and self is about nineteen stones, and we average 18-19 m.p.h. The machine will travel much faster if required, but we are quite satisfied to keep within the legal limit—until it is raised.

Thanks to a Palmer Cord tyre which I have on the driving wheel, I can travel with very little fear of punctures.

I enclose a photograph of the machine, to show that graceful and neat design has not been sacrificed for strength and safety, and also that "the tricar is not dead yet."

JOHN T. MEW.

A Doctor's Grumble regarding Repairs and Replacements.

[4139.]-Now that the motor cycle is being used more and more by business men for business purposes, the question of repairs and replacements becomes a matter of urgent importance. The business man has not got the interval between the week-ends free for the ingenious fitter or the incompetent storekeeper to muddle about making mistakes.

In America, of course, the standardisation of parts has been carried to a logical conclusion. The result is the universal adoption of American machinery of all kinds, especially in out-of-the-way districts and countries.

For the past two and a half years I have had an old American car, which I can myself fit with any essential part, made in Detroit, and supplied to me from London by return of post or first passenger train, and which I can be perfectly certain will fit comfortably wherever it is designed to go.

At present I am riding an English-made motor bicycle, which after three months required certain small replacements, notably a worn engine pulley, which is a matter of frequent occurrence in our flinty neighbourhood, especially if the roads are wet. I sent the engine for other details to be seen to, and was promised return within the week. After vigorous telegraphing I got the engine back on June 14th, ten days later, with the new engine pulley not fitted, but loose in the packing case. I broke the old engine pulley getting it off, and then found the new pulley would not screw home by about three threads.

I see these machines compete in all the road trials and hill-climbs. What good do these things do as advertisements as compared with promptness, punctuality, and proper fitting, should the busy man (as in the nature of things he must) require repairs or replacements?

Is there a firm of motor bicycle makers, not foreigners, whose spares can be fitted into the engine without any lingering feeling that they are misfits more or less?

CHARLES S. PATTERSON, M.B., M.R.G.S.

[There is more than one British engine made on the interchangeable system, on which parts, ordered by post or telegram, will fit without filing, screwing, or tapping.—Ed.]

The Lightweight Question.

[4140.]-Having in the last month driven a 1½ h.p. lightweight and a 3½ h.p. heavyweight (both magneto), perhaps my opinions would interest some of the readers of your excellent and interesting paper. Each machine I drove about 500 miles. The result is that, in my own opinion, the heavyweight scores nearly everywhere. In speed and hill-climbing, the lightweight does not, and cannot, except with a very light rider—that is, as far as my experience goes—compare at all with the heavyweight. My weight is about 12 st. The 3½ h.p. machine was a splendid starter, going off nearly always at the first push. The lightweight was a very poor one to get going. Sometimes it was as much as thirty yards before it would get going well. Where the lightweight scores the most is in getting in and out of the shed or up steps. I did not find it very comfortable to ride owing to small tyres, a short wheelbase, and no footrests. For a man who only wants a machine for short journeys, does not want to average more than seventeen or eighteen miles an hour, and perhaps has to carry his machine up a flight of steps, there is no doubt the lightweight is the thing. But for anyone who wants to "get there," and do it promptly, to make long journeys, and to climb hills well, with a feeling that there is power in reserve, give me the heavyweight. By heavyweight I mean a machine weighing from 160 to 180 lbs.

Lastly, has any reader thought of the danger to health there is in riding a lightweight on a cold day, with heavy roads, and having to pedal hard to get over a sharp hill, getting very hot, and then sitting still again for perhaps eight or ten miles?

I daresay there are many who will disagree with this letter, but, like "Ixion," I have no special enthusiasm for the lightweight machine. EX-LIGHTWEIGHT.

Silence.

[4141.]-In reference to the letter of "T. H. C." in your number of June 16th, it is not correct to say there must be back pressure when the outlet area of a silencer is less than the inlet. As a charge of exhaust gas reaches the silencer only once in two revolutions of the engine, and as the gases are free to expand out of the silencer continuously, it follows that the presence or absence of back pressure depends on the speed at which the gases expand out of the silencer and the speed at which the engine is running. *A silencer with small outlet capable of getting rid of all the gases when running slowly might fail to do so at a high speed of engine, with consequent back pressure.*

I do not know if anyone has worked out the smallest possible outlet area without back pressure in relation to size of cylinder and speed of engine, but a formula giving this would be of great interest and value in allowing riders to see that their silencers were properly designed.

Although the outlet may be smaller than the inlet—and, I think, should be so to reduce noise—I agree with "L.B.C." in thinking that "L.B." has contracted his area too much. However, the design seemed so good that I copied it, with some modifications, for a 3 h.p. single-cylinder engine. I think the most important precaution to take is to make the silencer amply large, particularly as regards the first chamber into which the gases expand from the cylinder, so I made my silencer 8 in. long by 3½ in. internal diameter (see "L.B.'s" sketch), the first chamber being 4 in. long and the remaining 4 in. being divided by three diaphragm plates into four equal spaces. My inlet is 1½ in. diameter; the diaphragms have respectively 28 holes in., 64 holes ½ in., and 120 holes ⅜ in.; outlet is of ¾ in. and flattened to a fish tail. This makes my machine quieter than most that I hear, but I am not satisfied yet, and hope some day to experiment with other diaphragm plates having smaller holes.

Instead of a central tube and four longitudinal bolts shown by "L.B." I use one central bolt ½ in. diameter screwed all the way, the diaphragm plates being held at any distances desired by lock nuts each side, and the end plates being held by castle nuts and split pins. If I want cut-out I shall put it in the end plate nearest the inlet.

A.M.I.C.E.

Crossing the Severn with a Motor Cycle.

[4142.]—When lately crossing the Severn estuary at two points in going from Weston-super-Mare to Cardiff, I found that the direct line of boats allowed the carrying of petrol in the tanks, but I was informed that the boats running in connection with the railway did not permit it to be so carried. On returning by the Severn Tunnel the foreman porter at Severn Tunnel Station measured my petrol. After emptying the tanks he handed me a voucher addressed to the stationmaster at Pilning, the first station on the other side. On presenting this my tanks were replenished to the amount stated on the voucher, and I started again almost before the train was out of sight.

W.C.G.

Two-stroke Engines.

[4143.]—Although I have not very particularly followed the discussion on two-stroke engines, I may say that I am quite of opinion that it is the gas or petrol engine of the far future.

Not being an expert my opinion, of course, counts little, but my reason for writing is to show what has given me belief. It has been my pleasure (perhaps I ought to say honour) to inspect and have explained to me a two-stroke engine which as yet is not on the market, but which has been patented in fourteen countries at great cost by a gentleman in the West of England.

Using the crank case as a gas chamber is discarded, nor is a separate pump used, a complete scavenge is got, and therefore perfect combustion. This (to me) remarkable engine does not show any fire at exhaust port when silencer and pipe are removed, and the only mechanical working parts are three in number, viz., piston, connecting rod, and crank.

These features are attained by the simple means of using a piston (similar to rough sketch) of two diameters, which when fitted to cylinder forms three chambers, viz., (1) compression chamber, (2) pure scavenging chamber for scavenging cylinder previous to the inlet of gas from third chamber, automatic valves naturally being used.

Lubrication appears to be quite satisfactory, and the flexibility of the engine really astonishing. The interest of some large gas engine manufacturers points to its being an invention out of the common. I also am interested in it, but not financially (unfortunately).

PFAITCH.

Standard Machines in Competition.

[4144.]—With regard to "faked" machines in competitions, I should like to suggest that at some period a large competition be held under the following conditions, being, it would seem, almost the only way to ensure the use of representative touring machines. The organisation would require both trouble and expense, but the test would be by the most searching and impartial yet attempted.

Pick from a maker's stock of not less than ten (to prevent the building of several fakes) two machines haphazard, and seal them complete with tools and usual touring spares. At the competition the machines would be unsealed and handed over, one to a trade rider chosen by the makers, and one to an amateur, and these riders would be allowed one hour in full view of judges and the public in which to tune up and test the machines. Riders would bring no tools or duplicates and remove nothing from the machines. The competition would then take place, and would probably be divided into three sections. First, trade riders; second, amateur riders mounted on the identical machines the trade riders have just used; third, amateur riders on the second machines which have not yet been used.

Races or hill-climbs of this type should draw a large public interest and encourage the production of the practical and efficient everyday model of motor cycle.

S. F. B. LANE.

[4145.]—Regarding the A.C.U. hill-climb on Sutton Bank, the Rex Co. in letter No. 4114 condemn themselves. According to their own statement the Rex machine which won in two classes was a "Speed King" model and not a touring mount. The rules governing the competition laid down that only tourist machines in full tourist trim should compete.

It would be only right and fair now if Godfrey be made to return the prizes won in that competition, as the whole thing was a contravention of the A.C.U. rules, and should not have been allowed. Such tactics cannot be condemned too strongly.

W. E. HOLMES.

Mow Cop Hill, near Congleton, Climbed.

[4146.]—Having seen in *The Motor Cycle* at various times accounts of your readers having climbed some particularly stiff hill, we thought that the following might be of interest.

About four miles from Congleton is a very severe hill, known as Mow Cop. The average gradient, taken from the Ordnance map, is 1 in 12, and the length of the hill about half a mile, the steepest pitch, which is some fifty yards in length, being 1 in 3.3. The surface is rough and loose in some parts; there are also several bad ruts worn by the water running down.

I succeeded in climbing the whole length of the hill five times on my G.B., 4½ h.p. machine, Minerva engine, Roc two-speed gear, low gear 7½ to 1. My friend, on a 6 h.p. N.S.U., with forecar, N.S.U. two-speed engine pulley, low gear 7 to 1, also succeeded in climbing the whole length after removing the basket.

At present, so far as we can learn, only two other motor cycles have succeeded in getting to the top. The innkeeper of the Railway Hotel, which is on the steepest part, takes a great interest in any attempt at the climb, and has started keeping a register of all those that are successful.

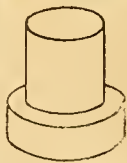
Perhaps some of your numerous readers would like to have a try at the climb. I should very much like to hear of anyone who has tried the ascent on a single-gear machine as to how far he got up, as I do not consider it possible to get up the last part without a two-speed gear.

FT 18 AND M 1688

SUMMARY OF OTHER CORRESPONDENCE.

The motor cyclist who sent a message per another motor cyclist to Jones and Co.'s garage at Lichfield for a man to come out to the seventh milestone on the Coventry Road on the 6th inst. may be interested to know that the man spent several hours trying to find him, and that he returned to Lichfield at 7.30 p.m. wet through.

Zenith Motors, Ltd., write: As there seems to be a little misunderstanding as to handle starting with our machines, might we ask you to explain that with the Gradua gear, the handle being direct on to the engine, handle-starting is only recommended where accumulators are fitted. With magneto the gear ratios can be made so extremely low and the drive direct, that it is an easy matter to start the machine at a walking pace, bring it to a standstill, and then mount. This method has proved such a success that many of our customers who have gone to the expense of dual ignition, particularly for the sake of handle starting, have now entirely abandoned the handle in favour of this method.





The Puncture King's rebuff.

ROM

ALL-BRITISH NON-SKIDDING TYRES

enable the motor cyclist
to laugh at the efforts
of the puncture fiend.

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1ST in every Class.

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'1910-F.R.S.'

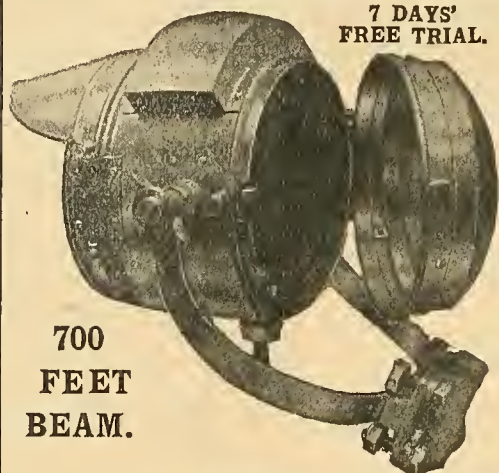
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BEAM.

Plated Carrier 7/-, Black 4/6, extra.

This is the Lamp which

is British made throughout—is used all over the world—described as "ideal" by Mr. Bischoff, expert in lamp modelling. With these points: Adjustable Carrier. Magnificent Hinges. Perfect Appearance. Non-Glare Chimney. Invisible Catches. Side Sockets fitted from inside of lamp. Screwed in Lens. Special Burner Works (all to specification) containing gas refining chamber. Angular and up and down movement. Bray's latest "Roni" Burner. Body of lamp is made of Jointless Heavy Gauge Tube.

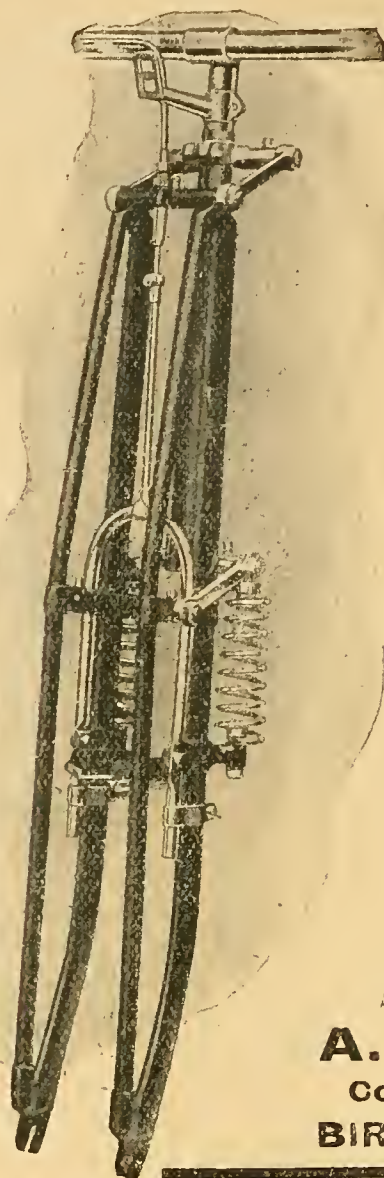
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STUDY YOUR COMFORT.

You would ride your motor cycle a good deal more but for one thing. Have your machine fitted with the

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and excessive vibration will trouble you no more.

The change in your riding will be marvellous.

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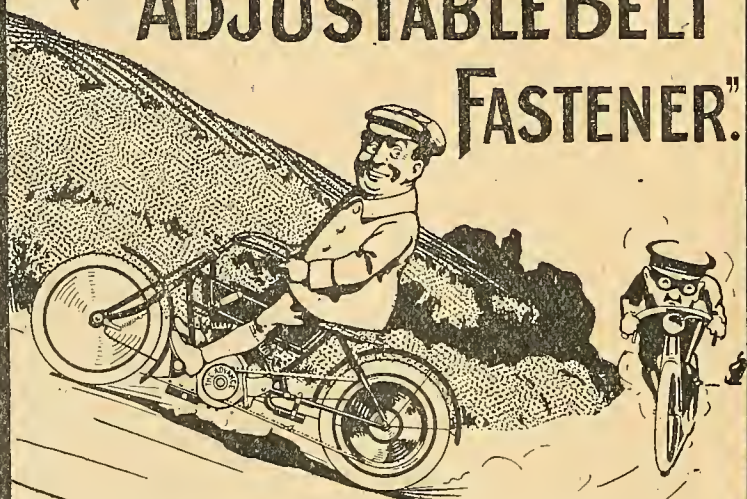
A. DREW,

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"HANG ON OLD MAN!

I've got an "ADVANCE"
ADJUSTABLE PULLEY

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ADJUSTABLE BELT
FASTENER."



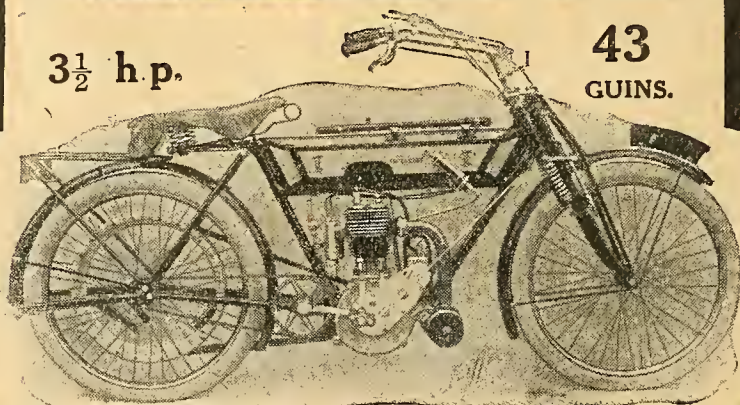
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HAVE YOU SEEN THE NEW

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3½ h.p.

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AGENTS—London: The Service Co., 292, High Holborn.
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Ltd., Lavender Hill. Southampton: The Birmingham and
Coventry Co. Halifax: Maude's Motor Mart. Doncaster:
J. A. Bassett. Leeds: T. Byrom. Darlington: G. A. Hayward.
Northumberland: The Percy Cycle Co., Ltd., Newcastle.
Birmingham: C. V. Boulton, Moseley Garage. Liverpool:
The British Cycle Manufacturing Co. Edinburgh: Alexander
and Co. Perth: J. MacFarlane. Glasgow: Rossleigh, Ltd.
Aberdeen: M. Watt & Co. Inverurie: John Adam.

MOTOR BICYCLES FOR SALE.

h.p. Atlanta Motor Cycle, £10 10s., great bargain; 1½ h.p. F.N. light motor cycle, £7 10s.—Mackwell, Asham.

TRIUMPHS and N.S.U.'s, 1909 models, in stock; any make supplied.—Moldgreen Engineering Wks., Luddersfield.

1 h.p. Fleet Lightweight (two accumulators, new), fine climber, and good condition; £8 10s.—50, Bever Rd., Hull.

3 h.p. Minerva, M.O.V., vertical engine, spares; sacrifice £7; gent's cycle wanted.—Ince, 392, Hallwell, Bolton.

1909 Triumph, all spares, little used, perfect; £38 10s.; accept new cycle part.—Burgess, Wincock, Sheffield.

NEW 1909 3½ h.p. Rex, rubber studded tyres, tools, spares; £35, or nearest offer.—Pilkington, Marble Place, Southport.

h.p. Trump Motor Cycle and sidecar; to be sold together or separate; £30, offers.—W. G. Watson, Sole agent, Bedale.

SHEFFIELD.—7.8 h.p. Minerva twin-cyl. Motor Cycle, perfect, with accessories; only £36.—Apply, Arthur Carr, Cemetery Rd.

1 h.p. Rex, very low, powerful, and reliable, splendid condition, guaranteed; bargain, £9 10s.—26, Nunce St., Blackpool.

BRADBURY, 2½ h.p., splendid condition, footrests, handle-bar control, tyres as new; £10, lowest.—43, Hlerton Rd., Sheffield.

1909 3½ h.p. N.S.U., ridden 300 miles; cost £43 10s., what offers? seen by appointment.—H. Cain, Red Lion Hotel, Doncaster.

1 h.p. N.S.U., £12; 3½ h.p. Riley, £10; excellent condition; exchange entertained.—Botterill and Co., Cambridge St., Harrogate.

1909 3½ h.p. Humber, two-speed, done 500 miles; money wanted; £37 10s.; offers.—Foster, 39, Fresham Rd., Middlesbrough.

1 h.p. Ariel, splendid condition, nearly new Stanley 2 belt, spring forks, adjustable pulley, spares and trailer; £17.—Druid, Corwen.

3 h.p. Phoenix-Minerva, excellent condition; must be sold at once; £12, or nearest offer.—Harnew, Royal Victoria Hotel, Sheffield.

LIVERPOOL.—Triumph and Douglas motors in stock at Hithings, 74, Bold St., the sole agents. Large variety of accessories at lowest prices.

VIBRATIONLESS Douglas, the best lightweight on the market and British made; send for list and testimonials.—Hithings, Ltd., 74, Bold St., Liverpool. Sole Agents for Douglas and Triumphs.

1 h.p. Lloyd, Longuemare, trembler coil, Watawata, 2 new Clincher front, and Palmer back, in good running order; £12.—Everingham, Pocklington.

3 h.p. Alldays Motor Cycle, tyres as new, and all in good running order; £12; trial run by appointment.—9, Warwick Rd., Old Trafford, Manchester.

1 h.p. Minerva, not run 300 miles, guarantee no fault, two accumulators, one White's, extra belt and brake, lamp, horn, spares.—Horton, Painter, Colne, Lancs.

3 h.p. Antoine, Chater frame, two speeds and free, B.B. carburetter, chain drive, perfect tyres, new Palmer cord on back wheel; £20.—90, Meadow Lane, Leeds.

2 h.p. Lightweight, F.N. engine and carburetter, 26in. wheels, Palmer tyres, perfect order; £10, or exchange Drummond 3½ lathe.—Lawson, Burley Mount, Leeds.

VINDEC Special, 5 h.p., magneto, Truffault forks, absolutely perfect, new condition; £30; exchange or lower power: Triumph preferred.—18, Newstead Rd., Liverpool.

BRAND New 1909 Magneto 3½-4 h.p. Bat, adjustable pulley, etc.; cost with extras £50; used for trial run only; accept £42, or nearest offer.—Bennett, 34, Dickenson St., Wigan.

BARGAINS.—2½ h.p. Lloyds, vertical, spray, smart, £6 19s. 11d.; 2½ h.p. Coventry Eagle, vertical, spray, long bars, low saddle, £6 9s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

BARGAINS.—3 h.p. Humber, spray, powerful climber, £7 19s. 11d.; 3 h.p. Brown, Longuemare, footboards, Watawata, £7 19s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

BARGAINS.—1½ h.p. Thomas, Phelon and Moore, spray carburetter, £4 19s. 11d.; 3½ h.p. Rex, belt drive, Amac handle-bar control, £8 19s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

BARGAINS.—3 h.p. Lloyds, spray, 26in. wheels, Palmers, £6 19s. 11d.; twin-cyl. Clement-Garrard, spring forks, Palmers, £8 19s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

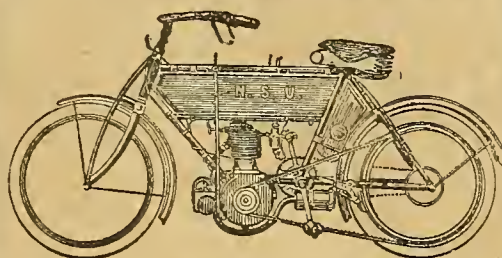
BARGAINS.—2 h.p. Humber, spray, chain drive, powerful, £4 19s. 11d.; 2 h.p. Werner, spray, light, belt drive, £4 14s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

BARGAINS.—2 h.p. Victor lightweight, spray, £4 19s. 11d.; 3 h.p. Quadrant, spring forks, Longuemare, £7 19s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

BARGAIN.—Brand new 1909 4 h.p. N.S.U. de Luxe, latest model; £48; allow £27 10s. for good 1908 Rex, or other good magneto.

THERE IS NO RISK

in buying from an old-established firm. We offer more value for money than is obtainable elsewhere. We can beat all competition. The thousands of machines that have passed through our hands testify to the confidence placed in us by clients.



1908 3½ h.p. N.S.U.'s

We have only a few of these beautiful machines left. They are BRAND NEW Standard Models, fitted with magnetos, 26in. wheels, stand and carriers, toolboxes, and tools.

List Price £46. Our Price £32.

Don't let the opportunity go by of securing a new machine at a second-hand price. Near cash offers considered. Exchanges also entertained.

ALL OUR MACHINES ARE TESTED.

1909 3½ h.p. HUMBER, new	£45 0
1909 3½ h.p. BRADBURY, new	£46 0
1909 3½ h.p. REX, two speeds, new	£52 10
1908 3½ h.p. REX Tourist, new	£29 10
1908 3½ h.p. N.S.U., brand new	£32 0
1908 3½ h.p. MINERVA	£17 10
1909 4 h.p. ROC, two speeds, new	£50 0
1908 3 h.p. REX, magneto	£17 10
1909 3½ h.p. Bradbury, nearly new	£35 10
6 h.p. Twin Antoine, low built	£14 10
3½ h.p. Rex Tourist, 1908, nearly new	£25 10
3½ h.p. Brown, magneto	£22 10
4 h.p. Twin N.S.U., magneto, two speeds	£22 10
4½ h.p. Twin MINERVA, magneto, spring forks	£22 10
5 h.p. Twin G.B., magneto, spring forks	£22 10
2½ h.p. MINERVA, M.O.V., vertical engine	£3 15
2 h.p. MINERVA, M.O.V., smart	£6 15
3½ h.p. REX, 1907, magneto	£18 10
3½ h.p. TRIUMPH, 1908	£35 0
3½ h.p. BROWN, M.O.V.	£10 10
4 h.p. ANTOINE, M.O.V., 26in. wheels	£12 10
3 h.p. SIMMS, M.O.V., magneto	£10 10
5 h.p. Twin REX and Sidecar	£19 19
5 h.p. Twin STANDARD, spring forks	£12 10
3½ h.p. HUMBER, 1909, not run 500 miles	£35 0
2 h.p. MOTO-REVE, magneto, spring forks	£25 0
3½ h.p. REX, 26in. wheels, low built	£11 10
3½ h.p. REX, spring forks, 26in. wheels	£12 12

CLEARANCE BARGAINS.

2 h.p. SINGER, £4 15	2 h.p. PIEPER, £4 15
2 h.p. HUMBER £4 15	3½ h.p. REX, £6 15
2 h.p. WERNER £4 15	3 h.p. ARIEL, £8 15
2½ h.p. DE DION £6 15	3 h.p. STAR, £7 15
4 h.p. ANTOINE £7 15	

100 Push Cycles wanted.

£1,000 WAITING.

The above amount, in shining "Jimmy O' Gobblins," lies at our offices, to be given in exchange for good motor cycles. We are just as pleased to buy your machine as to sell you one. What we want is good magneto machines of Standard, and for these we will pay most reasonable prices. Please do not offer us 1½ h.p. out-of-date "Imps." Dealers or makers especially invited. Remember, Cash down, no waiting.

CARBURETTERS.

BROWN & BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

ENGINES.

3½ h.p. EXCELSIOR, good order	£55/-
4 h.p. ANTOINE, magneto fitted	£7 10
3½ h.p. AURORA, m.o.v. 70/-	2 MADISON
2½ h.p. BUCHET	£55/-
2 h.p. WERNER	£30/-
2 h.p. DE DION, water-cooled head	£60/-

TRICARS.

4 h.p. STEVENS, fan-cooled	£12 12
8 h.p. Twin JOWETT, open frame	£18 10
4 h.p. REX, free engine	£13 13
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Phone 1062. HALIFAX. 2 minutes walk from Station

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LITTLE Champion.—Light, low, short 2½ h.p. De motor cycle, with Palmer cord tyres, 26in. wheels, enamel and plating splendid; 8 guineas, worth double. Golby, Bradford Rd., Batley.

2½ h.p. Phelon-Moore, two-speed, free engine, accurate, later ignition, handle-bar control, practically new; £37; disposal owing to illness.—Smith, Tobacco Market Place, Knaresborough.

3½ h.p. Minerva, 1909, brand new, Bosch magneto, Chater-Lea fittings, and spring forks, Clincher studded tyres, F.R.S. lamp, Watawata; £32.—Hamper, 40, Jenkinson St., Manchester.

TRIUMPH, 1907, grand condition, all accessories, new spare tyre fitted with R.O.M. non-skid boots; £25, complete; call or write.—A. J. Boswell, 131, Well Lane, Cheetham Hill, Manchester.

DOUGLAS Lightweight, bought new this month; £40; twin cyls., magneto, spring forks, lamp, etc., only run few miles; £32; satisfactory reason. Motorist, 56, Granville Rd., Blackpool.

1908 6 h.p. Rex de Luxe, Bosch magneto, Roc clutch, warranted; £25, or exchange magneto 3-3-3 and cash, N.S.U. preferred, or open frame water-cooled tri-car.—13, Sun St., Pitsmoor, Sheffield.

1907 3½ h.p. Triumph, Mabon clutch, B. and B. bar control, Brooks saddle, Dunlops, pump, gauge, full tools, no rust, in perfect condition, only week-ends; £27.—143, Hollingsgrove, Darwen.

6 h.p. Twin Sarolea, Bosch magneto, Chater N frame, Mabon clutch, Whittle belt, with Mills Fulford forecar, like new; would take lower power cash.—Photo and particulars, Pomeria, Keyingham, L.

3½ h.p. N.S.U., with sidecar, upholstered green, registered September, 1908, magneto, all spares, two speeds, free engine, run 1,000 miles; trial allowed; £35, original price £60.—Jordan, 22, Regent Sq., Easter.

1907 5 h.p. Twin Rex, Continental tyres, spring frame, Watawata belt, new Fuller accumulator, splendid condition, good hill-climber; bargain, 17 guineas.—Lomas, Woodland Villas, Mytholmroyd, near Thacker.

THE Best Bargain this week.—3 h.p. Kerry, thorough running order, stand, horn, two-way switch, Watawata, worth £12 10s., accept £6 10s. for quick sale; trial here; first money order secures.—Maillard, Dintton, Rotherham.

1907 3½ h.p. Brown Motor Cycle, Longuemare, spring forks, very low, 26 by 24 tyres, footbrake footboards, complete with spares, lamp, toolbag, tools; £15 15s.; ride 70 miles to purchaser.—44, W. loo Rd., Hunslet, Leeds.

1908 Unscratched 2½ h.p. Rex, magneto and clutch, Matchless silencer, tyres perfect, Dunlop, both unpunctured, like new; money wanted; guaranteed perfect running order; best offer near £18.—Gibson, Percy St., Preston, Lancs.

3½ h.p. Quadrant, 1907, Fital two-speed, free engine, everything in splendid condition, been little used, carefully used, new Clinchers, studded back, spares, accessories, complete, very reliable; any trial; £25.—Foster, Meadowside, Lancaster.

FOR Sale, 1909 Triumph, T.T. Model, £42; 1909 Triumph, touring model, £32; 1909 Rex de Luxe, twin, £50, speed gear, to sell owing to serious accident to owner; as good as new.—Robt Weiss, Duxbury Hall, Liversedge.

3½ h.p. Minerva, 1908, as new, F.R.S. lamp, spring stand, carrier, spares, £16 10s.; 1½ h.p. Werner, new piston rings, smart, speedy lightweight.—A. 77, Halifax Rd., Wadley Bridge, Sheffield.

LIVERPOOL Rex Agency.—1909 models from stock, Rex spares, the largest selection of new and second hand motor cycles for 50 miles round; we take any in part payment for any make of motor cycle or car. F. C. Jones and Co., 3, Redcross St., Liverpool.

1909 Triumph, run 1,000 miles, with all spare tools in oak case on carrier, Cowey speedometer, electric lamp, mirror, cut-out; cost £60 about a month ago; £46 10s. cash; also 4 h.p. Humber, chain drive, £10 10s.—19, Liverpool Rd., Birkdale, Southport.

LATE 1908 5 h.p. Twin Vindec, free engine, and speed gear, handle-bar control, and all latest improvements, all tools and spares required, including spare contact breaker, machine equal to new; £45; particulars given on application.—Hartley, 47, Walnut Southport.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low price, cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., Chester Rd., Old Trafford.

1908 Triumph, perfect, new Palmer cord and Clincher belt just fitted, winner reliability trial and fast time hill-climb, full kit tools, two bags, lamp, pump, and many spares, including valves, plug, points, etc.; a real bargain, £33; will run for prospective customer.—Box No. 2,747, The Motor Offices, Coventry.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, De Stafford, Shropshire, Montgomery, Merioneth.

3½ h.p. Rex, fast, low, good condition; £12.—Bshaw, 107, Saltergate, Chesterfield.

TRIUMPH, late 1908, grand machine, climb thing; £37.—Williams, High St., Cradley Heath.

MOTOR BICYCLES FOR SALE.

p. Alldays, excellent condition, spare accumulator, valve, etc.; £13.—Dutton, Haughton, Tar-

or near offer.—Fairy lightweight, twin, good condition, or exchange single.—W. Instone, The, Broseley.

UMPH, 1908 standard, splendid machine, practically new, only run 800 miles, guaranteed per-335.—Moss, Wem.

p. Motor Cycle, Minerva engine, Longuemare carburetter, in running order; £9 10s.—On view at Garage, Stafford.

or "nearest offer.—3h.p. magneto Clyde, Longuemare, all accessories, in good running order, most—Trevethan, Rhyl.

ITWEIGHT 1½h.p. Universal, Dunlop tyres, spring forks, new; sacrifice £8 10s.—W. Neate, and, Newport, Salop.

p. Twin Minerva, spring forks, footboards, grey, excellent condition, many spares; £25.—Pixon,igate St., Leek, Staffs.

New Models.—3h.p. Radford, Bowden triple control, Palmers, adjustable pulley, whistle belt, test colour; £19; photo, stamp.—Below.

Raleigh-Fafnir, studded rear tyre, excellent condition; £9 15s.—Radford Motor Co., Stafford.

Twin Sarolea, extra low, 26 by 2 wheels, perfect condition; approval; or exchange lower power and 15 guineas, lowest.—Hallam, Baths, George St.,

Clement-Garrard, 2½h.p., aluminium torpedo tank, no accumulators, spring seat, good order; seened any time.—Duckinfield, Tushingham Schools,urch, Salop.

WN, 3½h.p. Roc, two-speed, powerful foot brake, Longuemare carburetter, spring forks, good tyres, d accumulator ignition, three accumulators; bedice, £10 10s.—Bridgnorth Garage, Bridgnorth.

ERVA, 3½h.p., new August, 1908, magneto, un-idden R.O.M. tyre and inner tube, perfect going pares to everything; £27 10s.; bought car.—Writears, James W. Ravenglass, Oxford Rd., Maccles-

p. Rex de Luxe, cantilever seat, Roc clutch, adjustable pulley, magneto, new Continental tyres, mery flexible sidecar, spares, in perfect condipert examination; cost £75; illness only reasoning; £35, or nearest.—Johnson, Stanmore Hall,orth, Salop.

MPH, 1909, with free engine and extras, comete with makers' warranty, receipt and licence, rchased few weeks ago, unpunctured, guaranteed cost £57; owner ordered abroad; must sell at cept nearest offer to £52.—Box 2,798, The Motorffices, Coventry.

SECTION IV.

gham, Lincoln, Leicester, Rutland,hamptonshire and Warwickshire.

3½h.p. Magneto Rex Cycle, in perfect order; £20.—Briggs, 186, Belgrave Gate, Leicester.

p. 4-cyl. F.N., in splendid running order and ndition; £24.—Lloyd, Victoria Terrace, Leaming-

Quadrant for sale, good going order, Palmer cord ack, Clincher front.—Butcher, Wellesbourne, War-

3½h.p. Rex Motor Bicycle, perfect, climbs Edgehill; £30.—2,796, The Motor Cycle Offices, Cov-

Sale, 4h.p. twin Werner, excellent condition; no asonable offer refused.—44, Gladstone St., Lei-

MPH, 1909, like new, tyres hardly worn, good ason for selling; what offers?—Taylor, Infirmary, rough.

1½h.p., 1907 model, magneto, spring forks, just rhauled; accept £12.—Box 2,332, The Motorffices, Coventry.

MPH, 3½h.p., new June, 1908, perfect and comete in every way; £35; all spares.—Sidney, Leamington Spa.

Sale, 3½h.p. Minerva, new cylinder and piston, ood running order; £12, or near offer.—2,776,otor Cycle Offices, Coventry.

3½h.p., new coil and accumulator, nearly new atawata belt, and Palmer back tyre, good going £10 10s.—Stedman, Binbrook, Lincoln.

N Kerry, 5h.p., Chater fittings, new tyres, peret order; £20; exchange magneto lightweight.—, Marlborough Rd., Long Eaton, Notts.

MPH, 1907 model, in splendid condition, new l., piston, and B. and B. carburetter, with H.B. fitted last month; £30.—Write, A.B., 33, Beau-, Edgbaston.

p. Rex, magneto, H.B. control, engine, tyres, etc., in perfect condition; trial arranged; no reasoner refused; must be sold; owner bought a new -120, Cox St., Coventry.

REAL Second-hand and nearly new motor cycles on £5, in stock; liberal exchanges for any new agents for Rexes and Excelsiors.—C.C.R., Motor Ford St., St. Ann's Well Rd., Nottingham.

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7 h.p. 1909 V.S., two-speed gear and free engine, magneto ignition, Truffault front forks, finished cream, and not run 500 miles in all, stand, carrier, Kempshall non-skid tyre on back wheel; this machine is perfect, as new; 50 Guineas. Guaranteed. At Wauchope's, 9, Shoe Lane, E.C.

1½ h.p. WHITE & POPPE, low Chater-Lea frame, a perfect machine throughout, very powerful; £16 10s. Guaranteed.

3½ h.p. KERRY, tyres as new, really good condition throughout; £9 15s. Guaranteed.

3½ h.p. WHITE & POPPE engine motor cycle, Chater Lea parts, nice running machine; 20 Guineas. Guaranteed.

4½ h.p. 1908 Twin-cylinder MINERVA, round tank, spring forks, M.O.V., been little used; 23 Guineas. Guaranteed.

2½ h.p. F.N., magneto ignition, splendid condition; £15. Guaranteed.

3½ h.p. Lady's PHENIX COB, two-speed gear, handle starting, as new; £32 10s. On sale here at Wauchope's.

4½ h.p. MINERVA, spring forks, 1907 model; £12 10s.

6 h.p. ANTOINE, in good condition, twin-cylinder engine, suitable for passenger work; £12 10s. Guaranteed.

6 h.p. MATCHLESS, J.A.P. engine, magneto ignition; £33. Guaranteed.

3½ h.p. PHELOX & MOORE, two-speed gear, Palmers both wheels, spring front forks. On sale at Wauchope's, Price £42. Guaranteed.

3½ h.p. ZENETTE, 1909 model, Gradua gear. This machine would be accepted as new. Price £38. Guaranteed.

5-6 h.p. 1909 F.N., 20in. frame, handle-bar control, non-skids both wheels, machine quite as new; £35.

3½ h.p. 1909 TRIUMPH, ridden 2,000 miles this season. Is now as perfect as new; £40. Guaranteed.

3½ h.p. 1908 REX, large valves, magneto ignition, spring forks, standard model; £25. Guaranteed.

2½ h.p. HUMBER Motor Cycle, sound machine, long reach; £4 10s.

2½-4 h.p. J.A.P., magneto ignition, powerful machine; £20. Guaranteed. At Wauchope's, 9, Shoe Lane, E.C.

1½ h.p. CLEMENT-GARRARD Motor Cycle, two-speed gear, excellent machine; £7 10s. Guaranteed.

5 h.p. ONOWAY, twin engine, two ignitions, Whittle belt, etc. Offers.

2½ h.p. HOBART, spring forks, new tyres, etc. Offers.

3½ h.p. ARIEL Motor Cycle, condition excellent. Offers.

3½ h.p. N.S.U., magneto ignition, lamp, horn, tyres, new front band brake and Bowden brake, carrier, etc. £15. Guaranteed.

1½ h.p. MOTOSACOCHE, spring forks, tyres like new, stand, handle-bar control, new condition; £17 10s. Guaranteed.

2½ h.p. LIGHTWEIGHT REX, 1908 model, magneto, tyres as new; £16. Guaranteed.

3½ h.p. N.S.U., handle-bar control, magneto ignition, adjustable pulleys, excellent condition; £15. At Wauchope's.

5 h.p. SAROLEA Motor Cycle, with sidecar attached, twin engine; £18. The complete combination at Wauchope's.

3½ h.p. MINERVA, spring forks, spray carburetter, Roc two-speed gear, starting handle, sound condition, lowest £16 10s. Guaranteed.

2½ h.p. MATCHLESS, 1909 model, magneto. On sale at Wauchope's. Offers.

1½ h.p. LIGHTWEIGHT F.N., vertical engine, spring forks, magneto, latest model; £16 10s.

4½ h.p. Twin-cylinder MINERVA, low frame (Chater), smart machine. Offers.

2½ h.p. BRADBURY, good second-hand machine; £6 10s. At Wauchope's.

3½ h.p. EXCELSIOR and Sidecar, the complete turn-out; £20.

5 h.p. BAT, J.A.P. engine, 1908 model, sprung back and front, magneto in tank, condition like new; price, lowest, £32 10s. Several extras. Guaranteed.

3 h.p. TRIUMPH, handle-bar control, nice condition, ball bearing engine, stand, carrier, horn; £18 10s. Guaranteed.

3½ h.p. MINERVA, 1907 model, nice condition, tyres as new, horn, Brooks's Broo saddle; £18 10s. Guaranteed.

4 h.p. M.M.C. engine motor cycle; £6 10s. Spring forks, etc.

4 h.p. TWIN WERNER, free engine clutch, chain drive, Chater frame; £12 10s. Guaranteed.

3 h.p. TRIUMPH, ball bearing engine, stand, carrier, nice machine; £18 10s. lowest. Guaranteed.

5 h.p. BROWN Motor Cycle, twin cylinder engine, Osborne two-speed gear, Palmer tyres, in condition like new; 20 Guineas.

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PHELOX and Moore, 3½h.p., two-speed, expecting delivery within a fortnight; exceptional opportunity of securing for the holidays; absolutely standard; catalogue price.—2,793, The Motor Cycle Offices, Coventry

TRIUMPH, 1908, with 1909 magneto, piston, etc., new R.O.M. tyre front, Palmer cord back, perfect condition, equal to new throughout; cheap; room wanted.—Hall, Haydon House, Broughton Astley, near Rugby.

QUADRANT, 3h.p., B. and B. handle-bar control, spring forks, footrests, etc., a reliable machine ready for the road; cheap, £14, or nearest offer, or exchange lightweight and cash.—Box 2,794, The Motor Cycle Offices, Coventry.

3½h.p. Fafnir, Chater-Lea, low, spring forks, adjustable pulley, comfortable footrests, Price's stand, new Dunlops and tubes, with 3in. Dermatine, Longuemare carburetter, compression perfect; accept £15 for quick sale; very fast, and in splendid condition.—Simpson, 232 Pershore Rd., Edgbaston, Birmingham.

REX Motor Cycle, first-class running condition, 87 by 90 Continental cover (unused), new Castle accumulator 40 a.h., accumulator 20 a.h., No. 3 gas vulcaniser, Fuller's charging battery, E.I.C. two-way switch, Guenet trembler blades and screws, 10in. plated horn, new full length plated covered tubing and bulb, second hand lady's and gent's cycles, new gent's Rudge-Whitworth cycle, combination Stepany wheel, 750 by 80 and 760 by 90, back lamp, trembler coil, etc.; best offer taken.—Watson Tuxford, Notts.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

3 h.p. Kerry, 3h.p. Bat, both perfect; £12 each.—Motorist, 36, Ellisley Av., Cambridge.

2½ h.p. F.N., just overhauled, perfect, spring forks, etc.; £15, bargain; owner bought car.—2,799 The Motor Cycle Offices, Coventry.

REX, 3½h.p., adjustable pulley, Palmer cord, accessories, spares, new condition; £15, take bike par exchange.—28, Hurst Grove, Bedford.

TRIUMPH Motor Cycle, 1908, 3½h.p., handle-bar control, magneto, latest improvements, Palmer cord, tyres, little used, good as new.—Rose, High St., March

MINERVA, genuine, 2½h.p., perfect condition, low vertical engine, long handle-bars, tyres nearly new; £14 10s., bargain.—Wainwright, Fakenham, Norfolk.

3½h.p. L.M.C., late 1908, magneto, little used, new condition, and guaranteed perfect, Clincher tyres perfect (rubber studded back); £26 10s. cash; can be seen and tried any time.—W. E. Sneezum, Fore St. Ipswich.

6 h.p. Twin Zenith, two-speed, wheel steering, magneto, bucket seat, in perfect order, £35, or nearest offer; 2½h.p. Ormonde, just been overhauled, £7 10s. car chassis, new, with body, £5; photo.—Suckling Motors, Linton, Cambs.

1909 3½h.p. New Model J.A.P., Chater No. 6, spring forks, J.A.P. automatic gear, lubricator, carburetter, H.B. control; £27 10s.; will give with cash for good two-speed mount, or might entertain lightweight with cash.—Aubrey Elkington, Royal Av., Lowestoft.

TWO 1909 Triumphs in stock, all ready for the road; £48 each: Rex, 5h.p., 50 guinea model, just thoroughly overhauled, new handle-bar control, etc., in good condition throughout, £19 10s.; 3h.p. Humber and Montgomery sidecar, good condition, powerful and fast, £16 or near offer; 26 by 2½ Clincher covers, 18s. 6d.; voltmeters, 4s. 3d.; Fishback belts, 7s. 6d. each.—Parker and Son, St. Ives, Hunts.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH 1909 models in stock; exchanges made.—Stour Cycle Depot, High St., Stourbridge.

TRIUMPH, late 1908, magneto, handle-bar control, condition as new, lamp, horn, and few spares; what offers; seen by appointment.—Wall, Penybont Stores, Cwmillery.

REX Twin, 5h.p., Roc clutch, twin tyres, magneto, splendid hill-climber, walking pace in traffic, done little running, well looked after, everything complete; £28 10s.—Clark, 13, High St., Brecon.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

F.N.: £26; 5-6h.p., good order, new last July.—A. C. Hutton, Mapledurwell, Basingstoke.

2 h.p. Lightweight Werner, low, 26in. wheels, running order; bargain at £6.—287, High St., Cheltenham.

2½h.p. Kerry, thoroughly reliable, new Palmer tyres, 24 spares, easy control, suit beginner; £11.—Fox, Bedwyn, Wilts.

N.S.U. Lightweight, magneto, many spares, reliable, perfect; nearest offer to £15.—Templeton, Patchway, near Bristol.

TRIUMPH, 3½h.p., splendid machine, perfect condition, fast, grand hill-climber, spares, accessories, rubber studded; £30, or nearest.—Holden, Moreton-in-Marsh.

MOTOR BICYCLES FOR SALE.

IGHTWEIGHT Ariel, almost new tyres, new cylinder, spray, two accumulators; cheap.—Mizen, Norfolk tel, Bournemouth.

TRIUMPH, 3½ h.p., new May, 1908, perfect condition, little used, numerous spares; £30.—Horwood, The Wn, Henley-on-Thames.

1 h.p. Chase, Palmer tyres, £10 10s.; 1½ h.p. Clement-2 Garrard, 26 10s.; good condition.—Eyles and es, St. Aldate's, Oxford.

1 h.p. Quadrant, spring forks, condition like new, 2 splendid hill-climber, and very fast.—S. J. Fair, 1, Cheltenham Rd., Bristol.

TRIUMPH, 1909, just from makers, brand new, delivered too late for requirements; £48.—F. E. stell, 180, Victoria Rd., Swindon.

h.p. French Lightweight (Lamandiere), Longuemare, outside flywheel, perfect order, tyres good, weight lbs.; £9.—3, Cheap St., Newbury.

1 h.p. Cycle, recently overhauled, rebushed, new coil 2 and accumulator; £8, take push cycle part.—H. Hunt, Linslade, Leighton Buzzard.

BARGAIN.—3½ h.p. Rex, absolutely perfect running order; accept £9 for quick sale; owner going road.—G. Brown, 8, Staunton Rd., Havant.

1 h.p. Minerva, 1908, spring forks, H.B. control, 2 lamp, horn, accessories, spares, under 1,000 es, as new; £22 10s. cash.—Haynes, Alresford, Hants.

10 h.p. Special Twin Zedel Motor Cycle, and Montgomery flexible sidecar, Nala two-speed hub, with engine, new roller bearings throughout engine, exceedingly low, will do 80 miles per hour, guaranteed.—spect at Rose and Co.'s Garage, Southsea.

SECTION VIII.

ertford, Essex, Middlesex, Surrey, Kent, and Sussex.

1 h.p. S.U., 3 h.p., two-speed, lately new, inch belt; 16 guineas.—Below.

18.—5 h.p. Rex, new tyres, spring forks, spring seat, new belt.—Webster, Hadleigh, Essex.

3 h.p. F.N.; £8, or offer.—A. Purdie, 39, Devonshire 4 St., Islington, N.

KERRY, 2½ h.p., new A1 tyres, reliable; £10, or near. —Leake, Cranford, Middlesex.

h.p. Twin Werner, in new condition; bargain, £18.—H.T., 248, High St., Chatham.

BROWN, 3½ h.p., 1908, very little used; £30.—Morcott, Bushey Heath, Herts.

1 h.p. Brown, 1907, in splendid condition; £14.—20, Knight's Hill, West Norwood.

N. Light Model, perfect order, last year's; £22.—Putland, High St., Tunbridge Wells.

h.p. Kelecom, powerful sidecar machine; £15; 2½ h.p. cycle part.—48, Pentney Rd., Balham.

3 h.p. Kerry, in good condition; £7.—Brown, 21, 4 Hampstead Hill Gardens, Hampstead.

N., 4-cyl., magneto, first-rate condition; £16.—Lowe, 2, Sumatra Rd., West-Hampstead, N.W.

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1 h.p. Minerva, Mabon clutch, little used; bargain.—2 Thompson, 22, Chancery Lane, London.

OTO-REVE, brand new, spring forks and stand; bargain, £52.—9, Linden Arcade, Chiswick.

h.p. De Dion, in grand order, very fast; £14 10s., or near offer.—Willard, Tangmere, Chichester.

5 10s.—2½ h.p. Sylph, perfect order, vertical engine, Clinchers.—Brown, 4, Broadway, Mortlake.

1 h.p. Minerva, Palmer tyres, Bates tread, in splendid order.—Seen at 51, The Grove, Ealing.

1 h.p. Rover, low built, ½ Gloria belt, smart condition; must sell; £14.—F. Gladwin, Felsted, Essex.

1 h.p. Noble, good condition, two accumulators, stand, etc.; £11.—32, Newbury Rd., Bromley, Kent.

WIN Werner, 3½ h.p., low build, fast, good condition; £14.—Hewell, 99, Churchfield Rd., Acton, W.

h.p. Motor Cycle; exchange for lady-back tandem, or sell £5.—Tasker, 20, Godman Rd., Peckham Rye.

BARGAIN.—3½ h.p. 1907 Rex, in splendid running order; £11.—R. Nye, 83, Drewstead Rd., Streatham.

3 h.p. Minerva, very low position, splendid going 4 order; £5.—Acworth, 8, Crieff Rd., Wandsworth.

4 h.p. Werner, tyres good, H.B. control, running 4 order; £7.—576, Streatham High Rd., London.

—Cyl. F.N., 1908, good condition, new studded Michelin on back; £25, offer.—13, Longley Rd., Tooting.

KERRY, 2½ h.p., good as new; bargain, £10, or near.—Meager Bros., 58, Shepherd's Bush Rd., London.

3 h.p. Minerva pattern, low, fast, good condition; £7, bargain.—Strong, Bollo Bridge Rd., Acton, W.

HAMPSTEAD Bargains on page 39; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678, 0.

10.—3½ h.p. Kelecom, very low, new engine, Peter-Union, new belt.—24, Green St., Bethnal Green,

1 h.p. Centaur, low, long handles, two Bowdens, Dunlops (one new).—426, Liverpool Rd. (back entrance).

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REX , 1908 tourist model, Bosch magneto, spring forks, perfect order	£25
REX , 3½ h.p., 1906 model, spring forks, spray, good order throughout	£15
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REX , twin-cylinder, 5 h.p., spray, low built, spring forks	£17
QUADRANT , 3½ h.p., vertical engine, spray, spring forks, low, 26 in. wheels	£15
QUADRANT , 3 h.p., spray, spring forks, good tyres	£10
KEKRY , 5 h.p., low, 26 in. wheels, coil and accumulator ignition	£18
MOIO-REVE , 2 h.p., 1908 model, twin-cylinder, spring forks, perfect order	£25
HUMBER , 2 h.p., spring forks, spray carburettor	£9
312 , 3½ h.p., Peugeot engine, spring frame, Long. spray carburettor, footrests, low built	£18
RILEY , 3½ h.p., 26 in. wheels, spray, trembler, good tyres, low built, long bars	£14

60/- deposit secures under-mentioned, balance 5/- weekly—

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£6 Forecarriage, **PHENIX**, practically new, 1909 model, not ridden above fifty miles. **£6**

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CAMBERWELL (Bright and Hayles).—Agents Bradbury motor cycles, 1909 models; our p £42 10s.—Church St.

CAMBERWELL (Bright and Hayles).—2½ h.p. No low frame girder forks, 26 in. wheels, perfect condition; £9 10s.—Church St.

CAMBERWELL (Bright and Hayles).—4 h.p. W. and Poppe, Enfield frame, Longuemare carburettor, Dunlop tyre, Brooks saddle, low position; £14.—Church St.

2½ h.p. Motor Bicycle, good running order, la stand; £6.—1b, Devonshire St., Great Portland St., W.

HAMPSTEAD.—1909 Triumphs in stock; delivery price; exchange entertained.—5, Heath St., Hampstead.

HAMPSTEAD.—7-9 h.p. Peugeot, magneto and spring forks, two-speed gear; £25.—5, Heath St., Hampstead.

HAMPSTEAD.—5 h.p. Vindco Special, magneto spring forks, two-speed gear, all accessories; £5.—5, Heath St., Hampstead.

HAMPSTEAD.—Motosacoche, good condition, model, all accessories; bargain, £16.—Rey, Heath St., Hampstead.

HAMPSTEAD for F.N.'s, 1909 models from stock; high price allowed for your old mounts.—Be

REY, Hampstead, sole London and district agent Lincoln Elks, all models in stock; exchanges Below.

HAMPSTEAD.—Great Bargains; look to page 39, all machines guaranteed; exchanges speciality.—Rey, 5, Heath St.

HAMPSTEAD.—4-cyl. F.N., 4½ h.p., new condition; £28, with all accessories; bargain.—5, Heath

HAMPSTEAD.—1909 F.N., 4-cyl., only soiled, with all accessories; £32.—Rey, 5, Heath St., Hampstead.

3½ h.p. Triumph, 1908, in perfect condition, Mabon clutch; £32.—Morgan, 28, Boron Farnham.

3½ h.p. Givaudan Motor Cycle, new condition; £2 trial; £14, worth £35.—Varney, 40, Angel L Stratford.

HAMPSTEAD Bargains on page 39; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 26 P.O.

KERRY Motor Cycle, 2½ h.p., perfect order; £15 Lawrence, 158, Fulham Palace Rd., Hampsmith, W.

3½ h.p. M.O.V. engine, 26 in. wheels, B100, splendid condition throughout.—J. Clegg, 2, Sydney Beckenham.

3 h.p. Peugeot, as new, suit lady or gent, exceptional hill-climber; offers.—Roberts, 5, Belgrave M W., London.

£6 15s.—3½ h.p. Rex, Longuemare, fast, and good climber, good condition.—Covell, 16, Mor Rd., Redhill.

2½ h.p. Jehu, good condition, splendid climber, 24 able; £7 10s.—Hopps, 11, Avenue Rd., L sham Obelisk.

5-6 h.p. Twin Peugeot, No. 6 frame, adjustable pu spring forks, £19.—G.W., 47, Montague Rd., ston, London.

6 h.p. De Dion-Regal; £45, part exchange spring car or motor cycle.—Gardner, 10, Whippen Rd., Watford.

£15.—Chater-Lea, Palmers, Watawata, accumulator or dry cells.—J., 41, Wrotesley Rd., Plumst London, S.E.

2½ h.p. Fairy Twin Lightweight, new October, la overhauled; £14, or close offer.—Howe, B Lion, Epping.

TRIUMPH, 1909, delivered last month, 80 mi £45, no offers; want tricar.—W., Elms Ho Hammersmith.

VINDEC, 3½ h.p., 1907, Mabon clutch, faultless, la fittings, accessories; £18.—1, Cornwall Terr Baker St., N.W.

3 h.p. Chater-Lea, Clinchers, F.N. carburettor, 1 bars, good order; £10.—1a, Frideswide Place, K ish Town, N.W.

6 h.p. Twin Antoine, Chater fittings, condition new; bargain, £23; appointment.—2, White Gardens, Acton.

MAUDE'S.—Minerva, 2 h.p., M.O.V., good tyres, belt in very sound order; £8 8s.—136, G Portland St., W.

MOTOR Cycle, Quadrant, develops 2½ h.p., splen order; £9; take push bike.—Porter, 89, High Willesden Green.

JAP-BAT, 9 h.p., sidecar, little used, handle-bar trol, automatic lubrication.—Powell, 6, Chatswo Rd., W. Norwood.

3½ h.p. Quadrant, splendid condition, new Clin 2 studded back; £18.—E.T., 65, Wickham Delce, Rochester.

MOTOR BICYCLES FOR SALE.

You Want bargains in second-hand, exchanges, or new, come to 5, Heath St., Hampstead.

UMPH, 3h.p., magneto, splendid condition; all accessories; £20.—Tyler's Farm, Little Warley, Essex.

Kerry, free engine clutch, chain drive, splendid condition; £7 15s., a genuine bargain.—E. May, 10, Rd., S.W.

, 2h.p., magneto, splendid condition; £16, exchange with little cash higher power.—60, Park Rd., Holloway.

p. Kerry; £11 10s.; thoroughly reliable, perfect, low, two brakes, handle-bar control.—Rowe, 139, g Rd., London.

DE'S.—Ariel, 3h.p., 26in. wheels, low, vertical engine, B. and B. carburetter; £14 to clear.—136, Portland St., W.

3 Triumph, August, fully equipped, excellent condition, rubber studded Clinchers; £35.—Cole, s Rd., Romford.

p. Kerry and sidecar, Palmers, good condition, numerous spares; £17.—Vallins, 60, Nutcroft Beckham. After 5.

WN, 3h.p.; approval; splendid condition, Dreadnought back, A Won front tyres, spares; £14 10s. ry, Radlett, Herts.

Kerry, good condition, £8, quick sale, or exchange for tandem; also sidecar for sale, £2.—15, Rd., Brixton, S.W.

MPSTEAD Bargains on page 39; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: P.O.

Quadrant, long handle-bars, low machine; £10; exchange; send stamp particulars.—Edwards, 68, r Rd., South Ealing.

ITTLE'S.—F.N. 1h.p. Lightweight, latest model, H.T. magneto, spring forks, adjustable pulley, ut order; cheap, £17 10s.

ITTLE'S.—Minerva, 3h.p., 82 by 82, M.O.V., vertical, low built, adjustable pulley, good run- der; sacrifice £9 15s.

ITTLE'S.—Clyde, 3h.p., vertical, magneto, Pal- mer tyres, absolutely new condition throughout; n, £11 10s. cash.

ITTLE'S.—Fairy 2h.p. lightweight twin, like new; cheap, £11 11s.—Whittle's Motor Exchange, eld. 'Phone, 711, Post, Wimbledon.

p. Kerry, vertical, torpedo, adjustable pulley, re- cently overhauled; £7 15s., or nearest. — Lee, ove Lane, Camberwell.

Clyde, in excellent condition, magneto, good yres, £14; also Mabon clutch, new, £2.—Willment, iglas St., Westminster.

p. Antoine, Chater-Lea frame, Dunlop tyres (nearly new), in running order; £12.—Fowles, 52, St., Queen's Park, W.

Humber, Dunlops, trembler, spare tyre, stand, powerful, perfect condition, guaranteed; £7 10s. Church Rd., Willesden.

p. Minerva, genuine 1907, tools, spares, all ac- cessories; £11 11s.—Wheeler, 140, Boyson Rd., rwell Gate, London, S.E.

EST 3h.p. Brown, Clincher tyres, very low, prac- tically new, fast, good hill-climber; £16, offers.— pper Clapton Rd., London.

TOR Cycle, 3h.p., new condition, Chater-Lea fit- tings, Royal Star engine; £15 cash; 8 till 9 p.m.— orrimore Rd., Walworth, S.E.

UDE'S.—Vindec Special, 5h.p., Bosch magneto, Truffault, 1908 model, two speeds; £36, or ex- —136, Great Portland St., W.

8 3h.p. N.S.U., butt-ended tube, H.B. control, non-skid, cut-out; £18, or exchange; offers in- —K., 261, High St., Hounslow.

ENIX Cob, 2h.p., B. and B., magneto, two speeds, footboards, condition perfect; £25, or close —66, London Rd., Twickenham.

8 3h.p. Rex, two-speed gear, free engine, handle starting, good as new; cost 50 guineas, price £35. t, 27, Montpelier St., London, S.W.

8 Matchless-J.A.P., 6h.p., twin, magneto, handle- bar control, spring forks, condition as new; £27. Plumstead Common Rd., Plumstead.

p. 1908 Rex Tourist, good condition, Palmers, spare Rich tube, belt, etc.; owner has no time; —Cullum, 8, Sunnyside Rd., Ealing.

p. N.S.U., twin-cyls., Bosch magneto, with sidecar, as new; £38.—On view, Holland Park Garage, s's Rd., Holland Park, London, W.

p. Bradbury, in good condition, long bars, foot- boards; seen any time; £12.—T. Hine, Station , Haydon's Rd., South Wimbledon.

p. Antoine, Longuemare, Whittle, spares, accessories, footboards, good running order; £11. — Boltz, lithorpe, Ashbridge Rd., Leytonstone.

TOR Cycle, 4h.p., twin Werner, spring forks, good condition; £12 only; must sell.—Apply, Kirkdale, Seven Sisters Rd., Finsbury Park, N.

06 Rex, 3h.p., £9 10s.; Clincher tyres, Brooks saddle, Shamrock-Gloria belt, ready for any ey.—22, The Avenue, Bruce Grove, N.

REXES.

NEW or SECOND-HAND.

You can't beat us on these machines.
Another supply of each model, with latest improve- ments, is now to hand, and very

SPECIAL

exchange allowances will be made against any make or condition of machine.

We can also supply

MOTO-REVES, DOUGLAS, N.S.U.'s, ROCS, BATS, BRADBURY'S, VINDECS, P. & M.'s.

"POPULARS."

1909 4 h.p. N.S.U. de Luxe, a beauty, NEW	£48 0
1909 two-speed HUMBER	35 10
1909 3h.p. REX Tourist, second-hand....	(offers)
1908 T.T. TRIUMPH, nearly as new	34 10
1908 3h.p. Two-speed REX, nearly new ..	29 10
1908 3h.p. Tourist REX (NEW).....	29 0
1908 REX, 3.6 h.p. R.A.C. rating	17 10
1908 3h.p. Magneto QUADRANT	28 10
1907 3h.p. Magneto REX	21 0
3h.p. two-speed PHELON & MOORE	22 0
1908 3h.p. 2-speed Magneto FAFNIR...	28 10
3 h.p. BRADBURY, low, 26in. wheels ..	13 10
3h.p. Magneto VINDEC, fine condition ..	22 10
1906 3h.p. REX, spring forks, M.O.V....	15 10
3 h.p. SINGER, belt drive, H.T. magneto..	19 10
3 h.p. ZEDEL, 26in. wheels, fine mount...	14 10
3 h.p. CLYDE, magneto, long bars	15 0
3h.p. EXCELSIOR, H.B. control, torpedo	9 10
3h.p. REX, handle-bar control.....	11 10
2h.p. LLOYDS, vertical, spray	8 10
2 h.p. MINERVA, spray, goes well	6 10
2 h.p. MINERVA, Lightweight, very low..	6 10
2 h.p. VICTOR, spray	5 10
2 h.p. WERNER, Lightweight, very low..	4 18

SIDE-CAR MACHINES.

1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer cords	32 10
5h.p. 2-speed REX DE LUXE, Conti- nentals	32 10
5h.p. REX DE LUXE, Roc clutch	27 10
1909 Twin N.S.U., two speeds, NEW	60 15
6 h.p. Twin REX and Forecar	22 10
5h.p. Twin REX, new tyres, black finish..	17 17
5 h.p. Twin ZENITH BICAR.....	19 0
6 h.p. Twin REX and Sidecar	20 0
4h.p. 4-cyl. F.N., magneto.....	23 10
6 h.p. Twin ANTOINE, R.O.M. ignition ..	17 10

Eight 5h.p. Twin Rexes, spring forks, long bars, low frames, aluminium finish blue lines, 26in. wheels. £17 17s.
Grand sidecar machines.

ONE EACH ONLY.

Brand New 1908 3h.p. N.S.U. 30 gns.
Brand New 1909 Two-speed HUMBER .. 38 "
Amac Carburetters. Liberal exchange.

EASY PAYMENTS.

5/- weekly and reasonable deposit secures any of these machines. All tested and ready for the road:

h.p.		h.p.	
3 Lloyd's	£13 10	3 Quadrant..	£10 0
3 Clyde	15 0	4 Coronet ..	15 0
4 Antoine ..	13 10	2 Werner ..	8 0
3 Humber ..	10 0	3h Werner ..	13 10
3h Rex	10 10	1h Thomas ..	8 0
3 Brown	12 10	2h Humber ..	8 10
4 Atelier	13 10	3 Bradbury..	10 10

Monster List on application.

SPECIAL EXCHANGE ALLOWANCES. GARAGE ROOM REQUIRED.

CARS.		TRICARS.	
16 h.p. Remo	£185 0	4h Bradbury..	£29 10
10-12 Brush ..	49 10	4h Rover, w.c.	22 10
8-10 Ford ..	39 10	5 Humber ..	33 0
6h Humberette	39 10	5h Rexette ..	29 10

All ready to drive away, and excellent value.

DE LUXE SIDECARS, 2h.in. Tyres; every- thing of the best..... £6 0

Foreign order terms: 25 per cent. deposit, balance against bills of lading. Packed, F.O.R. Halifax.

1908 Magneto Machines Wanted for Spot Cash.

The Halifax Motor Exchange,

"LARGEST REX DEALERS"

16, Westgate, Halifax.

MOTOR BICYCLES FOR SALE.

STAMFORD HILL.—1909 Humbers, two speeds, mag- neto; £45; from stock; exchanges; liberal allow- ances.—128, High Rd., South Tottenham.

2h.p. Brown, complete, and in excellent condition lamp, bag, horn; £10.—128, High Rd., S. Tot- tenham.

3h.p. Excelsior, 26in. wheels, low built, Longuemare, very powerful; £10.—128, High Rd., S. Totten- ham.

3h.p. Twin Peugeot, spring forks, magneto, Palmer tyres, all in excellent condition; £20.—128, High Rd., South Tottenham.

2h.p. Phoenix, two speeds, magneto, handle starting, a real gem, suit doctor; £18.—128, High Rd., S. Tottenham.

2h.p. J.A.P., low built, £10 10s.; 1h.p. Minerva, 2 long bars, very good condition, £5; 3h.p. M.M.O. vertical, girder forks, £6; 2h.p. Precision engined machine, £5; first cash takes.—128, High Rd., S. Totten- ham.

NEW 1909 3h.p. Minerva, ridden once, £5 worth spares; cost £44, sacrifice £34; owner bought twin same make.—546, High Rd., Goodmayes, Essex.

1909 Zenette, Gradua gear, 3h.p. Fafnir engine, cost £57 in March, not ridden 200 miles, as new; £37 10s. lowest.—Morgan, 84, Pentney Rd., Balham.

L.M.C., 3h.p., new in April, every latest improvement, tyres and enamel unscratched, all accessories; £36, or best offer.—K. Greig, 2, Ravenna Rd., Putney.

3h.p. Motor Cycle, as new, trembler coil, handle-bar control, very low built, enamelled French grey, very smart; £18 10s.—139, Balaam St., Plaistow.

2h.p. F.N. throughout, fast, climb any hill, long low, Bowdens, Dunlops; any trial; no room cause of sale; £16, no offers.—46, Eade Rd., Finsbury Park.

5h.p. Twin, R.O.M., Ideal fan, B. and B. handle-bar control, new condition; any trial; very fast; also sidecar; come and see it.—761, Garratt Lane, Tooting.

3h.p. Quadrant, spring forks, splendid hill-climber, most reliable, as new throughout, all spares; genu- ine bargain, £19.—29, Montford Place, Kennington, S.E.

3h.p. N.S.U. and Sidecar, 1908, magneto ignition 34 lin. belt, 26in. wheels, two-speed gear and free engine; £32; any trial.—Eagles and Co., High St., Acton.

REX, 3h.p., perfect order, £15; Rex, 3h.p., with cane sidecar, £13; Ormonde, 3h.p., less coil and accumulator, £7 10s.—Lucas, 390, High Rd., Chiswick.

3h.p. Zedel, private make, long build, thorough going order, tyres almost new; any trial; bargain £20 owner bought car.—W.R.P., 26, Hendon Lane, Finchley.

£6 10s.—2h.p. lightweight motor cycle, just been over- hauled; owner buying sidecar; can be seen at Head's Cycle Wks., 32, Fulham Palace Rd. No offers.

2h.p. Kerry, spring forks, long bars, low saddle spare Palmer tyre, numerous spares, guaranteed perfect; £9 10s.—Nicholls, 4, Ruston Mews, Nottin- Hill.

STANTON.—3h.p. De Dion, Roc clutch, and two speed gear, spring forks, Chater-Lea fittings, handle- bar control, low, absolutely perfect, thoroughly reliable £20.

STANTON.—3h.p. Quadrant, spring forks, almost brand new condition, reliable as a 1909 Bradbury £16.

STANTON.—3h.p. Quadrant, spring forks, fine little puller; exceptional bargain, £10 10s., worth double.

STANTON for 1909 Bradburys, cash or easy payments get my terms.—619, Lea Bridge Rd., Leyton, Lon- don.

MAUDE'S.—Rex de Luxe, 5h.p., Roc clutch, mag- neto, cantilever seat, with Millford castor wheel sidecar £32 10s., alone £27.—136, Great Portland St. W.

2h.p. Kerry, splendid order, long bars, new Peter Union; £11, or part exchange 3h.p. standar make; appointment.—James, 149, High St., Lewisham S.E.

TRIUMPH, new, 1908, perfect condition, not run 1,000 miles, rubber studded back tyre, Lucas lamp tools, etc.; £32.—L.C., 21, Parliament Hill, Hampstead N.W.

QUADRANT, 3h.p., 1907, splendid condition, ver- little used, fitted Osborne four-speed pulley; £22 10s., or near offer.—Bardill, 38, Bramley Rd., Nottin- Hill.

TOTTENHAM.—Moto-Reve, 1908, excellent condition magneto, £20; also 3h.p. Minerva, 1908, £15 10 —Matthews' Cycle Stores, 96, West Green Rd. 'Phon 1722.

MAUDE'S.—5h.p. Twin Jap, Bosch magneto, Longu- neto, cantilever seat; with Millford castor wheel in sound order; £20 nett.—136, Great Portland St., Lo- don, W.

BROWN, 2h.p., low seat, long bars, handle-bar co- trol, perfect running, like new; £10 10s., or ex- change for higher power.—34, Meanley Rd., Manor Par- Essex.

BRADBURY, 3h.p., nearly new, Clinchers, Longu- mare, two accumulators, Advance adjustable pulley, easy starter; a bargain, £11.—Outram, 63, High St. Sevenoaks.

1909 Triumph, Mabon clutch, tools, run 500 mile owner going abroad; must sell; price £43, nearest offer.—Apply, Wyman, Wimbledon Park Hous- Wimbledon.

In answering these advertisements it is desirable to mention "The Motor Cycle."

TRICARS FOR SALE.

h.p. Rexette, three seats, twin wheel, very reliable, in first-rate condition; must realise; £32 10s. — Garratt Lane, Tooting.

p. Rex Tricar, splendid condition, tyres good, Whittle belt, fan-cooled, accumulator, run week-only; £23, no offers.—Wadsworth, Newsagent, 7, Causeway, Farnworth.

UMBER 4h.p. Water-cooled Tricar, two-speed gear, coach-built body, fast and powerful machine, good appearance, excellent condition; £30 nett; trial run by applicant.—Dean, Carnforth.

h.p. Mills and Fulford art cane forecar, in splendid condition, good hill-climber; can be converted into in few minutes; £18, cost £50.—Clark, 88, Wash Rd., Rushden, Northants.

h.p. Riley Tricar, two speeds, water-cooled, studded back tyre, handle starting, in guaranteed condition; 23 guineas.—George, 736, Holloway Rd., London. Summerland Mansions, Muswell Hill.

h.p. Twin Givaudan, Longuemare carburetter, Bassee-Michel coils, Whittle belt, spare front wheel, and Mills-Fulford forecarriage, with car headlight; —Hamsher, 716, Lea Bridge Rd., Leyton.

ICAR, 5-6h.p., twin, air-cooled, Rex engine, accumulator ignition, spring frame, Osborne four-speed gear, handle starting, wing mudguards; photo-graph; £25.—No. 2,791, The Motor Cycle Offices, Coventry.

h.p. Tricar, water-cooled, three speeds, £25; 2h.p. Singer tricycle; perfect, £10; 1h.p. motor cycle, no reasonable offer refused; wanted, 6h.p. twin, or 1 and sidecar. — James, Wotton-under-Edge, Gloucestershire.

h.p. Stevens Water-cooled Tricar, three speeds, Hermetic car tyres on back, Clincher fronts, in perfect condition; £35; would consider exchange for motor bicycle.—Bent, 99, King Richard's Leicester.

GENIX Trimo, 6h.p., water-cooled, nearly new, two ignitions, heavy tyres, quite new, speedometer, etc.; £60, or close offer; would exchange with for modern small car.—G. C. Bedwell, Rosemont, Rythinton Rd., Cambridge.

h.p. Excelsior nearly new water-cooled powerful tricar, handle starting, like car, coach-built, Mabon 2h. foot brakes, 26 by 2, fast, Watawata, accessories; particulars sent; bargain, £28; exchanges entered.—45, Charles St., Stepney.

GENIX Tricar, 3h.p. Minerva engine, two speeds, free engine, car tyre on back wheel, Dunlops, leather apron, spares, splendid order; trial any time; good cycle taken in part payment; cash £21.—Letzer, Clarence St., Kingston-on-Thames.

p. Fainir, Chater-Lea, Watawata and Dermatine belts, Clincher tyres, new non-skid back, spares, two accumulators, light, fast, and powerful; any perfect condition; exchange good make single; 10s.—Nicholls, 4, Ruston Mews, Notting Hill.

RICAR, as new, 7h.p. De Dion pattern air-cooled twin, Longuemare, coach-built front, bucket back, shock belt, band brakes and belt rim, trembler coil, anything; expert examination invited; £33 10s., closest offer; bike as part.—139, Balaam St., Plaistead.

p. Riley Tricar, splendid condition, fast and powerful, just been thoroughly overhauled, coach-built, steel steering, acetylene and electric lamps, grooved Dunlops, and Grose non-skid, four spare tubes, complete touring condition; sacrifice for cash £35.—Luck, Earlsdon, Coventry.

OTLAND.—6h.p. Rex Triette, air-cooled, Amac handle-bar control, Whittle (new), 700 by 65 back, cover and tube, Polkey projector, car generator, tool, numerous spares; £30; the machine is in perfect condition, and in splendid running order; any trial on.—Jones, 122, North High St., Musselburgh.

ENITH Motors, Ltd.—Clearance bargains. New Zenette, Gradua gear, 1908; new Zenette, Mabon 1908; new Zenette, free engine, 1908; new shop-fitted Zenette tricar, with three-speed gear, 6h.p. J.A.P. line; also 1908 Triumph, fitted with Gradua gear. —Particulars and prices on application, 1, Church St., Derby.

1908 10-12h.p. Lagonda Tricar, water-cooled, three speeds and reverse, irreversible wheel steering, boggy boxes for coil, accumulators, generator, etc., tried on long rubber covered brass-bound footboards, acetylene headlights, electric side and tail lights, tyres all round, under screen to engine, front seat to try two, magnificent condition, complete with tools, spares, etc.; one of the most luxurious tricars ever built; price £70.—Capt. L., 13, Weighon Rd., Anerley, S.E.

SIDECARS AND FORECARS.

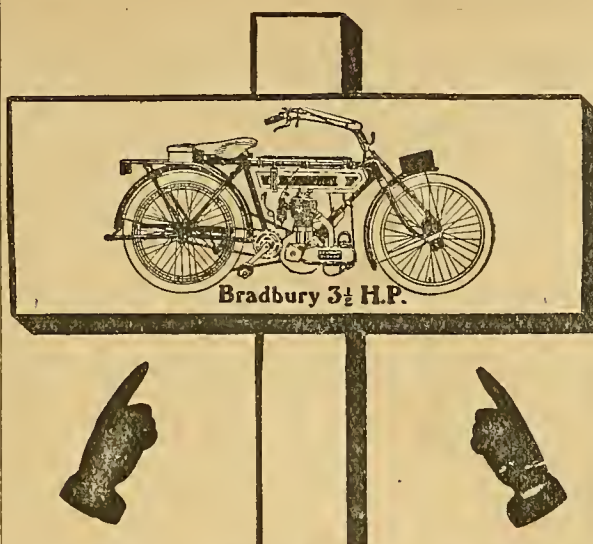
1h.p. White and Poppe Forecar, splendid condition; £15; trial given.—Whitaker, Green St. Green, Kingston.

RIEL Sidecar, rigid, left, adjustable, 26 by 24 Palmer, upholstered, splendid order; 65s.—18, High Hailsham.

FORECAR, Millford, cane basket, hand brakes, 26 by 24 Palmers, good condition; £4.—Arrow, 83, Rye Lane, Peckham.

IDECAR, rigid, upholstered, wicker chair, apron, 26 Michelin, unpunctured, as new; cheap, £3 10s.—Doddard, Southwold.

ONT Delay to write or you will be too late.—Minerva forecar, 4h.p., Palmers, Continentals; what offers?—13, Bank Parade Streatham.



THE FINGER POST TO ENJOYMENT

THE BRADBURY

3 1/2 h.p. MOTOR CYCLE.

To drive a motor cycle that is always requiring attention, and which cannot be trusted to climb anything but a mole-hill is not particularly enjoyable. It is only those who have experienced the delights of speeding comfortably along on a

Bradbury 3 1/2 h.p. Motor Cycle,

and secure in the knowledge that it is the reliable British-built machine, who know the full meaning of the word enjoyment as applied to motor cycling.

If you are interested, write for New Booklet and name of nearest Agent to

AWARDED 18 GOLD MEDALS, including the Special Gold Medal awarded to Mr. A. T. Stanton, of Leyton, in the London to Edinburgh Run.

Bradbury & Co. Ltd.
Wellington Works, Oldham.

SIDECARS AND FORECARS.

"CORONET" Sidecars, built of genuine Chater-Lea lugs, fit either right or left side.—Booth's Motories.

"CORONET" Sidecars must not be confused with the £4 19s. 11d. type; they look beautiful. Booth's Motories, Halifax.

"CORONET" Sidecars; price £5 17s. 6d.; fit as a rock, guaranteed free from side-ship. Booth's Motories.

"CORONET" Sidecars; £5 17s. 6d.; supplied from stock to suit any make of motor cycle.—Booth's Motories, Halifax.

"CORONET" Sidecars; £5 17s. 6d.; special attention is directed to the luxurious system of springing.—Booth's Motories, Halifax.

"CORONET" Sidecars; £5 17s. 6d.; comfortable as a motor car. Converts motor cycle into an ideal winter machine; superior to some £8 8s. makes.—Booth's Motories, Halifax.

GOOD Sidecar, for left side, rigid, 26in. wheel, good tyre, good condition throughout; £3 10s. Maude's, 136, Great Portland St., W.

FITEASY Sidecars, for narrow doors, wholesale and retail.—Middleton and Co., Manufacturers, W son St., Newington Green, London, N.

MONTGOMERY Flexible Sidecar, splendid condition, upholstered green, luncheon basket; price 70s. Farr, 27, Montpelier St., London, S.W.

SIDECARS, upholstered, fitted 26 or 28in. motor tyres, brand new; a dozen to clear at £4 4s. each.—Nelson Wks., 224, Pentonville Rd., London, N.

MILLS-FULFORD Castor Wheel, 26 by 2; cost £2 without tyre at Brown Bros. three months ago; 15s. for quick sale.—Heath, 36, Buscote St., King's Cross.

NEW Sidecars for any make of motor cycle, 24in. 26in., or 28in. wheel, smart, good delivery, from stock; approval; £4 17s. 6d.—Farrar, Square Rd., Halifax.

RIGID de Luxe Sidecar, enamelled, lined, and plated luxuriously sprung, everything of the best, 26 1/2 Clincher tyres; £6.—Motor Exchange, Westgate, Halifax.

SIMPSON'S Sidecars are reliable, comfortable, elegant, entirely different to other makes; write us; our prices are right.—Orchard Mills, Belinda St., Hunsford, Leeds.

FOR Sale, Phoenix Forecarriage, cane chair, upholstered, in first-class condition; £4 10s., or exchange for sidecar same value.—Buckley, Sunderland St., Middlesfield.

SIDECARS.—Best value in England; competition invited; inspection invited; prices £4, £5, and £5 15s. fitting free; established 1882.—C. A. Edgar, 123, Holloway Rd., London, N.

12 Guinea Sidecar, this year's model, only used twice, made throughout with genuine Chater-Lea fittings; sacrifice £6 8s.; appointment.—F. Woolgar, 13 Broomwood Rd., Clapham Common, S.W.

MONTGOMERY Flexible Sidecar, Model de Luxe, with basket under seat, not driven 200 miles, cost £13 10s., first offer of £7; absolutely perfect. Goulesbrough, The Sycamores, Harpenden.

NO, we're not dead. Only too busy to take any more orders last week. Remember, when we state we buy with Chater-Lea fittings, we use them, not imitation. We believe in supplying our customers with only the best. By using Chater-Lea fittings you get perfection. Our guarantee extends over five years, and we are the only firm giving a £20 guarantee against side-Trade supplied. Insist on your agent supplying an Orleigh sidecar, or order direct from us; price £5.—Oakley Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

TANDEMS.

LADY-BACK Motor Tandem, Phoenix, 2h.p., 10 built, 26in. wheels, splendid order and condition, any trial given; complete with lamp, tools, and many spares; £12.—Brodie, 1, Chester St., Grosvenor Place, S.W.

TRAILERS.

30S.—Trailer, splendid condition, new Clinchers; bargain.—Pensel and Wilson, Apsley End, Hem Hempstead, Herts.

QUADCARS.

4h.p. Royal Enfield, two speeds, free engine; £11 10s. Newton, 214, Brixton Hill, S.W.

31h.p. Ariel Quad, good condition, two-speed gear, 32 tyres good, and new chain and bucket seat from any trial; £12.—E. W. Odgers, Ivy Motor Wks., Cambridge.

QUADCAR, two speeds, wheel steering, coach made seats, climbs well, in perfect condition throughout, any examination.—Evelyn, 79, Plumstead Common Road, Plumstead.

BUSINESSES FOR SALE.

A CAPITAL Opening offers for establishing a garage and works at Oxted, no opposition; premises can be obtained at from £60 to £80 per annum.—Seale, Swale and Seale, Estate agents, Oxted.

In answering these advertisements it is desirable to mention "The Motor Cycle."

CARS FOR SALE.

ALMER.—8h.p. De Dion (genuine), 5-seater, swing seat side entrance, wonderful value; £45.

ALMER.—8h.p. Regal, tonneau, single-cyl., three speeds, reverse, cardan drive, 700 by 65 tyres; £45.

ALMER.—12-14h.p. Whitlock-Aster, tonneau, 4-cyl., in absolutely new condition; 100 mile trial; £75.

ALMER.—12-14h.p. Humber, 2-seater, 4-cyl., raked steering, push pedals, silent, speedy, reliable, low lt.; £85.

ALMER.—10-12h.p. De Dietrich, tonneau, 2-cyl., magneto and electric ignitions, splendid reliable; £55.

ALMER.—12-16h.p. M.M.C., tonneau, 2-cyl., three speeds, reverse, 810 by 90 Michelin tyres, economical car; £40.

ALMER.—12-16h.p. Panhard Delivery Van, 4-cyl., four speeds, solid tyres, carry about 18 cwt.; £65.

ALMER.—10-12h.p. Sandringham-Daimler Lorry, 2-cyl., complete with roomy van body; £65.

ALMER.—24h.p. Wolseley Tonneau, 4-cyl., folding screen, 920 by 120 Michelin tyres, perfect work-order; £35.

ALMER.—15-20h.p. Milnes-Daimler Detachable Brougham, 4-cyl., magneto, four speeds, splendid car; £65.

ALMER.—18-24h.p. Prunel Landulet, side entrance, 4-cyl., 880 by 120 Palmer cord tyres, splendid car; £25.

ALMER.—40h.p. De Dietrich, side entrance, limousine, latest type car, nearly new; cost £1,200, £325.

ALMER.—4h.p. Automotor, 2-seater, single-cyl., good running order, requires new radiator; £12.

N. PALMER, 190, Mellison Rd., Tooting. 'Phone, 208, Streatham. Photos, details, per return; cars here any day; Thursdays and Sundays before 2. Terms arranged. Exchanges entertained.

2h.p. 2-cyl. Napier Car, seats four, in good order; £45.—Knowles, West Hallam, Derby.

h.p. Light 2-Seater, fast car; £35, motor cycle part.—14, Zermatt St., Potternewton Lane, Leeds.

GENUINE Sunbeam-Maberley, two speeds, etc., less engine; £4 5s.—R. Nye, 83, Drewstead Rd., Streatham.

h.p. Model C.X. Stanley Steam Car; trial; bargain, first cheque £20.—W. G. Watson, Cycle Agent, Sale.

HUMBER Car, 6-8h.p., as new; £55; take magneto motor cycle part.—Hill, Princes Rd., Buckhurst Hill, Essex.

h.p. Baby Peugeot, three speeds, artillery wheels, speedy and economical, new condition and appearance; £35.—Below.

8h.p. Argyll, 2-seater, late type, dual ignition, exceptional condition; £42.—Sully, 10, Old Town, Clapton.

EUGEOT, 2-seater, 5h.p., wind screen, lamps, good running order; photo; £45.—Bouchier, 23, Taunton Rd., Bridgwater.

h.p. De Dion 2-seater, good order, or 5-6h.p. twin Zedel cycle and cash, for 1908 Triumph.—28, Nile St., Gillingham, Kent.

0-12h.p. Humber, 2-cyl., 3-seater, side entrance; £59, or exchange anything.—Ayden, 17, Blackstock Rd., Finsbury Park, N.

4h.p. Brooke, tonneau, five seats, 870 by 90 tyres, nearly new, splendid order; sacrifice £37 10s.—2, Garratt Lane, Tooting.

M.C., 8h.p., single-cyl., tonneau, artillery wheels, three speeds, reverse; bargain to clear, £19 19s.—5, Garratt Lane, Earlsfield.

h.p. M.M.C. Car, three and reverse, artillery wheels, suit commercial or doctor, easily managed; £28.—3, High Rd., S. Tottenham.

11h.p. Peugeot, 2-seater, magneto, three speeds and reverse, painted red; bargain, 50 guineas.—Above.

2-16h.p. Darracq, tonneau, three and reverse, fast, handsome car; £50.—Stamford H.M.C., 128, High Rd., S. Tottenham.

LDMSMOBILE, 6h.p., seats two, artillery wheels, Dunlop tyres, good condition, excellent hill-climber.—34, East Parade, Harrogate.

LDMSMOBILE, 2-seater, in splendid condition, ready to be taken away; can be seen and tried after 7; 4.—Hudson, 49, Poppleton Rd., Leytonstone.

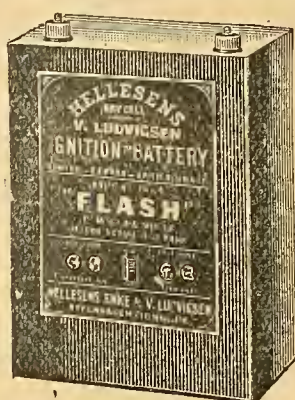
0-12h.p. 2-cyl. Tonneau Car, four speeds, cardan drive, live axle, perfect; £45, or exchange tricar for cash.—Sinclare, 48, Walton Rd., East Molesey.

IZAIRE, 9h.p., side entrance, 4-seater, fully equipped, four lamps; send stamp for particulars: £125; exchange.—Frank Edwards, 68, Murray Rd., Ealing.

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T.A.V.—Several second-hand and shop-soiled 5h.p., latest pattern; prices complete from £50 to £85. Long Acre Autocar Co., 117, Long Acre 5011 Ger. Rd.

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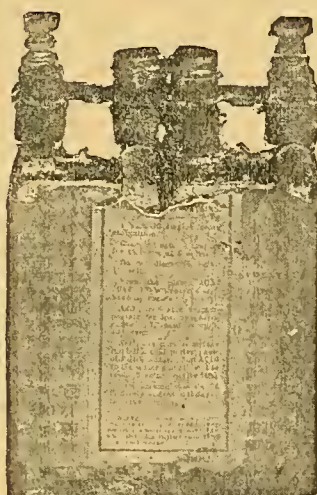
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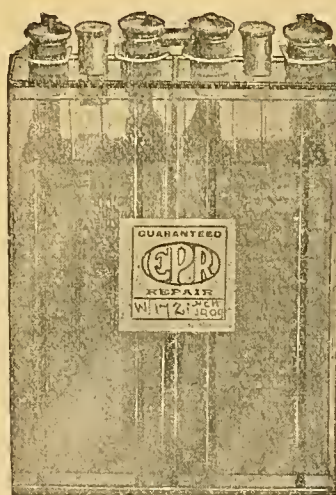
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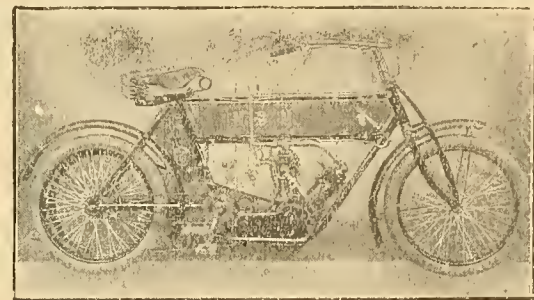
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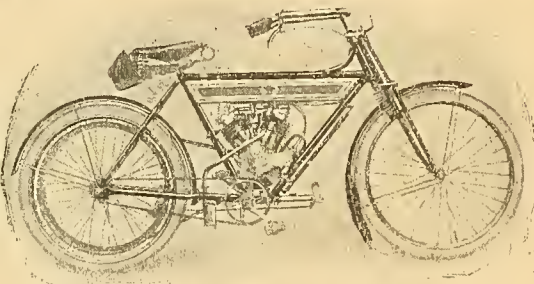
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WILL Give two typewriters, value £10, and cash till value £2, for motor cycle; stamp.—Edwards, 68, Murray Rd., South Ealing.

QUOTATIONS Given of the keenest for exchanges with 1909 Rex models. Try us.—Halifax Motor Exchange, Westgate, Halifax.

ENGINEER'S Tools, rifles, etc., for Bowden back and front brakes, send for list, or sell cheap.—No. 2,792, The Motor Cycle Offices, Coventry.

3 h.p. Quadrant, good order, spring forks, new tyre back wheel; £12; take push bike or gramophone part exchange.—List, Carr St., Ipswich.

3 1/2 h.p. Rex, 1908, too fast; exchange for 2 1/2 h.p. Douglas, or F.N., 1909, cash adjustment.—Box No. 2,755, The Motor Cycle Offices, Coventry.

BECK Quarter-plate £3 3s. camera, complete outfit, want belt rim brake; 700 hv 60 cover, any exchanges entertained.—66, Lordship Lane, S.E.

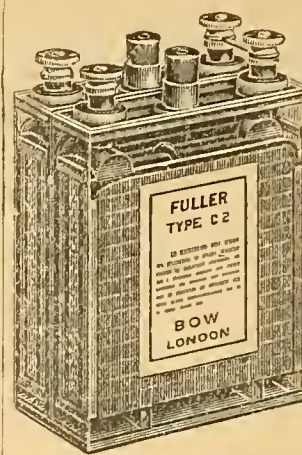
1909 Roc, 4h.p., single, variable pulley, tools, lamp, etc., for 1908 or 1909 Triumph, or 1909 Bradbury, or sell £35.—Broadhurst, Bank, Glossop.

1909 Roc, 4h.p., single, variable pulley, tools, lamp, etc., for 1908 or 1909 Triumph, or 1909 Bradbury, or sell £35.—Broadhurst, Bank, Glossop.

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TYPE.	AMP. HOURS.	PRICE.
REX	16	16
BROWN	20	17
MINERVA	20	17
C2	20	17

5/6 allowed on your accumulator in partment.

COILS.—Genuine Fuller

Midget Trembler - - Midget Non-trembler,

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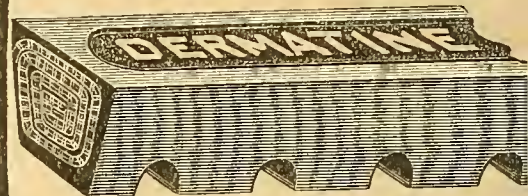
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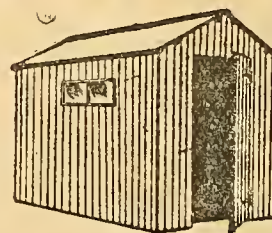
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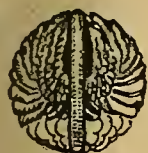


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THE MOTOR CYCLE



Vol. 7. No. 330.

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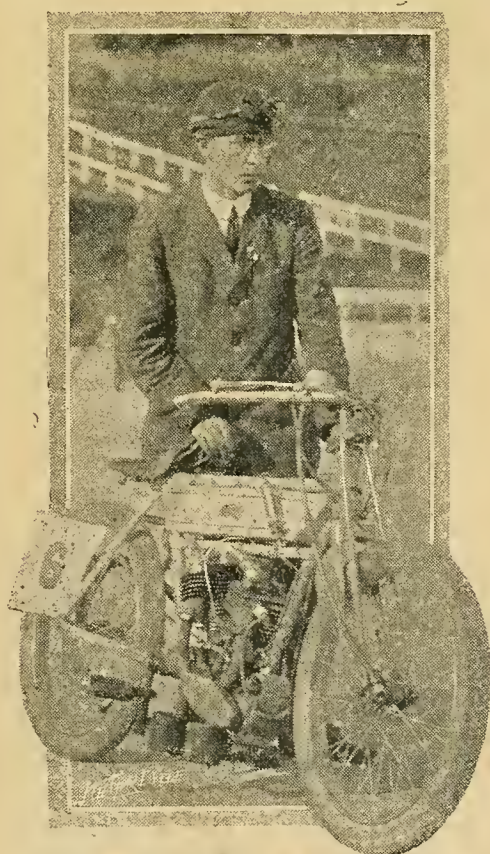
British Motor Cycle Racing Club.

FOURTH MEMBERS' MEETING.

THE young and vigorous British Motor Cycle Racing Club held another successful race meeting for its members on Wednesday last at Brooklands. The first event was the Novices' Handicap. Distance about 8¼ miles (fork start). For all classes of motor bicycles the cubical capacity of the engines of which did not exceed 1,000 cc., open only to those members who had never won a first prize in any motor cycle race held on an enclosed track. The machines entered had to be the *bonâ fide* property of the riders. Previous to the actual event a timed race was run off, on the performances in which the handicaps were based. It was announced that, should a competitor improve his time by a margin exceeding 2½% of the preliminary run, he should be disqualified from taking a prize. First prize, Brooklands silver cup, value £4; second prize, Brooklands silver cup, value £3; third prize, any article to be chosen by winner, value £1; fourth prize, value 12s. 6d.; fifth prize, value 7s. 6d. The starters were A. E. Morgan (5 h.p. Rex), A. Pennington (3½ h.p. Triumph), G. G. Mead (7 h.p. V.S.), W. H. S. Sharpe (3½ h.p. Triumph), H. E. Parker (7 h.p. N.L.G.), F. A. Hardy (3½ h.p. Norton), W. H. Wells

(5 h.p. Indian), M. Exshaw (3½ h.p. Zenith), and M. Krause (5 h.p. V.S.) Result: 1, Mead; 2, Wells; 3, Krause; 4, Pennington; 5, Morgan; Sharpe and Hardy. This and all the other races were started at the fork and finished down the straight, so that if one remained in the paddock it was impossible to follow the progress of the events. On the next occasion, however, we understand that both start and finish will be at the fork, so that the events will be much more interesting.

The next event was the All-comers' Handicap. Distance about 8¼ miles. For all classes of motor bicycles the cubical capacity of the engines of which did not exceed 1,000 cc. and not less than 450 cc. First prize, £1 1s.; second prize, 12s. 6d.; third prize, 7s. 6d., or value. The starters were: H. E. Parker (7 h.p. N.L.G.), scratch; C. R. Collier (6-7 h.p. Matchless), 40s.; H. A. Collier (6-7 h.p. Matchless), 40s.; W. H. S. Sharpe (5 h.p. V.S.), 45s.; W. H. Wells (5 h.p. Indian), 52s.; G. Lee Evans (5 h.p. Indian), 52s.; H. H. Bowen (3½ h.p. Bat), 1m. 12s.; A. G. Fenn (3½ h.p. Bat), 1m. 20s.; F. A. McNab (3½ h.p. Trump-J.A.P.), 1m. 32s.; F. A. Hardy (3½ h.p. Norton), 2m. 15s. Result: 1, Bowen; 2, Lee Evans;



G. G. Mead (7 h.p. Twin V.S.), winner of the Novices' Handicap.

British Motor Cycle Racing Club.—

3, Parker; McNab, Wells, H. Collier, C. Collier, and Sharpe. Winner's speed $62\frac{3}{4}$ miles per hour. The first event resulted in the following handicap: Mead, scratch; Wells, $5\frac{2}{5}$ s.; Krause, $16\frac{2}{5}$ s.; Pen-

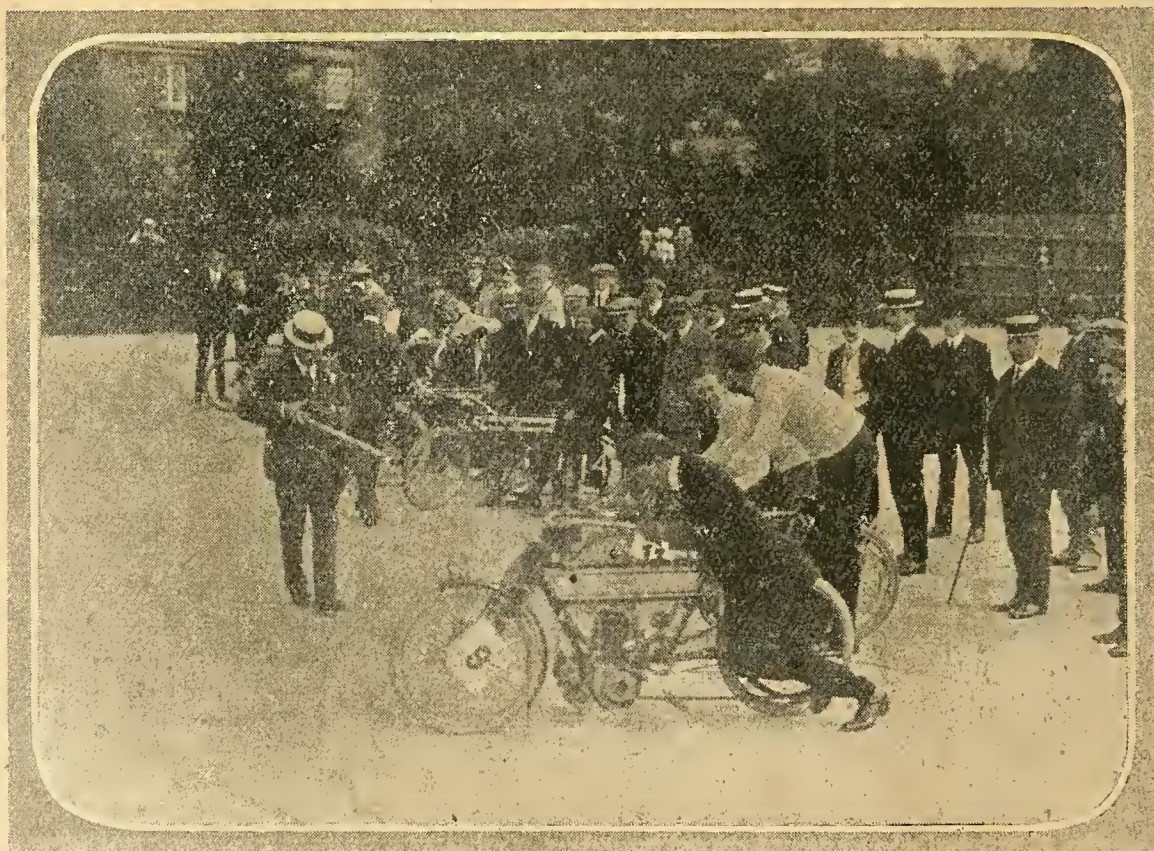
nington, 1m. $18\frac{4}{5}$ s.; Morgan, 2m. $30\frac{2}{5}$ s.; Sharpe, 2m. $31\frac{3}{5}$ s.; Hardy, 3m. $40\frac{3}{5}$ s. At the end of the first lap, viewed from the fork, Pennington was leading, followed by Morgan and Sharpe. After an interval came Krause, Wells, and Mead. In the second lap Pennington was still leading, and after him came Morgan, Sharpe, Wells, and Krause. The finish was in the following order: Morgan, Pennington, Mead, Wells, and Krause. Winner's speed about $53\frac{3}{4}$ miles per hour. Pennington and Krause were disqualified for exceeding their time limit.

After tea there followed the record time trials, divided up into five classes: Class A, up to 275 cc.; Class B, up to 350 cc.; Class C, up to 500 cc.; Class D, up to 750 cc.; Class E, up to 1,000 cc. The competitors ran the reverse way from the fork to the railway straight, owing to the wind. There was some delay in starting, owing to a defect in the Brooklands electrical timing apparatus, thought at first to be a short circuit, but found afterwards to be due to the observer sitting peacefully with one foot on the contact strip. On the next page will be found the results of the competitors' attempts on the class records. It will be noticed that three records were broken, probably the most surprising being the wonderful speed attained by H. H. Bowen on a single-cylinder Bosch magneto ignited Bat-J.A.P.

The timekeepers were Major F. Lindsay Lloyd, R.E., Capt. F. Bagnall Wild, R.E., and Mr. A. V. Ebbelwhite. Mr. A. G. Reynolds was unable to be present, owing to the effects of his recent accident, but his brother was present, as was also Mr H. A. Macdonald, one of the A.C.U. judges, who went right through the Six Days' Reliability Trials.

The T.T. Handicap

followed. Distance about $8\frac{1}{4}$ miles. For all classes of motor bicycles the cubical capacity of the engines of which did not exceed 750 cc. First prize, £1 1s.; second prize, 12s. 6d.; third prize, 7s. 6d. The starters were: H. A. Collier (6-7 h.p. Matchless), scratch; H. H. Bowen ($3\frac{1}{2}$ h.p. Bat), 52s.; W. H. Wells (5 h.p. Indian), 12s.; G. Lee Evans (5 h.p. Indian), 12s.; G. G. Mead (7 h.p. V.S.), 35s.; A. G. Fenn ($3\frac{1}{2}$ h.p. Triumph), 40s.; F. A. McNab ($3\frac{1}{2}$ h.p. Trump-J.A.P.), 52s.; H. V. Colver ($3\frac{1}{2}$ h.p. Matchless), 52s.; G. L. Fletcher (2 h.p. Moto-Rêve), 2m. At the end of the first lap the machines



The All-comers' Handicap. F. A. Hardy ($3\frac{1}{2}$ h.p. Norton) starting.

Start of the Novices' Handicap. Distance, $8\frac{1}{4}$ miles.

British Motor Cycle Racing Club.—

RESULTS OF RECORD TIME TRIALS, 14th JULY, 1909.

Name of Rider.	Machine.			Cylinder Capacity.	B.M.C.R.C. Class.	Time in Seconds.		Speed in M.P.H.	
	Make.	No. of Cyls.	Bore and Stroke. mm.			Kilometre.	Mile.	Kilometre.	Mile.
*G. Lee Evans	Indian	2	70 × 83	638	D	34.569	55.640	64.711	64.702
*H. H. Bowen	Bat-J.A.P.	1	85 × 85	482	C	34.403	56.002	65.023	64.283
A. G. Fenn	Triumph	1	85 × 88	499	C	35.653	57.564	62.743	62.539
W. H. Wells	Indian	2	70 × 83	638	D	37.695	60.699	59.345	59.309
F. A. McNab	Trump-J.A.P.	1	85 × 85	482	C	37.362	61.372	59.873	58.659
G. G. Mead	Vindec Special	2	75 × 76	672	D	37.288	61.620	59.992	58.422
H. A. Collier	Matchless-J.A.P.	2	76 × 82	744	D	37.820	61.872	59.149	58.185
W. H. S. Sharpe	Triumph	1	84 × 86	476	C	46.345	76.279	48.268	47.195
*G. L. Fletcher ..	Moto-Rêve	2	50 × 70	274	A	48.641	79.213	45.990	45.447

*Gains certificate for best performance in his class.



At the Cat and Fiddle, Cheshire, on the fifth day of the A.C.U. Trials This inn is 1690 feet above sea level, and is generally considered to be the highest public house in England, but that honour belongs to the Tan Hill House, Yorkshire, which is 1727.3 feet above the level of the sea.

NOTES ON THE SIX DAYS' TRIALS.

The cause of Mr. Fenn's retirement was the breaking of an outside bearing in the timing gear and not in the magneto transmission gear as stated.

The only two Matchless motor bicycles entered were ridden by purely amateur riders, and one of these machines went through the End-to-end last year.

Owing to an unfortunate error, Mr. R. King (3½ h.p. Triumph) was reported in our last issue to have retired on the last day of the A.C.U. Six Days' Trials. This was not the case, as Mr. King was one of those fortunate competitors who ran through the whole competition without losing a mark.

Expanding pulley gears are said to be severe on belts, but Barnes (3½ h.p. Zenith-Gradua) used the same Stanley belt throughout the trials, and after 1,024½ miles it appeared in good condition.

The retirement of the twin Rex and sidecar on the last day of the Trials was caused by a broken frame, but this was not due to any fault in the manufacture, but solely to the accident which occurred on the Thursday, when in failing to negotiate a corner at high speed the driver ran the machine into a bank, buckling the front forks, front wheel, and the frame. The forks and wheel were replaced at Shrewsbury, but it was naturally impossible to replace the damaged frame. The combination had done exceedingly well and gained full marks up to the time of the accident.

One competitor went to the extent of carrying a spare

piston in a leather wallet, and a set of canvas mud protectors rigged up on sticks. We did not, however, see the device in use.

The thanks of all those concerned in the trials are due to all those chief constables through whose districts the routes passed. Not a single case of police interference was reported, though several of the areas traversed are reputed to be by no means free of traps. In many cases the police were of valuable assistance.

Mr. A. G. Reynolds fortunately made a rapid recovery from the nasty accident he suffered. He was well enough to be driven home in the Humber, and we are glad to say still continues to progress favourably enough to attend his business.

Holroyd, the rider of the Motosacoche, was received with vociferous cheers when he entered the Chequers' yard on Saturday. They were deserved, as the little machine really distinguished itself. The performances of the last named, the Moto-Rêves, and the Douglas on the hills were also much appreciated by the spectators.

A. T. Stanton's retirement was due to ill-luck. By some unaccountable means his lubricating oil tank was filled with what was afterwards discovered to be "varnish," although it was poured from a Vacuum tin. The Bradbury engine was practically ruined within the first forty miles, but Stanton kept doggedly on, and completed the greater part of the trial unofficially. The other four Bradburys in the trial finished successfully.

The A.C.U. Trials: List of Marks Lost.

Rider and machine.	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	REMARKS.*
W. H. Outwin (3½ h.p. Triumph)	0 ...	0 ...	16 ...	0 ...	— ...	—	Retired fifth day, upset while trying to avoid cart near Stone.
E. Nelson (5 h.p. Rex)	0 ...	— ...	— ...	— ...	— ...	—	Retired second day broken connecting rod.
A. D. Draper (3½ h.p. Matchless)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent, same tyres throughout, no replacements or renewals.
A. M. Tatham (3½ h.p. Matchless)	0 ...	0 ...	0 ...	0 ...	— ...	—	Retired fifth day. Broke exhaust valve, replaced at Crewe, failed to take corner after Macclesfield through failure of exhaust lifter. Collided with wall and retired.
C. Williams (3½ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent, magneto shield effective. Tyres, Clincher at first; bead of rear tyre came away last day. Changed to Palmer, one puncture. Used Shamrock and Stanley belts, latter for low gear.
G. H. Lake (3½ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent throughout. Cowey indicator satisfactory and useful. Clincher tyres gave no trouble.
W. Douglas (2¾ h.p. Douglas)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition very good. Two Stanley belts used alternately. Rubber pedals and footrests much worn. Machine has evidently seen much service. One puncture Shamrock non-skid tyres.
J. V. Robinson (2¾ h.p. Douglas)	0 ...	0 ...	— ...	— ...	— ...	—	Retired second day. Crankshaft broken through flaw.
P. Phillips (2¾ h.p. Douglas)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Used two Stanley belts alternately. R.O.M. tyres, no punctures. Ground exhaust valve once.
F. Dover (3½ h.p. Triumph)	116 ...	0 ...	0 ...	0 ...	0 ...	—	Retired sixth day.
W. O. Bentley (3½ h.p. Rex)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Same tyres throughout. No renewals.
F. G. Boddington ... (3½ h.p. Rex)	0 ...	0 ...	0 ...	17 ...	33 ...	14	Condition fair. Wheel and engine bearings a trifle slack. Replaced exhaust valve. Tyres Shamrock, no punctures. Used two Stanley belts which had seen service before the trials.
B. H. Davies (6 h.p. Advance)	0 ...	0 ...	0 ...	0 ...	— ...	—	Retired fifth day near Buxton. Broke pin in timing gear.
A. L. Ommamey (5 h.p. Rex)	9 ...	0 ...	10 ...	— ...	— ...	—	Retired fourth day. Seized piston.
H. Bevir (3½ h.p. L.M.C.)	0 ...	0 ...	7 ...	— ...	— ...	—	Retired fourth day. Timing gear trouble.
W. H. Wells (5 h.p. Indian)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent throughout. No renewals except new Michelin tyre fitted. Chains gave no trouble.
G. Lee-Evans (5 h.p. Indian)	0 ...	0 ...	0 ...	0 ...	0 ...	—	Retired sixth day. Seized piston near Cirencester.
W. Pratt (3½ h.p. P. and M.)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Chains unadjusted. Everything in good order.
R. Moore (3½ h.p. P. and M.)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Chains a trifle slack but untouched. Tyres Palmer Cord, one puncture.
W. Milnes (3½ h.p. P. and M.)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Chains unadjusted.
T. Canby (3½ h.p. P. and M.)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition very good. Mudguard bent through accident and lamp broken. Chains untouched. Cowey indicator, broken transmission. One puncture. Changed back cover Palmer.
R. M. Brice (3½ h.p. Brown)	0 ...	0 ...	0 ...	0 ...	— ...	—	Retired fifth day. Collided with wall when trying to avoid child shortly after leaving Shrewsbury.
J. Slaughter (3½ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Bent footrest, broke rear lamp and bracket, and damaged pedal through fall. Hub clutch in good order. Tyres Clincher. Two punctures. Used Dermatine belt, worn slightly.
J. T. Bashall (3½ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	70 ...	—	Retired sixth day. Broke engine-shaft ball race near Abingdon.
W. H. Bashall (6-7 h.p. Bat)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Lamp bracket and exhaust lifter broken through accident. R.O.M. tyres satisfactory. Shamrock belt 4-1 throughout. Right footrest bent contact with stone.
H. H. Bowen (6-7 h.p. Bat)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent throughout. Broke lamp bracket. R.O.M. tyres. No punctures. Two belts used. In good order.
A. G. Fenn (6 h.p. Bat)	7 ...	0 ...	0 ...	— ...	— ...	—	Retired third day. Fell and broke outside bearing through hitting rock.
T. H. Tessier (7 h.p. Bat)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent throughout. Same tyres used throughout.

The A.C.U. Trials : List of Marks Lost.

Rider and machine.	MARKS LOST.						REMARKS.*
	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	
W. Smith (2 h.p. Moto-Rêve)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Slight play in head and back wheel. Used two Watawata belts alternately. R.O.M. tyres. No punctures. Replaced two plugs and two inlet springs.
G. L. Fletcher (2 h.p. Moto-Rêve)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Front mudguard shaky, broken in collision. Also lamp glass. Tyres 2in. and 1 $\frac{3}{4}$ in. R.O.M. satisfactory. One puncture. Watawata belt used throughout. Gears 6 $\frac{1}{2}$ to 1 and 6 to 1.
G. L. Andrews (2 h.p. Moto-Rêve)	0 ...	0 ...	— ...	— ...	— ...	—	Retired third day. Timing gear spindle broken, stripped teeth of magneto drive.
A. J. Sproston (5 h.p. Rex)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. No renewals. Same tyres used throughout
R. Lord (5 h.p. Rex and sidecar)	0 ...	0 ...	0 ...	86 ...	6 ...	—	Retired sixth day. Broken frame damaged by accident.
O. C. Godfrey (3 $\frac{1}{2}$ h.p. Rex)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good throughout. R.O.M. tyres satisfactory. Changed one old cover. No punctures.
F. Phillips (3 $\frac{1}{2}$ h.p. Scott)	0 ...	0 ...	— ...	— ...	— ...	—	Retired second day. Reported to have broken roller bearing on big end.
A. H. Ormerod (3 $\frac{1}{2}$ h.p. Scott)	— ...	— ...	— ...	— ...	— ...	—	Retired first day. Reported to have withdrawn through tyre troubles.
F. Southam (3 $\frac{1}{2}$ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Excellent condition throughout. Tyres Palmer Cord back, fabric front. No punctures. 1909 model.
R. W. Duke (3 $\frac{1}{2}$ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good, including lamps and mudguards. Continental tyres (changed front) satisfactory. No mechanical trouble. Stanley belt 4 to 1 and 5 $\frac{1}{2}$ to 1 for hills. Same machine used in End-to-end last year.
F. C. Mustard (3 $\frac{1}{2}$ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. No replacements.
J. O. M. Dixon (5 h.p. Vindec)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Tyres both Dunlops. Changed rear tyre first night and fitted R.O.M. No tyre troubles after first day. Gear 4 $\frac{1}{2}$ to 1 and 5 to 1 for hills. Two Shamrock Gloria belts. Quite satisfactory.
J. Holroyd (1 $\frac{1}{4}$ h.p. Motosacoche)	0 ...	0 ...	0 ...	121 ...	0 ...	0	General condition excellent. Slight play in front wheel. Same covers used all through. No punctures. No renewal.
J. F. Crundall (3 $\frac{1}{2}$ h.p. Humber)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Watawata belt. Tyres Dunlops.
F. Edmond (3 $\frac{1}{2}$ h.p. Humber, two-speed)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Tyres Dunlops. One puncture. Bent footboards. Damaged lamp and gear levers through fall. Used Watawata belt for general use, rubber belt for hills. Gears used 4 to 1, 8 to 1, 5 to 1, and 10 to 1.
A. V. Sumner (3 $\frac{1}{2}$ h.p. Humber, two-speed)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Belts Watawata and Stanley used alternately. Footboards slightly damaged and lamp dented through fall. No punctures, nail catcher fitted.
O. Parker (3 $\frac{1}{2}$ h.p. Humber)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Play in both wheels. Front brake broken, frayed by lamp being loose. Pedal and crank bearing loose. Tyres Dunlop front, Palmer back. Latter changed first day. Two Watawata belts, short one used for hill-climbs.
P. J. Evans (3 $\frac{1}{2}$ h.p. Humber)	0 ...	0 ...	11 ...	0 ...	0 ...	0	Condition excellent. Tyres R.O.M. One puncture. Belts, rubber in good order, Watawata little used. Broke lamp and generator in accident.
F. C. Wood (4 h.p. N.S.U.)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Machine and engine fairly clean. Condition including gear excellent. Top gear 4 $\frac{1}{4}$ to 1. Reduction 33 $\frac{1}{3}$.
W. F. Newsome (3 $\frac{1}{2}$ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent throughout. Tyres Dunlops. No trouble. Used one Stanley belt. Gears used 4 $\frac{1}{4}$ and 5 to 1.
J. Marshall (3 $\frac{1}{2}$ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent throughout. Machine and engine very clean. Tyres Dunlops. Treads almost as new. Two punctures. Gears used 4 and 4 $\frac{3}{4}$ to 1. Two belts used to alter gear.
G. Gibson (3 $\frac{1}{2}$ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Machine fairly clean. Engine oily. Tyres Dunlops satisfactory. One puncture. Condition excellent.
H. Berwick (3 $\frac{1}{2}$ h.p. Excelsior)	0 ...	0 ...	0 ...	0 ...	0 ...	—	Retired sixth day. Broken connecting rod near Worcester.
H. D. Teage (3 $\frac{3}{4}$ h.p. Premier)	0 ...	0 ...	11 ...	— ...	— ...	—	Retired fourth day. Tank trouble.
G. E. Stanley (3 $\frac{1}{2}$ h.p. Premier)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition very good. Tyres Dunlops satisfactory. One puncture. Side play in crankshaft bearings.
R. W. Walker (3 $\frac{1}{2}$ h.p. Premier)	34 ...	0 ...	— ...	— ...	— ...	—	Retired third day. Tank trouble.

The A.C.U. Trials : List of Marks Lost.—

Rider and machine.	MARKS LOST.						REMARKS.*
	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	
A. Weatherilt (3½ h.p. Zenette)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Lamp bracket broken. Front wheel loose. One side of carrier broken. Front brake shoe missing. Front tyre Continental renewed.
F. W. Barnes (3½ h.p. Zenith)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. New Shamrock tyre fitted to back wheel.
J. W. Morris (3½ h.p. Bradbury)	0 ...	0 ...	0 ...	0 ...	0 ...	6	Condition good. Generator clip broken. Front mudguard fastening broken. Same tyres used throughout.
G. Simpson (3½ h.p. Bradbury)	0 ...	0 ...	189 ...	15 ...	0 ...	9	Condition fair. Lamp missing, bracket broken, rear wheel loose, front fork broken. Same tyres throughout. Bent footrests through fall.
P. Platt (3½ h.p. Bradbury)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition fair. Broken oil pipe. Front fixing of tank broken, reputed through accident. Tyres Clinchers. Two punctures. Used two Lycett belts, one for low, other for high gear.
J. Eastwood (3½ h.p. Bradbury)	0 ...	0 ...	0 ...	0 ...	0 ...	9	Condition good. Engine oily. Magneto chain broke. Tyres Clincher-Dreadnoughts. No punctures. Used two Lycett belts
A. T. Stanton (3½ h.p. Bradbury)	178 ...	— ...	— ...	— ...	— ...	—	Retired second day. Seized engine through bad oil. Tin reported to have been filled with varnish.
G. E. Carrow (3½ h.p. T.T. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. New front tyre (Dunlop) fitted. No renewals.
R. King (3½ h.p. Triumph)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Machine dirty, engine oily, otherwise condition good. Palmer tyres excellent. Both rims dented through stones. Broke exhaust valve. Gears 4½ to 1 and 5¼ to 1. Free engine, useful on level but not on hills.
F. S. Barnwell (3½ h.p. Triumph, Roc two-speed gear)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Play in back wheel. Slight petrol pipe broken (reported before trial). Palmer cord tyres. Two punctures. One Shamrock belt untouched.
T. Woodman (7 h.p. V.S.)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Nut broken on carrier. Tyres Peter Union untouched throughout. Belt changed last day, fastener broke.
S. Osborne (3½ h.p. Osborne)	0 ...	35 ...	— ...	— ...	— ...	—	Retired third day. Petrol union came unsoldered from tank near Devil's Bridge.
H. B. Lewis (3½ h.p. Triumph)	0 ...	12 ...	0 ...	0 ...	0 ...	0	Condition very good. Broke exhaust valve. Bent pedal spindle and footrest through fall. Tyres Dunlops. Three punctures. Used two Shamrock belts, one going at fastener.
R. Fletcher (3½ h.p. Premier)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition good. Spring fork joints somewhat worn. Used two Shamrock belts and one Watawata, latter in good order. Tyres Continental front, R.O.M. back. One puncture.
Rev. B. Aston (3½ h.p. Triumph, 1907 model)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Front brake broken. Changed exhaust valve and plug as a precaution. Used Shamrock-Gloria belt for a few miles and Stanley for remainder. Tyres Dunlop front, no punctures. Palmer back, four nail punctures. Used Rich tubes.
A. Baker (1½ h.p. Wolf)	173 ...	98 ...	— ...	— ...	— ...	—	Retired third day. Ran into wall and buckled wheel.
A. J. Stevens (3 h.p. Wolf)	0 ...	0 ...	0 ...	0 ...	0 ...	0	Condition excellent. Small pin missing out of exhaust lift lever. New footrests and pedals fitted. Same tyres used all through. Stand loose.
P. E. Tolfree (5 h.p. Roc and sidecar)	0 ...	0 ...	— ...	— ...	— ...	—	Retired third day. Broken frame.
J. Miller (4 h.p. Zenith and sidecar)	0 ...	0 ...	29 ...	0 ...	† ...	‡	Ran into hedge on taking corner at Hankelow. Back mudguard broken. Back brake rod bent but brake working. Levers and fittings much knocked about. Sidecar body broken. Cowey indicator broken. Silencer wired on. Used two Stanley belts, one worn out other in fair order. Tyre Peter Union on sidecar wheel good, used Continental tyre first day. Clincher tyre front in good order, rear Clincher changed to R.O.M., which is unevenly worn. Broken petrol pipe.
W. Pershke (6 h.p. Puch and sidecar)	0 ...	0 ...	0 ...	— ...	— ...	—	Retired fourth day. Accidentally damaged armature of magneto.

*For the extremely useful and interesting remarks mentioned after each machine we are indebted to the judges, Messrs. Cove, Brooker, and Reynolds, who kindly placed their notebooks at our disposal, from which these notes are taken.

† No record. ‡ Lost all marks.

Bracketed names represent teams competing for special team prize.

N.S.U.

Six days' A.C.U. Reliability Trial.

The 4½ h.p. Single Cylinder (fitted with 2-speed gears)
N.S.U. Model de Luxe gained full marks on running time and made fine performances on the severest hills.

When comparing this performance it must be remembered that this machine was the only N.S.U. entered, and was driven by a private owner—Mr. F. C. Woods.

**HERTFORDSHIRE COUNTY A.C. HILL CLIMB.
CLASS--C.**

N.S.U. 3½ h.p. Twin FIRST.

Ridden by a private owner.—Mr. Leslie Munro.

N.S.U. Motor Company, Ltd.

Offices and Showrooms:

186, GREAT PORTLAND ST., LONDON, W.

Goods and Repairs:

83-85, BOLSOVER ST., LONDON, W.

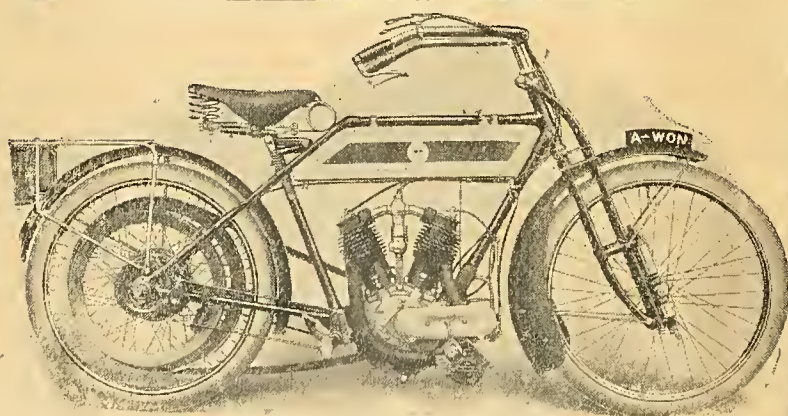
A.J.W.

One Hundred per cent. 1000 Mile Trial.

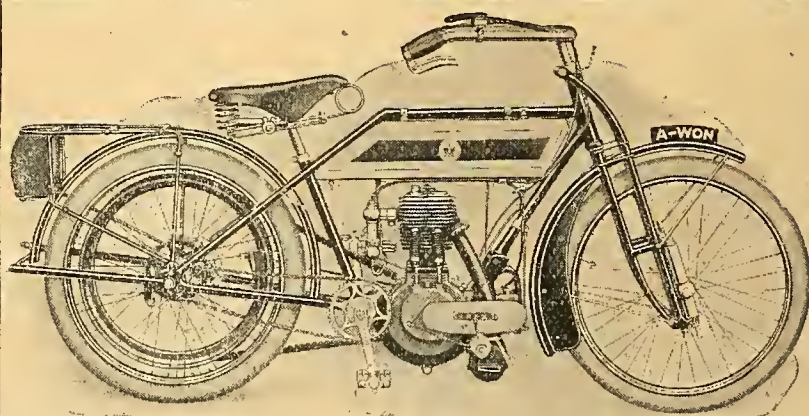
Mr. W. O. Bentley, $3\frac{1}{2}$ h.p. Standard
Speed King Rex (lost no marks).

Mr. O. C. Godfrey, $3\frac{1}{2}$ h.p. Standard
Tourist Rex (lost no marks).

These were the only $3\frac{1}{2}$ h.p.
1909 Rex entered.



5 h.p. 1909 Rex de Luxe, fitted with Rex adapted Roc
Clutch and Rex two-speed gear. Price 53 Guineas.
 $3\frac{1}{2}$ h.p. ditto, ditto. Price, 50 Guineas.



$3\frac{1}{2}$ h.p. 1909 Rex. Price, 40 Guineas.
5 h.p. 1909 Rex. Price, 43 Guineas.

The Rex Motor Manfg. Co., Ltd., COVENTRY.

The SIX DAYS RELIABILITY TRIALS

JULY 5th - 10th



1



2



3



4



5



6



7



8



9



10



11



12

(1) Climbing Dinmore Hill (between Hereford and Leominster) one of the beauty spots of the route. (2) Douglas motor cycles on Much Wenlock. (3) W. F. Newsome (3½ h.p. Triumph) and R. Lord (5 h.p. Rex and Sidecar) at the summit of Much Wenlock. (4) A halt by the wayside. (5) J. S. Holroyd, who successfully rode the lowest powered machine—a 1½ h.p. Motosacoche. (6) Spurning the dust on a gradual rise. (7) Competitors leaving Matlock Bath on the fifth day. (8) F. C. Wood (two-speed N.S.U.) who gained all possible marks for reliability. (9) J. F. Crundall (3½ h.p. Humber) climbing Blaenau Festiniog. (10) T. H. Tessier's 6-7 h.p. Bat-J.A.P. making light work of Birdlip Hill. (11) A non-competitor, on a 5 h.p. Twin Rex, showing some of the competitors how they should ascend Birdlip. (12) Starting well. A load of young enthusiasts awaiting the arrival of the competitors near Cressage.

Hill-climb Performances from Observations on Steepest Portions.

Rider and machine.	DINAS MAWDDWY. Surface perfect, strong contrary wind, raining.	BLAENAU-FESTINIOG. Surface rough, contrary wind, fine.	BIRDLIP. Surface perfect, wind favourable, fine.
A. D. Draper (3½ h.p. Matchless) ...	Dismounted	Excellent	Pedalled
C. Williams (3½ h.p. Triumph) ...	Pedalled	Pedalled slightly	Pedalled
G. H. Lake (3½ h.p. Triumph) ...	Dismounted	Dismounted	Dismounted
W. Douglas (2¾ h.p. Douglas) ...	Dismounted	Pedalled, good	Pedalled, good
P. Phillips (2¾ h.p. Douglas) ...	Dismounted	Pedalled, good	Pedalled, good
W. O. Bentley (3½ h.p. Rex) ...	Dismounted	Successful	Dismounted
F. G. Boddington (3½ h.p. Rex) ...	Dismounted	Dismounted	Dismounted
W. H. Wells (5 h.p. Indian) ...	Dismounted	Good	Excellent
W. Pratt (3½ h.p. P. and M.) ...	Excellent	Excellent	Excellent
R. Moore (3½ h.p. P. and M.) ...	Dismounted	Dismounted	Dismounted
W. Milnes (3½ h.p. P. and M.) ...	Excellent	Excellent	Excellent
T. Canby (3½ h.p. P. and M.) ...	Dismounted	Excellent	Excellent
J. Slaughter (3½ h.p. Triumph) ...	Pedalled	Dismounted	Excellent
W. H. Bashall (6-7 h.p. Bat) ...	Excellent	Excellent	Excellent
W. H. Bowen (6-7 h.p. Bat) ...	Excellent	Excellent	Excellent
T. H. Tessier (7 h.p. Bat) ...	Excellent	Excellent	Excellent
W. Smith (2 h.p. Moto-Rêve) ...	Pedalled, excellent	Pedalled, excellent	Dismounted
G. L. Fletcher (2 h.p. Moto-Rêve) ...	Dismounted	Pedalled, excellent	Dismounted
A. J. Sproston (5 h.p. Rex) ...	Dismounted	Good	Dismounted
O. C. Godfrey (3½ h.p. Rex) ...	Dismounted	Excellent	Good
F. Southam (3½ h.p. Triumph) ...	Pedalled	Excellent	Excellent
R. W. Duke 3½ h.p. Triumph) ...	Pedalled	Dismounted	Excellent
F. C. Mustard (3½ h.p. Triumph) ...	Excellent	Excellent	Excellent
J. O. M. Dixon (5 h.p. Vindec) ...	Dismounted	Dismounted	Excellent
J. Holroyd (1½ h.p. Motosacoche) ...	Pedalled, excellent	Not timed	Pedalled, excellent
J. F. Crundall (3½ h.p. Humber) ...	Pedalled	Good	Dismounted
F. Edmond (3½ h.p. Humber) ...	Dismounted	Good	Dismounted
A. V. Sumner (3½ h.p. Humber) ...	Dismounted	Slow on low gear	Excellent
P. J. Evans (3½ h.p. Humber) ...	Dismounted	Pedalled	Dismounted
O. Parker (3½ h.p. Humber) ...	Dismounted	Pedalled	Dismounted
F. C. Wood (4 h.p. N.S.U.) ...	Excellent	Excellent	Excellent
W. F. Newsome (3½ h.p. Triumph) ...	Dismounted	Excellent	Excellent
J. Marshall (3½ h.p. Triumph) ...	Dismounted	Excellent	Excellent
G. Gibson (3½ h.p. Triumph) ...	Dismounted	Excellent	Excellent
J. E. Sanley (3½ h.p. Premier) ...	Dismounted	Pedalled	Excellent
P. Weatherill (3½ h.p. Zenette) ...	Dismounted	Dismounted	Dismounted
F. W. Barnes (3½ h.p. Zenith) ...	Excellent	Excellent	Excellent
J. W. Morris (3½ h.p. Bradbury) ...	Dismounted	Pedalled	Dismounted
G. Simpson (3½ h.p. Bradbury) ...	Dismounted	Dismounted	Not observed
P. Platt (3½ h.p. Bradbury) ...	Dismounted	Good	Pedalled
J. Eastwood (3½ h.p. Bradbury) ...	Dismounted	Pedalled	Not observed
G. E. Carrow (3½ h.p. T.T. Triumph) ...	Dismounted	Good	Excellent
R. King (3½ h.p. Triumph) ...	Dismounted	Dismounted	Dismounted
F. S. Barnwell (3½ h.p. Triumph) ...	Successful	Excellent	Excellent
T. Woodman (7 h.p. V.S.) ...	Dismounted	Good	Excellent
H. B. Lewis (3½ h.p. Triumph) ...	Dismounted	Pedalled	Dismounted
R. Fletcher (3½ h.p. Premier) ...	Dismounted	Dismounted	Dismounted
Rev. B. Aston (3½ h.p. Triumph) ...	Pedalled	Pedalled	Pedalled
A. J. Stevens (3 h.p. Wolf) ...	Dismounted	Good, pedalled	Excellent

The following are the performances on the hills of those competitors who did not complete the six days' trials:

Rider and machine.	DINAS MAWDDWY. Surface perfect, strong contrary wind, raining.	BLAENAU-FESTINIOG. Surface rough, contrary wind, fine.	BIRDLIP. Surface perfect, wind favourable, fine.
W. H. Outwin (3½ h.p. Triumph) ...	Dismounted	Dismounted	Retired previously
E. Nelson (5 h.p. Rex) ...	Retired previously		" "
A. M. Tatham (3½ h.p. Matchless) ...	Successful	Successful	" "
J. V. Robinson (2¾ h.p. Douglas) ...	Retired previously	Retired previously	" "
F. Dover (3½ h.p. Triumph) ...	Dismounted	Successful, pedalled	" "
B. H. Davies (6 h.p. Advance) ...	Dismounted	Retired previously	" "
A. L. Ommaney (5 h.p. Rex) ...	Dismounted	Retired previously	" "
H. Bevir (3½ h.p. L.M.C.) ...	Dismounted	Retired previously	" "
G. Lee-Evans (5 h.p. Indian) ...	Dismounted	Successful	" "
R. M. Brice (3½ h.p. Brown) ...	Successful	Successful	Dismounted
J. T. Bashall (3½ h.p. Triumph) ...	Successful	Successful	Retired previously
A. G. Fenn (6 h.p. Bat) ...	Successful	Retired previously	Retired previously
G. L. Andrews (2 h.p. Moto-Rêve) ...	Dismounted	Retired previously	" "
R. Lord (5 h.p. Rex and sidecar) ...	Dropped passenger		Dropped passenger
F. Phillips (3½ h.p. Scott) ...	Retired previously	Retired previously	Retired previously
A. H. Ormerod (3½ h.p. Scott) ...	Retired previously	Retired previously	" "
H. Berwick (3½ h.p. Excelsior) ...	Dismounted	Dismounted	" "
H. D. Teage (3½ h.p. Premier) ...	Dismounted	Dismounted	" "
R. W. Walker (3½ h.p. Premier) ...	Dismounted	Retired previously	" "
A. T. Stanton (3½ h.p. Bradbury) ...	Retired previously	Retired previously	" "
S. Osborne (3½ h.p. Osborne) ...	Dismounted	Retired previously	" "
A. Barker (1½ h.p. Wolf) ...	Retired previously	Retired previously	" "
P. E. Tolfree (5 h.p. Roc and sidecar) ...	Retired previously	Retired previously	" "
W. Pershke (6-7 h.p. Puch and sidecar) ...	Dropped passenger	Retired previously	" "

The End-to-end Record Again Beaten.

EVER since the early days of record-breaking, whether on cycle or motor cycle, record rides have been made like pie crusts, only to be broken. If there is a record which is more classical than another it is the End-to-end, embracing as it does all descriptions of road in England and Scotland. What took the A.C.U. competitors six days to accomplish last year has just been covered in 33h. 22m. by Mr. Ivan B. Hart-Davies, of Bank Street, Rugby, a member of the Coventry and Warwickshire Motor Club, and a most enthusiastic rider of a Triumph motor bicycle. Mr. Hart-Davies has had his eye on this record for the past two or three years, and has been steadily preparing himself for the event this year by competing in several long distance rides, besides lengthy tours in company with other Midland motor cyclists who favour long distance riding. The other day an urgent telephone message was received at our offices from Mr. Hart-Davies asking us to meet him in Coventry and seal the motor bicycle which he intended to use in the ride. This was a $3\frac{1}{2}$ h.p. touring Triumph fitted with pedalling gear, Dunlop tyres and tubes, and Stanley Derma-line belt. It was fitted with a larger petrol tank than usual for long non-stop runs, which proved very useful in Scotland. We sealed the cylinder to the seat tube in such a manner that it was impossible to remove the cylinder from the crank case without breaking the seal. We also noted the number of the frame and engine. Having done this, we wished Mr. Hart-Davies the best of luck, and awaited news from the starting point. This was not long coming.

On Monday, 12th inst., Mr. J. J. Robertson, of Wick, N.B., wrote that Mr. Hart-Davies left John-o'-Groat's that morning at three, and confirmed the seal on the engine and frame, also number of engine. The next message we received was to the effect that the rider was several hours ahead of his schedule time at Lanark. Messages were also received at our office from Gloucester and Exeter, both of which confirmed the rapid progress of the record breaker. On the 13th inst. at 2.30 p.m. we received the following wire from Land's End: "Beat record by 7h. 16m. Fly time 33h. 22m.—HART-DAVIES." This has since been confirmed by Messrs. Holman and Sons, Ltd., of Penzance, who timed the rider at Land's End on Tuesday afternoon, July 13th, at 12.22, and confirmed the number of engine, and stated that seals were intact. The timekeeper had taken the precaution of getting his watch certified as correct by a local watchmaker, Mr. J. Bennett, who was on the spot at the time of his arrival. Mr. V. T. Paull (*Daily Mirror*) was also present. Mr. Hart-Davies's time beats the previous best by 7h. 16m., the old record being accomplished by Mr. T. Peck, of Birmingham,

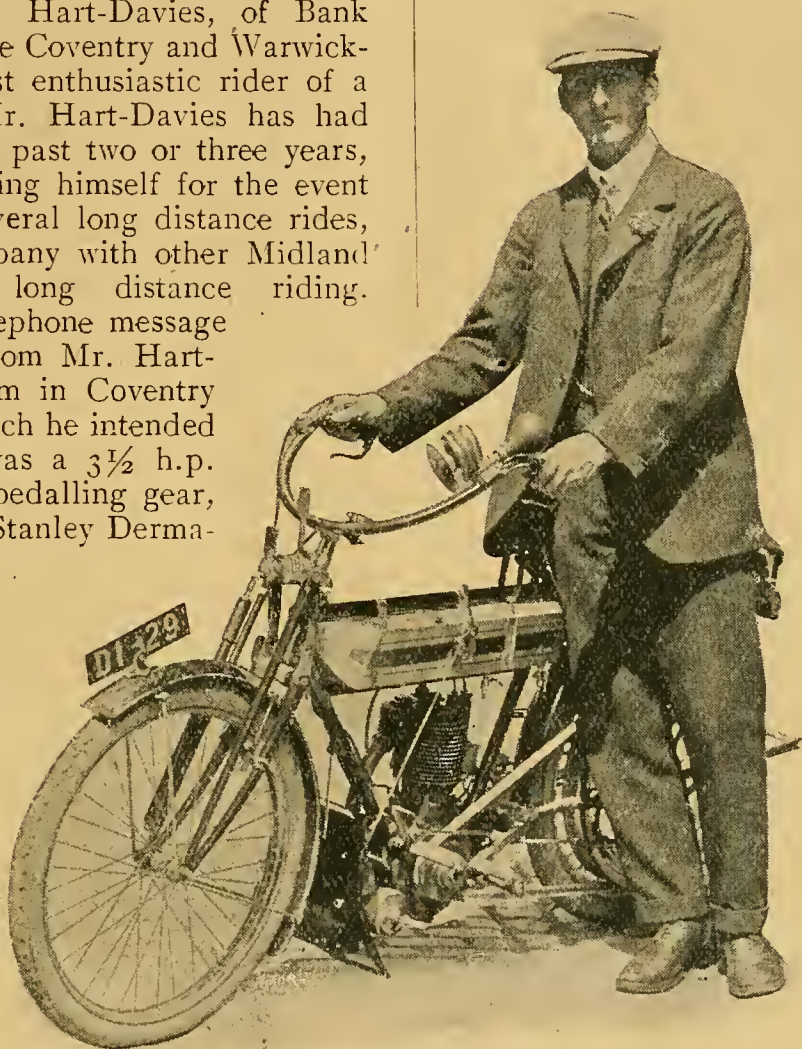
on May 24-25th, when he covered the total distance in 40h. 38m. The following times of arrival and departure will give some idea of the rider's progress: Monday, July 12th.—Left John-o'-Groat's 3 a.m.; arrived Perth 12.17 p.m.; left 12.37 p.m.; arrived Lanark 3 p.m.; arrived Lockerbie 4.36 p.m.; left 4.51 p.m.; arrived Wigan 9.30 p.m.; left 10 p.m. Tuesday, July 13th.—Arrived Gloucester

3.20 a.m.; left 3.40 a.m.; arrived Exeter 7.50 a.m.; left 8.5 a.m.; arrived Land's End 12.22 p.m.

Last Thursday Mr. Hart-Davies called at our office for us to examine the seals we had placed on his machine. These we found intact. We also checked the number of the machine and frame, and took the opportunity of weighing the rider, who turned the scales at 14 stone 2 lbs. in riding trim. His machine, loaded with spare belt, two tool bags, lamp and generator, and half full of petrol and oil, weighed exactly 196 lbs.

Mr. Davies informed us that his Dunlop tyres behaved well throughout, but he had to change one cover at Perth, owing to its being cut. He particularly wishes to thank those riders who assisted him as followers, and would specially like to mention the following names: Messrs. Hugh Gibson, Dr. O'Rafferty, F. C. Mustard, Rupert May, and

Adamson (of Perth). Mr. Hugh Gibson rode from Garstang to Land's End with Hart-Davies, and Mr. Rupert May saved the situation, we are told, as without his assistance between Tarporley and Wellington the record breaker thinks he would have missed his way, owing to the numerous turnings. Readers will remember that Mr. A. W. Bentley lost the road at this point in 1908, and from our own experience of the district it requires an intimate knowledge of the route to avoid dismounts. Hart-Davies says it is impossible to thank everybody personally, but he particularly wishes to mention the kindness and interest shown in the performance by the proprietor of the Bell Hotel, Gloucester, who not only sat up to see that the rider's comfort was attended to, but wrote him afterwards and congratulated him upon the performance. The ride, we understand, was full of incidents, but as pressure on our space is very great this week, owing to the results of the A.C.U. Trials, we are compelled to give rather a brief outline of the performance, and in a subsequent issue Mr. Hart-Davies has promised to write us an account giving his own impressions of the End-to-end record.



The present End-to-end record holder, Ivan B. Hart-Davies.

Bradford M.C.C. Open Hill-climb.—

CLASS VI.—Racing singles up to 85 mm. bore.

1. F. Mackay ($3\frac{1}{2}$ h.p. Triumph) ... 27 $\frac{1}{2}$ s.
2. O. C. Godfrey ($3\frac{1}{2}$ h.p. Rex) ... 27 $\frac{3}{4}$ s.
3. G. E. Stanley ($3\frac{1}{2}$ h.p. Premier) ... 28 $\frac{1}{2}$ s.

Also competed: Somers (Speed King Rex), Fishwick ($3\frac{1}{2}$ h.p. Triumph), J. C. Smyth ($3\frac{1}{2}$ h.p. Rex), W. E. Grange ($3\frac{1}{2}$ h.p. Triumph), C. Wilson ($3\frac{1}{2}$ h.p. Rex), Cockcroft ($3\frac{1}{2}$ h.p. Triumph), H. D. Shaw ($3\frac{1}{2}$ h.p. Triumph), Hoffmann ($3\frac{1}{2}$ h.p. Triumph), and Moorhouse ($3\frac{1}{2}$ h.p. Triumph).

CLASS VII.—Racing twins up to 76 mm. bore.

1. J. Scriven (5 h.p. Rex) ... 25 $\frac{4}{5}$ s.
2. F. C. Bagshawe (5 h.p. Rex) ... 28 $\frac{4}{5}$ s.
3. L. Obank (5 $\frac{1}{2}$ h.p. N.S.U.) ... 29 $\frac{4}{5}$ s.

Also competed: H. E. Gerhartz (5 h.p. Vindec) and F. Scriven (5 h.p. Rex).

CLASS VIII.—Open to all.

1. W. H. Bashall (8 h.p. twin Bat); fastest time; trophy, a silver goblet ... 25s.
2. J. Scriven (5 h.p. twin Rex) ... 25 $\frac{2}{5}$ s.
3. O. C. Godfrey ($3\frac{1}{2}$ h.p. Rex) ... 26 $\frac{3}{5}$ s.
4. H. Reed (7-8 h.p. twin Dot) ... 27 $\frac{1}{5}$ s.
5. F. C. Bagshawe (5 h.p. twin Rex) ... 29 $\frac{4}{5}$ s.
6. O. Brooks (8 h.p. twin Buchet) ... 30 $\frac{2}{5}$ s.
7. H. Shaw ($3\frac{1}{2}$ h.p. Triumph) ... 30 $\frac{4}{5}$ s.
8. P. Cockcroft ($3\frac{1}{2}$ h.p. Triumph) ... 32 $\frac{4}{5}$ s.

The success of the competition is chiefly due to the trials hon. sec., Mr. Felix Scriven, who was supported by numerous club officials. The timekeepers were Messrs. Fattorini and Rhodes; starter, Mr. Johnson.

Although not entered for the competition, that much talked of motor bicycle the two-cylinder, two-stroke, two-speed Scott made an unofficial climb in fine style, and opened the eyes of the spectators later in the day by climbing the hill without a falter with an extra passenger seated on the back carrier. The purr of its sweet running engine was quite a pleasant change from the jerky, not to mention noisy, explosions of most of the competitors' machines.

Scottish Five Days' Open Reliability Trial.

THE START ON MONDAY LAST.

BY B. H. DAVIES.

THE Edinburgh Motor Cycling Club deserves hearty congratulations upon the scheme and organisation of its trial. The competition will resemble a pleasure tour more than any previous competition, as there are only two checks a day, apart from meals, one in the morning and one in the afternoon. Nevertheless, it will be the severest motor cycling trial ever held, thanks to the surface of the roads, the severity of the gradients, and the head winds, and I have little hesitation in prophesying that only half a dozen machines are likely to come through with full marks. At the start on Monday last a strong wind was blowing from the north. Amulree, Grampians, Berriedale, and Ord have to be climbed, yet the Advance is the only two-speed machine. Some have not even got adjustable pulleys. The weather at the start was bright and windy, but fleecy clouds threatened rain when the official car left for Amulree. Six of those competitors given on page 544 did not register as starters, viz., Muirhead, Moodie, Baxter, Niven, Kennedy, and Gilmour.

The first day's route was the hardest. Amulree at sixty-seven miles, Grampians after lunch, 186 $\frac{1}{2}$ miles altogether against headwind. The Grampians are in a badly cut up condition. The route for to-day (Wednesday) was altered to go over the steep two miles' gradient from Bonar to Alness. Route finding is well provided for by arrows; also each competitor receives direction card daily.

[Next week a description of the trial will appear in *The Motor Cycle*, written by Mr. B. H. Davies, who is accompanying the competitors to John-o'-Groat's.]

IRISH END-TO-END RELIABILITY TRIAL.

THIS important contest under the auspices of the Ulster Centre of the Motor Cycle Union of Ireland took place on the 13th inst. and proved most successful, sixteen reaching the starting point. Rain was falling heavily at the start, and to add to the discomfort of the competitors a heavy fog lay over the district which made it very difficult to find the way. Punctually at 1 a.m. the following riders were despatched: J. Stewart, Belfast, $3\frac{1}{2}$ h.p. Triumph; C. E. Murphy, Cowtehill, $3\frac{1}{2}$ h.p. Triumph; J. J. Kennedy, Belfast, $3\frac{1}{2}$ h.p. Bradbury; J. Lavery, Belfast, $3\frac{1}{2}$ h.p. Triumph; J. Coulter, Armagh, $3\frac{1}{2}$ h.p. Triumph; R. M. Talbot, Portarlinton, $3\frac{1}{2}$ h.p. Triumph; F. A. Wallen, Dublin, $3\frac{1}{2}$ h.p. Triumph; C. B. Franklin, Dublin, $3\frac{1}{2}$ h.p. Triumph; T. A. Govan, Dublin, $3\frac{1}{2}$ h.p. Triumph; W. H. Humphries, Armagh, $3\frac{1}{2}$ h.p. Humber; J. Healy, Dublin, 5 h.p. twin Peugeot; W. T. Hughes, Graigue, $3\frac{1}{2}$ h.p. Triumph; J. E. Coulter, Belfast, $3\frac{1}{2}$ h.p. Triumph; M. J. Lindsay, Belfast, $3\frac{1}{2}$ h.p. Triumph; J. M. Kennedy, Ballymena, $3\frac{1}{2}$ h.p. Rex. W. J. Andrews, Belfast, $3\frac{1}{2}$ h.p. Rex, did not reach the starting point until an hour after the others had left, and he was started alone.

The unfavourable atmospheric conditions at the start proved most trying to the riders, falls being numerous and punctures plentiful. The first checking station was at Cork (78 miles), which was due to be reached at 4.54 a.m., but with tyre troubles and difficulty in finding the way a considerable number of the riders were late in arriving. Six, however, secured full marks, their names being C. E. Murphy, J. Lavery, J. Coulter, R. M. Talbot, C. B. Franklin, and T. A. Govan. Better weather conditions prevailed after Cork was passed, although the roads were very rough. The second check was at Cashel (138 miles), and here again the six riders mentioned above had full marks. Of the others, only J. Stewart, J. J. Kennedy, J. E. Coulter, and J. M. Kennedy arrived later. The remainder retired. The first section of the ride ended at Dublin (235 miles), the schedule time of

arrival being 12.45 p.m. At this control ten riders arrived on time. A stop of one hour was made for luncheon, and at 1.45 p.m. the second section of the journey was begun. Checks were arranged at Drogheda, Newry, and Belfast, at all of which full marks were gained, but J. E. Coulter retired at Belfast. The remaining nine riders kept together for the remainder of the trial, and finished at Fair Head (395 miles) prompt to time—9.45 p.m. On examining the check books it was found that six riders had received the maximum number of marks (70), viz., C. E. Murphy, J. Lavery, C. B. Franklin, R. M. Talbot, T. A. Govan, and J. Coulter. A hill-climb was accordingly held on Wednesday morning to decide the winner—the machines having been locked up overnight. The times recorded were: C. E. Murphy, 39 $\frac{4}{5}$ s.; C. B. Franklin, 52s.; J. Lavery, 52 $\frac{4}{5}$ s.; and T. A. Govan, 55s. R. M. Talbot and Coulter were unsuccessful at the first attempt, but afterwards made the ascent. The formula for this part of the contest was time in secs. \times cylinder capacity and divided by the combined weight of rider and machine, and worked out as follows:

- | | | | | |
|-------------------|-----|-----|-----|--------------|
| 1. C. E. Murphy | ... | ... | ... | 51.06 points |
| 2. J. Lavery | ... | ... | ... | 62.99 " |
| 3. T. A. Govan | ... | ... | ... | 69.81 " |
| 4. C. B. Franklin | ... | ... | ... | 72.58 " |

Talbot was placed fifth and Coulter sixth.

The special gold medal presented by *The Motor Cycle* was won by C. E. Murphy, and the gold medal presented by the R.O.M. Tyre and Rubber Co. was won by J. Lavery. J. Stewart, J. J. Kennedy, J. M. Kennedy, and M. J. Lindsay will receive certificates.

Mr. P. Moffatt has been declared winner of the Palmer cup and medal in the A.C.U. London to Plymouth and back twenty-four hours' run, June 11th and 12th. He rode a $3\frac{1}{2}$ h.p. Triumph.

MOTOR CYCLING CLUB.

TWENTY-FOUR HOURS' RELIABILITY TRIAL FOR MOTOR BICYCLES.

THE M.C.C., always anxious to promote trials and competitions suitable for all its members, held on Friday and Saturday last a twenty-four hours' reliability trial for motor bicycles only. The general principle of the trial was reliability and regularity of running to a scheduled speed of nineteen miles an hour. Exactly four hours were



The M.C.C. officials—F. T. Bidlake, timekeeper (centre), W. H. Wells (left), and Dr. C. Gibbons (right).

allowed for each round of the course (Taplow-Oxford-Taplow), which was covered six times, making a total distance of 450 miles. Timekeepers were stationed at Taplow and Oxford. F. T. Bidlake held the watch at Taplow (the Dumb Bell), and the clocking and checking arrangements at Oxford were in the hands of the Oxford M.C.C. One mark was lost for every quarter of a minute early or late of schedule time. The awards were a silver cup to the winner (presented by F. J. Jenkins and W. H. Wells), three special gold medals to the three best performances by private owners, and club gold medals to every competitor completing the full distance in twenty-four hours.

The course for the first three journeys was Taplow, High Wycombe, Wheatley, Oxford, Dorchester, Henley, Maidenhead, and Taplow, and for the last three journeys outward *via* Maidenhead and Henley, and homeward *via* Beaconsfield. As these courses comprised the ascent of Dashwood and Stokenchurch Hills thrice, it was a fairly stiff task without counting the necessity of keeping as nearly as possible to schedule time.

The bad weather on Friday morning obviously stopped many competitors from turning up at the start, though could they have seen the state of the Bath Road even at noon on Friday they might possibly have altered their minds, for with a nice breeze blowing the road surface was quite dry.

At the Start (8 p.m. Friday).

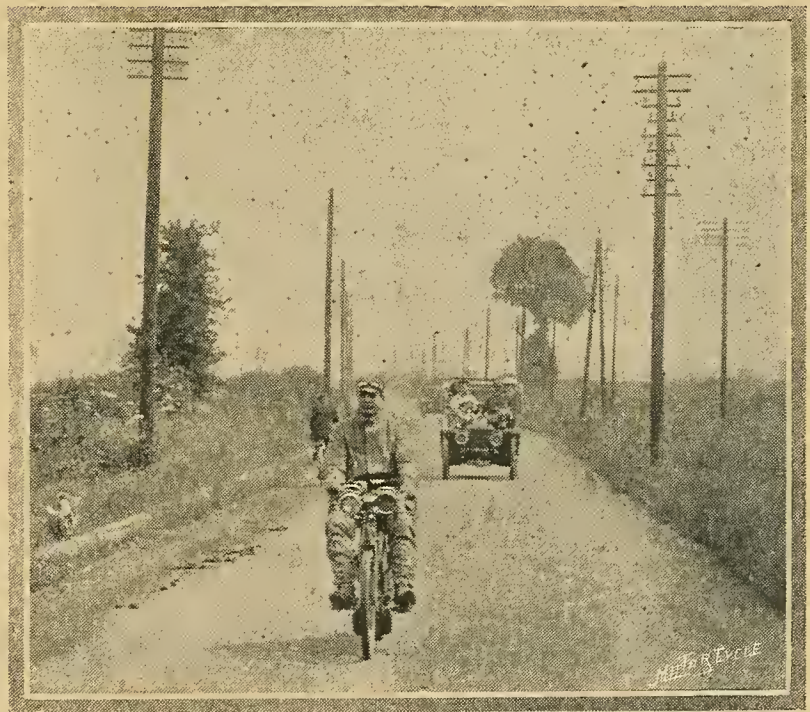
Mr. Harris, whose garage is opposite the Dumb Bell on the Bath Road, rendered great assistance by fitting some powerful acetylene gas lamps outside his premises. These greatly aided the officials during

the dark hours of the night. He also had a staff of men ready with petrol and other necessities all through the competition.

The entries numbered thirty-seven, and twenty-one actually started as follows:

Hugh Gibson (3½ Triumph).	H. Davison (3½ Rex).
J. L. Barratt (5-6 Chater-Lea-Peugeot).	W. Cooper (3½ Triumph).
G. Purchase (3½ Triumph).	Stanley Webb (3½ Triumph).
H. Karslake (3½ own make).	W. Smith (5 V.S.).
J. S. Spencer (3½ Triumph).	G. Brough (5 Brough).
C. C. Cooke (3½ Triumph).	A. J. Stevens (3 Wolf).
E. Clark (2¾ Douglas).	W. Price (3½ Rex).
E. Pond (5 V.S.).	F. G. Smith (3½ Triumph).
E. Cherry (3½ Triumph).	A. G. Forbes (¾ Triumph).
C. Burton (3½ Vindec-Special).	P. Janson (3½ Bat).
	J. W. Robinson (2¾ Douglas).

The only alteration from the official programme was that W. Smith, usually seen on a Moto-Rêve, was riding W. Mead's 5 h.p. V.S. Unfortunately for Smith, he met with an accident during the first round at Wheatley, was somewhat cut about, and had to retire. Spencer fell out in the first round (cause unknown), Cherry, Janson, and Purchase dropped out in the second round, and Cooper retired four and a half miles from Oxford. F. G. Smith, who lost his way in the first round, ran out of petrol, arrived late, and suffered a loss of sixty-three marks, wanted to retire but was persuaded to go on. Afterwards his performance was a most consistent one, and he was the only rider to complete three rounds without any loss of marks. The next best was H. Gibson, fourth and sixth rounds without loss of marks. Karslake lost no marks on the sixth round, and completed two other rounds with a loss of only one mark each. Pond, Price, and Brough covered one round without loss of marks. When one considers that only a quarter of a minute early or late meant one mark lost, the performances were excellent.



Eli Clark (2¾ h.p. Douglas) on the Bath Road. This rider suffered a collision in the fifth round, and although he only lost sixteen marks in the first four rounds, he could not complete the sixth and had to retire. The cars in the background are on their way to the Maidenhead regatta.

Stanley Webb, who arrived from the wrong direction at the end of the fifth round, had to retrace his steps. His error cost forty marks.

Motor Cycling Club.—

Towards the completion of the fifth round the timing showed that, barring accidents, Karslake or Hugh Gibson would win the cup, with Brough as runner-up. Karslake eventually won, and he and Gibson shook hands heartily at the close of the event. The positions were:

	Marks lost.		Marks lost.
H. Karslake	... 21	*F. G. Smith	... 86
*Hugh Gibson	... 24	Stanley Webb	... 138
G. Brough	... 26	*J. L. Barratt	... 230
A. J. Stevens	... 53	*C. C. Cooke	... 344
*W. Price	... 69	*A. G. Forbes	... 393
E. Pond	... 72	*C. Burton	... 963
*H. Davison	... 84		

* Private owners.

The winners of the private owners' medals presented by E. Gwynne and C. J. Seed are therefore (subject to revision by the committee) Gibson, Davison, and Price.

Karslake's own make has a De Dion engine, with the radiators drilled through all over, Amac carburetter, footboards, N.S.U. two-speed gear on engine-shaft, Whittle belt, no pedals, and a special spring seat, which, although not beautiful, is doubtless comfortable. The win is all the more creditable, as he was competing against some of the best and most up-to-date machines of the day. Burton's back tyre was cut nearly through; it was a marvel he completed the journey. Two or three had spare tanks on the top tube or handle-bars, and mascots were conspicuous by their absence, thank goodness.

In addition to the officials already mentioned, R. H. Head and F. J. Jenkins patrolled the course in a car, and E. B. Dickson (the captain of the club) and Dr. C. Gibbons were also in evidence. Harry G. Bell, the trials hon. secretary, informed us that nearly all the competitors were satisfied with their day's sport. The thanks of the club are due to the Oxford M.C.C., Mr. W. Mann (Service Co., Ltd.), and the A.A.

The Motor Union Speed Trials.

IN connection with the visit of the Motor Union and the Ligue Internationale des Associations Touristes to Wales, speed trials were held on the 16th inst. on Pendine Sands, forty-five miles west of Swansea. These sands form an ideal course for motor speed trials, extending for many miles with a smooth, hard, level surface. The course was carefully marked out for a distance of about two miles by a wire fence, which was lined by the public, who had turned out in thousands. The first event was for motor bicycles with cylinders having a capacity of over 300 and not exceeding 601 cubic centimetres. The entrants were as follows:

J. S. Andrew (Triumph)	... 82 × 86	... 454 c.c.
A. W. Gemmill (Rip)	... 82½ × 82½	... 441 "
W. E. James (Oxford)	... 82 × 90	... 475 "
L. E. Jenkins (Phelon and Moore)	... 82 × 88	... 465 "
J. C. Moore (Rex)	... 82½ × 89	... 475 "
E. T. Strick (N.S.U.)	... 80 × 80	... 402 "
J. Sullivan (Triumph)	... 84 × 86	... 477 "
W. Pollard (Quadrant)	... 81 × 88	... 453 "
W. Jones (Quadrant)	... 84 × 88	... 487 "

Mr. Pollard was first past the winning post, but was disqualified, the judges ruling that his machine was not of a standard touring type, the rules requiring all motor cycles to be touring roadsters. The cup presented by the motor cycle committee of the M.U., together with a medal, were accordingly awarded to the second past the post, Mr. W. E. James; the second prize, the M.U. medal, going to Mr. E. T. Strick.

The second event for motor bicycles with cylinders of unrestricted capacity was a walk over for Mr. Pollard, Mr. E. James (who had entered a twin-cylinder Griffon) being a non-starter.

CLUB NEWS.

Manchester M.C.

The first speed judgment test of 1909 took place on Saturday last on the Warrington roads. The speed fixed upon was twenty miles an hour. A fair number competed. C. E. Kettle, on a 3½ h.p. T.T. Triumph, proved the winner of the motor cycle section, his time being only 35s. too fast.

Leeds M.C.C.

The annual reliability trial, Leeds to London and back, was held by the Leeds M.C.C. on Saturday, the 10th inst., for an invitation shield, value fifty guineas, to be held for one year by the winner. Other awards in connection with the event were three gold medals for the first three who lost the least number of points, and a bronze medal for all riders who completed the journey within schedule time. This year there was a special provision made for private owners, a gold medal being given to the first private owner who, not being one of the first three, had qualified for a bronze medal.

There were thirty-five entries, including representatives from the Manchester, West Hartlepool, Bradford, and York County clubs, the majority of whom started from the Star and Garter Hotel, Kirkstall. The weather at the start, and throughout the journey was anything but pleasant, drenching rain and bad roads being experienced during practically the whole of the run. The official result was declared as follows: 1, T. Bullus (P. and M.); 2, F. Scriven (Rex); 3, — Sydney (—). Reed, Kettle, Hamilton, Walton, Cockcroft, and Smith also completed the journey.

The Motor Cycling Club.

The London to Land's End and back competition for the Jarrott cup is to be held on Saturday and Monday, July 31st and August 2nd, starting from Cranford Bridge, near Hounslow. The competition is for motor bicycles only. The winner will be the competitor whose time taken at



Competitors in the Irish End-to-end Reliability Trial. The winner, C. E. Murphy (3½ h.p. Triumph) is at the extreme left.

secret controls over three stretches of thirty miles both on the outward and return journey most nearly agrees with his schedule time. The route will be Cranford Bridge, Staines, Basingstoke, Andover, Salisbury, Shaftesbury, Sherborne, Yeovil, Crewkerne, Chard, Honiton, Exeter, Okehampton, Blue Anchor, Mitchell, Redruth, Penzance, Land's End, and back to Penzance. Return—Penzance, and continue eastwards *via* Redruth, Mitchell, and the route as above in reverse direction. Entries should be sent, together with entrance fee (£1 1s.), to reach the trials hon. sec., Mr H. G. Bell, 52, Station Road, Finchley, N., on or before the first post on Saturday next.

Club News.—

Shropshire M.C.C.

The first competition held by the above club took the form of a petrol consumption test. The results were: Mr. G. Benham, first, Mr. H. G. Potts second, and Mr. T. W. Shaw third. The winner's mileage was 178 miles to the gallon.

Nottingham and District M.C.C.

The Dennis-Bayley challenge cup competition, which takes the form of a 100 miles non-stop reliability run, will be run off on Saturday next. A petrol consumption test has been arranged for August 14th. Runs recently arranged include journeys to the Dukeries, Dovedale, Woodhouse Eaves, Lincoln, Wansford, Barnby Moor, Evesham, Leamington, etc.

Essex M.C.

The members' hill-climb takes place on Saturday afternoon next at Lippetts Hill, High Beech, entries for which may be sent in up to to-morrow (Thursday) morning to the hon. sec., Mr. Harold Fuller, Wynndale Road, Woodford. There are five classes, viz., single-cylinder, multiple cylinder, lightweight, passenger motor cycles, and cars. The competition starts at 3.30 sharp. A picnic tea on the hill has been arranged for after the climb. Each competitor will be allowed two runs up, the fastest to count. Three prizes will be given in each class, provided that there are sufficient entries, and a silver medal for fastest time of the day. The hill is in good condition, and some fast times are expected. On the following day (Sunday) there is to be a breakfast run to Cambridge, particulars of which may be obtained from the captain at the hill-climb.

Coventry and Warwickshire M.C.

It is interesting to know that a member of the Coventry and Warwickshire M.C. holds the End-to-end record, and another member won the 1908 Tourist Trophy Race. The former record has just been beaten by I. B. Hart-Davies, of Rugby, while everyone knows that J. Marshall, of Coventry, finished first in the T.T. Race last year.

Worcestershire M.C.C.

A petrol consumption trial was held on the 10th inst., the course being from headquarters to Pershore. Each competitor was allowed one gallon of petrol, and the results, subject to confirmation, are as follows:

Rider and machine.	Petrol used.
T. Smith (3½ h.p. Rex) ...	15½ ozs.
H. J. Heaven (3½ h.p. Triumph) ...	16 ozs.
H. C. Pickering (2¾ h.p. Rex) ...	15¾ ozs.
A. G. Bryant (3½ h.p. Triumph) ...	20 ozs.
L. T. Baylis (3½ h.p. Corah) ...	24 ozs.
H. T. Clark (3½ h.p. Humber) ...	43 ozs.

A remarkable point about this competition is that the first three averaged slightly over 220 miles per gallon. This probably is a record, although it must be mentioned that there was a strong wind blowing at the back of the competitors all the way.

North-west London M.C.C.

The annual hill-climb was held on the 3rd inst., the venue being Cop Hill, Princes Risboro'. The selected hill proved an excellent test, being minus any bad corners, half a mile in length, and with an average gradient of 1 in 9, the steepest pitch being near the top. The surface was in very fair condition, having been carefully swept beforehand. The results, on A.C.U. formula, subject to being passed by the committee, are as follows:

CLASS I.—Single-cylinder machines, any capacity.

Rider and machine.	Time.	Fig. of Merit.
E. A. Colliver (3½ h.p. Triumph)...	+ 4¾s.	2.517
A. W. Bentley (3½ h.p. Triumph)...	X	2.446
W. O. Bentley (3½ h.p. Rex) ...	+ 7½s.	2.437
J. P. Le Grand (3½ h.p. Rex) ...	+ 13s.	2.184

CLASS II.—Multi-cylinder machines, any capacity.

Glyn Rowden (8 h.p. Bat) ...	X	6.619
S. R. Tyssen (5 h.p. Vindec) ...	+ 9¾s.	4.181
Miles Brunton (5 h.p. Rex) ...	+ 27s.	3.684
A. Brunton (5 h.p. Rex) ...	+ 32¾s.	3.099
C. M. Simpson (5 h.p. Vindec) ...	+ 20¾s.	3.088
A. S. Phillips (5 V.S.) ...	+ 27¾s.	2.887

A picnic lunch was held the day after at Burnham Beeches.

Members are reminded that the petrol consumption trial is on Saturday next, the 17th inst. The committee would be glad if any member who is not competing would act as marshal, and send in his name to the trial hon. sec., Mr. G. H. Hollis, 7, Melrose Avenue, Cricklewood, N.W.

Eastern District M.C.

On August 8th a 100 miles reliability trial will be run for the trophy which the president, Mr. F. Leverton Harris, M.P., presented to the club. Mr. J. Babbage, the hon. auditor, has very kindly promised to give a prize for the member running second to the winner of the trophy.

Lincolnshire M.C.C.

The Palmer cup competition on the 24th inst. will consist of a reliability run, the selected circular course being from Wragby to Horncastle, via Cawkwell to Louth, via Brough to Wragby, about thirty-eight miles, to be covered three times. The start will take place from Wragby at 10 a.m., and the competitors will be sent off at one minute intervals.

At the Grimsthorpe speed trials on August 21st the course will be an undulating one, about a mile in length. The classification of machines will be as follows: Class I., lightweights, not exceeding 120 lbs.; Class II., single-cylinder machines, with a cubical capacity not exceeding 500 c.c.; Class III., twin and multi-cylinders, any capacity. The club has accepted the invitation of one of its members to tea at the Five Bells Hotel, Edenham, after the trial.

The results of the hill-climb at Bully Hill, Tealby, have now been announced. Hayhurst made fastest ascent of the day on his 6 h.p. N.S.U., and the placings on formula are as follows:

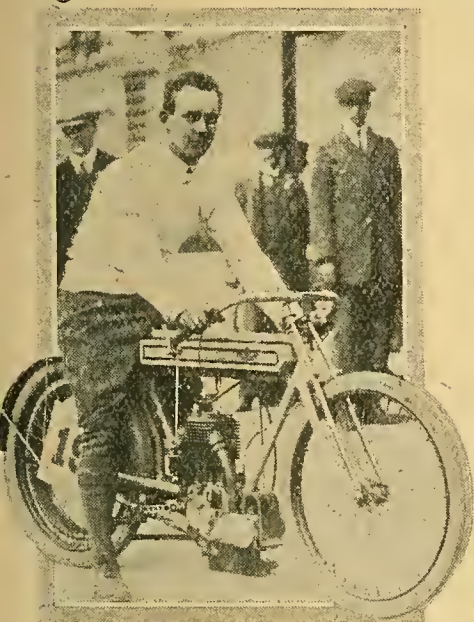
SINGLE-CYLINDER CLASS.

Rider and machine.	Time.	Fig. of merit.
1. J. Manners Smith (3½ h.p. Triumph) ...	X	20.48
2. E. R. White (3½ h.p. Premier) ...	8½s.	20.35
3. T. S. Middlefell (3½ h.p. Triumph) ...	15s.	18.15

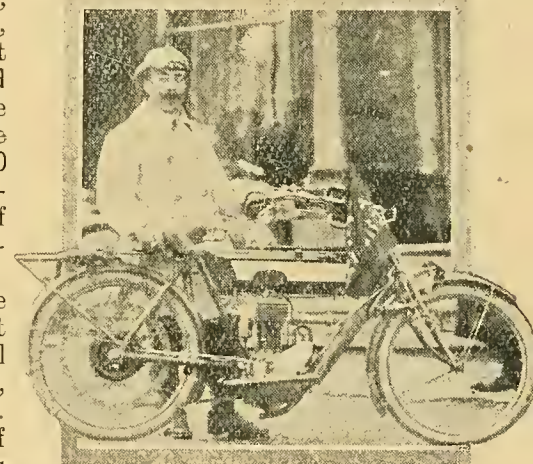
MULTI-CYLINDER CLASS.

1. H. Hayhurst (6 h.p. N.S.U.) ...	X	21.05
2. G. Nicholls (4½ h.p. F.N.) ...	20s.	18.34
3. S. G. Clarke (5 h.p. Rex) ...	3¾s.	17.52
4. F. Richardson (5 h.p. Vindec) ...	13s.	17.4
5. J. Mawd (5 h.p. F.N.) ...	26s.	15.4
6. C. Moore (5 h.p. Rex) ...	22s.	15.1
7. Dr. Gratz (5 h.p. F.N.) ...	38¾s.	14.2
8. G. James (4½ h.p. Minerva) ...	} Failed to complete course.	
9. A. Fox (5 h.p. F.N.) ...		

X represents fastest time in each class, and other times record seconds slower than X.



The winner of the All-comers' Handicap at Brooklands last week, H. H. Bowen (3½ h.p. Bat-J.A.P.), speed 62½ m.p.h. He also established new class records later in the day.



A. G. Reynolds, one of the Judges in the A.C.U. Six Days' Reliability Trials. He rode a 1909 two-speed Humber, which carried him faithfully and well until the fourth day, when he was unfortunately run into by another motor cyclist and injured.



ALWAYS made it my endeavour to be numbered among those who practise what they preach, but for once, at any rate, I have proved a traitor. I always advise entrants in trials to ride a machine they know, no matter how shabby and travel-stained it be. This year I entered in the 1,000 miles with a machine which was practically only finished the day before, though I had ridden it a good distance in a more or less incomplete condition. How I paid the penalty you shall hear.

I left the machine at Uxbridge on Saturday, July 17th, asking Wells to see it sealed and numbered for me, and when I returned on the Sunday night he led me to it with a rueful countenance, and solemnly pointed to two large pieces of black tin wired to it, each carrying the fateful number "13," to which he had added " $\frac{1}{2}$ " in pencil. The ill-luck was not long coming, for I found I had been allotted a bed in a parlour, where some thirty choice spirits intended to pass the night. However, as a long tramp through Uxbridge secured me more comfortable quarters, I decided the omens were not insuperable, and started on the Monday in high hopes, the more so because the machine had never once met with a stoppage of any sort, or struck a hill it could not climb at very high speed if desired. Being geared $3\frac{1}{2}$ to 1, I soon found my chief difficulty was to keep down the pace to the official limit, and all through Monday I was often to be seen waiting fifteen minutes or half an hour some three miles from a control, waiting for minimum time to expire before I checked in.

My first warning of coming trouble was encountered on Dashwood Hill, which I only just managed to climb on full throttle at twenty-five miles per hour. This was a slap in the face, as the machine normally climbs 1 in 6 at much in excess of this, and no apparent fault was discoverable. Worse was to come, the short but steep ascent through Bourton-on-the-Hill almost proved too much for it, and the fact that a lot of crack riders pedalled there, and several dismounted, was small comfort to my soul. I trickled on non-stop to Shrewsbury, and very much worried as to what had reduced my hefty twin to about three and a quarter cat power.

When we mustered at dinner, several of us were rather disappointed with our machines' climbing during the day, and I went to bed a sick and sorry man.

Why Carburetters Require Protection.

Tuesday.

Sudden and pronounced attacks of general debility are the most awkward complaint from which a motor cycle can ever suffer. The precious hour for adjustments before breakfast next morning was not wasted, for I discovered my trouble, if I could not cure it. The week before the trials I had fitted a new carburetter with slide control. During the rain of the preceding

day the innards of this vaporiser had got filled up with mud and grit. Result, if I touched either the air or the throttle lever, *both* the air slide and the gas slide moved, as they were jammed up with grit; or, alternatively, *neither* of them moved at all if they happened to be tightly wedged. As a consequence I had evidently ridden most of Monday on one-third throttle, and about half the requisite quantity of air. Why not clean it out, you great juggins? ejaculates the impatient reader. Why not, indeed? Because this particular carburetter possessed no securing bracket, and was held *in situ* solely by the inlet and petrol pipes. It had already split both of them, and to remove it meant complete fracture of them both. There was nothing for it but to wire on additional gauze protectors, and to pour paraffin through in the hopes of dislodging the grit. This I did, but the carburetter contained far too much foreign matter to yield to such makeshift methods. I flushed it out with whole quarts of paraffin at different times, but not till Friday did I get it clean. On Tuesday, Wednesday, and Thursday I could only open my throttle by dismounting and forcing it with a screwdriver, and if I thereafter touched either lever both gas and air slides would immediately assume new and undesirable positions. Hence my "general debility." Wenlock Edge was the first serious hill, and when I closed the air a trifle the throttle promptly closed down as well; when I closed off more air to suit, the throttle shut completely. Got down, opened throttle with screwdriver, shut air with my fingers, restarted, and went up on full throttle and no air. Rode like this all day, using one gallon of petrol per forty miles. Changed rubber belt to leather in the heavy rain, as rubber would not grip with so much surface water on the roads. Full marks for Monday and Tuesday. Query—Are the conditions of a trial sufficiently stringent when one can score full marks with a disorganised carburetter?

Wednesday.

Spent a very paraffiny hour before breakfast trying to get grit out of carburetter. Several very cautious efforts to detach carburetter. Relinquished owing to wobbliness of inlet pipe. Nasty, rough, twisty, narrow road to Dinas Mawddwy (pronounced "Mowthy"). Engine stopped whenever I touched carburetter levers. Decided to run on full throttle and no air all the time, this being starting position. Officials kept us standing an hour at the foot of Dinas in rain. Consolation, all our engines got nice and cool. "What's that, Reynolds? No. 13?" And I was off uphill for four miles. The "climb" opened flat, narrow, and slithery. Burbled along on full throttle and no air. At last caught glimpse of tall black hill towering up towards heaven. Several motor cycles stuck at various points. Frankly unsympathetic crowd rejoicing in the failures. Pouring rain. Blustering wind blowing straight down. Got up first piece nicely. Shut throttle a little on easy pitch.

'No. 13,' a Tale of the Six Days' Trials.—

Tried to open it again on steep pitch. Throttle stuck. Joggled it fiercely. Air opened wide, throttle shut for good. Inevitable result, stopped. Grade 1 in 5. Pushed thirty yards. Personal condition resembled Mantalini after projected suicide (by immersion). Got on to easy pitch. Jammed throttle wide open, all air shut off, started, went up. Descent towards Machynlleth disgusting. Clapped on rear brake too hard—bent brake clip—threw brake shoe out of truth—wore out fibre—no brakes except boots—good for staple trade of Northampton, where I live—bad for me. Several narrow squeaks round corners. Machynlleth at last. Policeman with red moustache points turning. Go down it. Keep on going. Go for twelve miles. Ran out of petrol. Still raining hard. See a farmhouse. Welsh maidens affrighted at my disreputable appearance. Don't know Welsh for paraffin. Don't know Welsh for benzoline. Welsh maidens slam door in my face. Go back to the road and excommunicate my carburetter. Boileau appears. Informs me I am on the wrong road. Excommunicate policeman with red moustache. Excommunicate everybody except Boileau, who gives me petrol. Go back without brakes, and on compulsorily full open throttle to Machynlleth. Policeman with red moustache vanished. Wise man. Through Aberystwyth to Devil's Bridge. Lunch. Good.

A Grey Stripe across the Road.

Leaving Devil's Bridge, the hills were again rather trying with the rear brake out of commission; front brakes are practically useless on motor cycles, although the A.C.U. is so ridiculously fond of them. Hereabouts I saw a grey stripe across the road through the teeming rain, and was glad I had paused to investigate, as it turned out to be a young river in flood. Bashall kindly helped me to push up a steep bank in dodging the torrent. Still raining. More steep descents. Sheep gambolled out of a gap in the hedge into my front wheel. Saw stars. Ran out of petrol. Wondered why carburetters are sold with slide control and no gauze protectors. Pushed a mile. Bought petrol. Still raining. Nice easy road into Shrewsbury. Full marks. Query—Are the conditions of a trial sufficiently stringent when you can get full marks without any throttle or air control, and without any brakes?

Thursday.

Dreadful day. Worst day's motor cycling I ever had. Spent shillings in paraffin, with an eye to Festiniog hill-climb. If I stick on another hill shall lose the gold medal. Can't climb hills if I haven't any carburetter control. Still no brakes. Am not insured. Very uncomfortable indeed. Nice road to Bala. Perfectly diabolical road from Bala to Festiniog. Other riders say it is worse than the Grampians. Didn't think it quite so bad myself. But corners awful, gradients fairish, and surface like new

metal. Moto-Rêve purring over it as if it were on Brooklands. Lucky Moto-Rêve. It has brakes, also carburetter control. Festiniog at last. Reynolds says I must go straight up the hill without altering adjustment of my pulley. Put ancient friendship in jeopardy by mocking at Reynolds. How would he like to try a fearful hill with a 3 to 1 gear without any carburetter control? Reynolds says I may change my gear. Good chap, Reynolds. Change it. Furtively squir petrol on carburetter slides when Reynolds isn't looking. Essay hill. Open extra air when I see hill going straight up vertically, and full of deep granite pits. Machine slows. Fearful language from rider behind trying to get past. "Tutter-tutter." Go up very, very slowly. Wonder what the carburetter slides are doing. Surmise one-third throttle opening and no air. Stop. Verify surmise. About correct. Wedge slides open with a screwdriver. Start again. Up, thank goodness. Road drops away towards Bettws. Narrow. Red triangles on every corner. Yawning precipice on right. Feel glad my wife isn't watching. Feel granite splinter come right through sole of left stocking. Aha! Bettws at last. Grey hairs after lurid descent. Have a rest and a smoke, and buy picture postcards. Foolish, because the next control is a shortish one. Better be starting. Start. Break belt. Put on belt No. 2. Belt No. 2 breaks. Put on belt No. 3. Belt No. 3 breaks. Mend belt No. 1. All is peace. High speed without any brakes into Llandudno. Speedometer records distance as twenty-five miles. Official card only allows nineteen and a half. Too bad, just when every mile looked like being so precious. Good lunch.



An early morning scene during the Six Days' Trials. Sixty minutes before the official starting time, competitors were admitted to Mr. H. Luff Smith's garage at Shrewsbury, for the purpose of cleaning, replenishing, and effecting adjustments to the machines. Our photograph shows these operations in full swing.

Pleasant ride home, except through Flint—long street full of foolhardy children. Got to within three miles of Shrewsbury half an hour ahead of time. Poured rivers of paraffin through carburetter; got it fairly clean at last. Monday's grit almost removed. Ride into Shrewsbury with proper gas and air control. Proud and happy. Easy day on Friday. Gold medal almost in sight.

"No. 13," a Tale of the Six Days' Trials.—

Friday.

Having at last cleaned most of Monday's grit out of the carburetter, I was able to devote the hour before breakfast to other matters, and succeeded in making the rear brake work properly again, so that I started out with every prospect of a really enjoyable day. The speedometer early showed the beneficial effects of being able to adjust the mixture. Had I been using a standard high compression engine, I say without fear of contradiction that I should never have got back to Shrewsbury on the Tuesday. But, thanks to a low compression engine which can never knock or overheat under any circumstances, I had been able to run on full throttle and scarcely any extra air for something like six hundred miles without any trouble. Now that control of the carburetter was restored I looked forward to a pleasant concluding two days. I had tied protectors over the carburetter on the Tuesday, so that no more dirt could get in. I had repaired the brake (quite a brief matter), and I was looking forward to a pleasant conclusion. The circumstances were the same as on the Monday. The machine was much too fast for the rules, and I spent a long while waiting for the clock. The first trouble came at the Cat and Fiddle Hill. I had been officially told we were to be timed up here, and, to make amends for failure on the earlier hills, I let the engine have its head, and went up at an indescribable speed, only to find I could not get round the corners. On went the brake, which promptly broke. Result, I had another long, twisty descent to negotiate with my boots acting as skid pans. Outside Buxton a pin in the timing gear sheared, and caused my retirement. It is only fair to the makers to say that, though I have driven their engines thousands of miles, and know of others which have gone much farther, this is the first engine trouble with one of their machines that I have ever encountered or heard of.

As regards the remainder of the trial, I must confine myself to general observations. My own opinion is that the severity of the hills has been exaggerated in the press. Any reader can estimate how comparatively small a rate of revolutions can be obtained from an engine which is being driven on full throttle and no air with a properly adjusted carburetter. Well, under these conditions my engine climbed the whole of Festiniog Hill except the three yards in which it was restarted and the whole of Dinas except thirty yards, where single-handed I was unable to restart. Therefore these hills are not portentously terrible. In other respects the trial was undoubtedly severe. The weather was bad for about half of the total distance, and several really stiff climbs, such as Wenlock Edge (twice), were thrown in as free extras. The disappointing show made by the entry, regarded as a whole, I am inclined to regard as a chain of bad luck. It is unusual for first-class machines to seize up their connecting rods, to strip a timing key, to break a crankshaft bearing, etc., yet all these mishaps chanced to occur in this particular thousand miles. Duplicates of all these unlucky engines are running ten thousand miles without trouble. The machines of 1909 are a good deal better than these trials would make them out to be. That they appear worse than they really are is not due to the severity of the trials, for many a private owner has put a machine to more exacting tests in a summer tour.

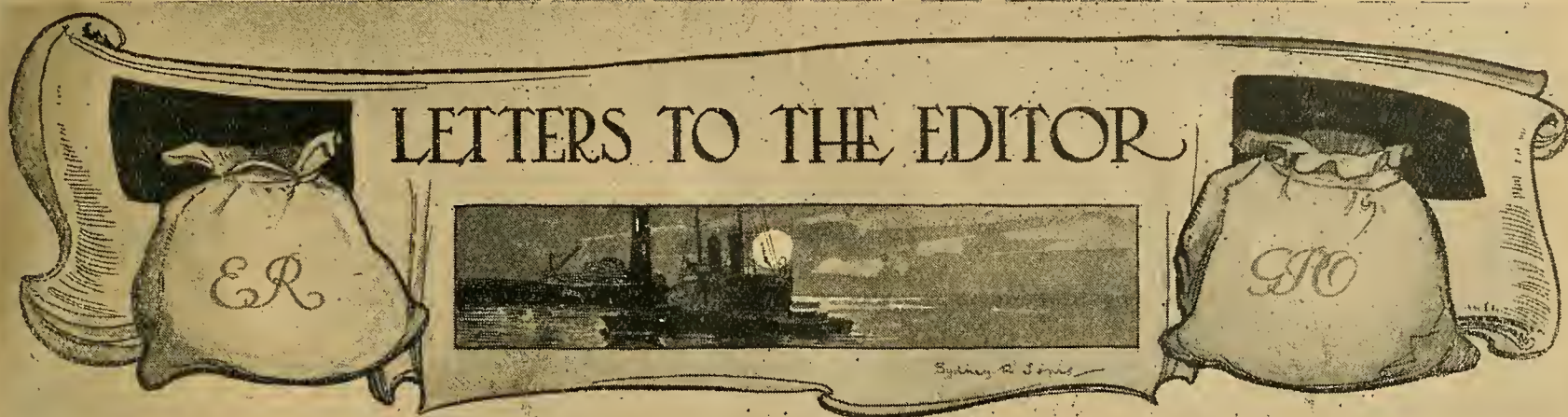
Minor troubles were less frequent than I have ever known them to be. Belt and valve troubles seemed almost non-existent. Punctures were practically unknown, thanks largely to the use of really sturdy back wheel covers. I did not hear of a single side-slip.

The Moral of my Tale.

There are two morals I wish to draw. As above described, I rode some 750 miles practically without any carburetter control, and in addition I broke three belts and a brake. Yet had my timing gear been assembled by a first-class workman, instead of by a temporary hand, I should in all probability have scored the full thousand marks offered for reliability. I should estimate I had something like a hundred stoppages with my carburetter, owing to the throttle closing when I adjusted the extra air or *vice versa*. Are the rules sufficiently stringent to be a real test of reliability when a man who has trouble of this sort can gain full reliability marks? I think, first of all, that the margin allowed between the maximum and minimum speeds of sixteen and twenty miles an hour is perhaps too great, and that the Scottish Trials system of only allowing ten minutes earliness or lateness over a forty miles section is more desirable. Also the waiting outside controls might well be stopped. There was a rule framed this year apparently intended to stop this, but the officials told me no notice would be taken provided competitors waited two or three miles outside checks. As a matter of fact, they waited half a mile or less outside many of the controls, and no notice was taken. The result of this practice is that each competitor secures from four to eight intervals per day, each of fifteen to thirty minutes' duration, during which he can make adjustments and repairs. Whether this is desirable or not is an open question. But my experience is that a man may be in trouble throughout the whole course of an A.C.U. trial, and, provided he does not have any really serious breakdown or two minor troubles in any one section, he can nevertheless secure the maximum marks for reliability. It would have been a mockery if I myself, for instance, had secured full reliability marks this year; yet I only missed them, very possibly, by a pure fluke. Similarly in 1906 I scarcely got through a single control without trouble, and yet I won a gold medal. The motor bicycle of to-day is so good that the maximum reliability award can perhaps only be justly claimed by a machine which has no trouble at all, and if such awards are to be confined to machines which go through without trouble the time margins will have to be tightened, and the scorching ahead to wait outside the next control will have to be stopped.

My Advice to Competitors.

My second moral applies to riders entering such trials. It is a mistake to ride in a trial on a machine that has not at any rate a couple of thousand gruelling miles to its credit before the trial. This applies both to machine and rider. If the machine is absolutely a first-rater the rider's chances are enhanced if he knows it well. If the machine is a new type, as mine was, the preliminary running will bring to light any weaknesses that pass unnoticed through the experimental shop, such as the placing of a carburetter in an exposed position or the use of an unsuitable brake clip.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Sunday Competitions.

[4147].—Anent your paragraph, page 452, regarding Sunday competitions—would the A.C.U. and other bodies kindly inform certain clubmen when they may hold their competitions?

For a man who toils six days for his bread and cheese and wherewithal to spend on motor cycling what other day is open? With the leisured classes it is an entirely different matter, but how many of these fortunate individuals are there to be found in the affiliated clubs?

What is the primary objection—observance of the Sabbath or public disfavour? If the former, is there more harm in going for a run with simply a lunch at the end in one instance, and a medal or cup in another? If the latter, although certain clubs do hold their competitions, what is there to tell the public one is taking place, apart from the gathering (there in either case) outside headquarters and at the destination? As a rule in these friendly competitions the competitors carry no armlets, neither are their machines labelled, and there is no indication but what they are ordinary club runs.

If the A.C.U. means to ban Sunday competitions let it speak right out and forbid them. Affiliated clubs would then know just where they were.

ANTI-HUMBUG.

The M.C.C. London-Edinburgh Run.

[4148].—Referring to Mr. Howarth's recent letters in *The Motor Cycle*, the Committee of the Motor Cycling Club feel that these should be answered to clear away from the minds of the competitors and members any impression that the Club's hon. sec. and Trials hon. sec. are at variance on the matter of checks on the London-Edinburgh run of this year. The whole controversy centres on Mr. Howarth's interpretation of the word "secret" used by both Mr. Candler and Mr. Bell; these two gentlemen both intended to convey the same meaning, viz., certain checks were placed on the route between controls, they were visible to all the riders, there was no hiding behind hedges, "savouring," as Mr. Howarth is pleased to say, of "police traps." In only one sense could they be considered secret checks, in that they were unexpected by the competitors in their particular positions, and were not specially noted on the route cards, although all riders were advised in the rules that they would be timed along the route so as to enforce the fifteen minutes' rule.

Mr. Howarth says that "if the London-Edinburgh run is carried out as it is now it will not benefit the trade." The London-Edinburgh run was not instituted to benefit the trade. I would point out to Mr. Howarth that the Motor Cycling Club is primarily a social club, with social functions and competitions, and although we are sincerely glad to number among our members many gentlemen who are connected with the motor trade (and some of these are the Club's best friends) they join us in the real true sporting spirit.

I have answered this letter somewhat fully because letters such as Mr. Howarth's might do a good deal of harm to a club, the officials of which I am sure receive, from the large majority of its members, credit for doing their best

in the interests of the Club. As to Mr. Howarth himself, he is not a member of the Motor Cycling Club. I therefore fail to discover his *locus standi* in the matter, or his right to interfere in the management of our Club's affairs.

ROBT. H. HEAD,

Chairman of Committee, Motor Cycling Club.

The Six Days' Trials.

[4149].—Although not yet a motor cyclist, I was greatly interested in the trials, and on Thursday, July 8th, my son and I went to Queensferry to see the competitors pass on their way from Llandudno to Chester. After seeing the first three ride quickly past, it was suggested by a gentleman from Mold that we should have a much better chance of recognising the riders if we went down the road about half a mile, as at that point they would have to slow down in consequence of having to negotiate a most awkward corner. We went, and immediately realised that it was not only an awkward, but a positively dangerous one. The first two or three riders who passed us there had difficulty in getting round without running into the hedges and ditches. I think it was the fourth who utterly failed to do so. He ran right across the road into the bank, turned his machine sharply, ran across a cart road leading to a field, then into the opposite bank, again across the main road straight into the ditch on the near side, where, of course, he stopped, with his cycle on top of him! My companions (there were several of us there) rushed to his assistance and extricated him, whilst I went up the road to caution the oncoming riders. Even with our combined efforts of cautioning and directing them there were some very narrow escapes, especially when lots of three, four, and five came together at the rate of fifteen to twenty miles an hour.

Now it struck me very forcibly that far greater caution should be exercised by the promoters for the safety of the competitors. I suppose the pink direction poster signified "Caution," but that is insufficient when fixed amongst other bills on a hoarding, especially so when, as in this instance, it was so badly pasted on that one-half had fallen from the wall and was covering up the other half. We pasted it up again with tyre solution, as it did not seem to have had even a lick of paste.

I would suggest that, instead of "Auto Cycle Union" in small letters, indistinguishable at fifty yards, the simple initials "A.C.U." in block letters double the size should be adopted. For colours there should be used—Green for "go ahead," pink for "caution," and a bright but most unmistakable red (or purple) for "danger." Again, I should like to see the direction arrow of a more distinctive type, clearly drawn, and printed instead of the clumsy one used.

I am sorry to trouble you with so long a letter. My excuse is—(1) The safety of the competitors should, I think, be of supreme importance in these trials; (2) if accidents occur the authorities may step in and effectually stop the sport; and (3) care should be taken not to bring motor cycling into disrepute with the public.

Another point I would like to mention is that the Flintshire County Council should be urged to alter the road at that particular spot by rounding off the sharp corner. Thousands of motor cycles and cars pass it on their way to and from Chester and North Wales.

VIGILANT.

Two-stroke Engines.

[4150.]-In reply to your correspondent, "A. O. C.," who would like readers' experiences with the Scott two-stroke motor cycle, may I be allowed to say a word in favour of it. Although not an owner of one, I am thoroughly conversant with it, especially the marine type engine.

To start with, let us take, for example, our friend Mr. H. E. Rendall's grievances. First, What happens to the engine if a crankcase explosion takes place? Had he examined the Scott two-stroke engine more minutely he would have found it almost impossible for it to occur owing to the design of the non-return valves—an excellent feature in favour of this engine owing to its accessibility and design.

Let us now take Mr. Rendall's second question. I would next advise your correspondent to inspect the Scott carburetter, which is a revelation in design and economy, and the most vital part of a two-stroke motor, and while doing so, should he have the time to examine this engine at high speeds of about 2 to 3,000 revolutions per minute, and at low speeds of about 2 to 300 revolutions per minute, I am sure he will dispense with his fears and rest with a contented mind.

With regard to Mr. Rendall's third question, Why is the displacer pump motor unsuitable for motor cycles? I shall leave Mr. Scott to answer this, as it was he who explained why. But I will certainly say, once Mr. Rendall has properly investigated the Scott type motor I think he will admit it is superior to the displacer pump type despite the alleged extra efficiency of the latter. I, for my part, think it questionable if there is any greater efficiency besides the wear and tear of the extra working parts.

Let us next answer J. H. Hopkins and others, who seem rather prejudiced against the crankcase compression type. They allege lubricant mixing with the fuel, and consequent leakage of compression at the bearings. As Mr. Scott has already explained, owing to the patent spring packing the leakage at the bearings has been overcome. It struck me rather forcibly to see how completely the trouble had been overcome. Lubricating oil mixing with the fuel is rather serious when the crankcase is half filled, but in the Scott engine there are crankcase overflows and properly sighted lubricators.

I must say it is the most perfect two-stroke engine I have come in contact with, and for neatness, flexibility, and reliability, also workmanship, it stands unrivalled as a two-stroke motor.

Wishing the Scott Engineering Co., Ltd., every success,
P. MORRISON MACINTYRE.

Where Improvement is Needed.

[4151.]-Mr. W. G. McMinnies in his article under the above heading asks the following question: "How is it that motor cars can run 10,000 miles without having their pistons and cylinders taken off and scraped?"

From my experience and observation the answer to this question and its remedy is comparatively simple. I don't believe the fault is due so much to the lubrication as to the carburetter, as my cylinder when taken off clearly shows the kind of surface I have been travelling over. For instance, after the Whitsun holidays I took the engine down and the deposit showed clearly a reddish hue. I had been doing North Devon. The time before I had been riding only in the neighbourhood of my home here in South Devon, and the deposit then was a greyish white, corresponding roughly, allowing for burning, with the colour of the roads travelled over.

I said just now the fault was in the carburetter—I meant rather its position. I ride a 1908 Triumph, and I ask any rider to examine his machine after a dusty ride, and he will find the parts around the carburetter coated thickly with dust. It is churned up by the front wheel, carried along by the back draught and sucked wholesale into the cylinder, where mixing with the liquid parts of the petrol that have not been turned into gas forms a hard crust and entails the necessary cleaning.

Now take the position of the carburetter on a car. It is, to start with, under the bonnet, and well to the front, and obtains its air from the very front of the car through the radiators, and therefore exactly opposite to the motor cycle gets nothing but pure air.

I think this to a very large extent answers Mr. McMinnies's question.

It is clearly impossible to alter the position of the carburetter and place it, say, on the handle-bars—by the way, let any rider examine his dusty machine and he will find the middle of the two handle-bars is the cleanest place, if not perfectly clean; but as I was saying the carburetter cannot be placed there, but is it impossible for it to draw its supply of air from there?

My idea is this, entirely enclose the carburetter in a sort of funnel, carry the funnel up through the tank in a slanting forward position with its intake just in the position I have indicated as the cleanest, and therefore least dusty on the cycle. I see nothing insuperable against the idea. The carburetter could easily be adjusted to meet its new conditions, and although I know faulty lubrication has something to do with the fouling of the interior of the



The only passenger machine to finish in the Six Days' Trials was the 3½ h.p. Zenith-Gradua and Sidecar driven by J. Miller. The machine was badly damaged in an accident referred to in last week's issue, but the driver pluckily patched things up, and finished late in the day at Uxbridge.

cylinder, yet I venture to say that the motor cycle would then be equal in point of long running without cleaning to its bigger brother the car engine.

I omitted to suggest that the air intake pipe near the handle-bars could be shaped the same as the ventilating cowl on a steamship, and by that means made to take more or less air as required according to the position in which the cowl is placed.

JAS. EDGCOMBE.

EXPERIENCES WANTED.

"W. H. G." would like users' opinions of the Douglas lightweight, particularly as to its hill-climbing capabilities.

"Ruy Blas" would like readers' experiences with a Moto-sacoche magneto set fitted to an Imperial Rover pedal bicycle. Will the belt miss a 1½ in. tyre, and is the frame strong enough if fitted with a spring fork?

SUMMARY OF OTHER CORRESPONDENCE.

G. Lee Potter writes expressing great satisfaction with the Service Co., London, from whom he bought a two-speed motor bicycle to be used on his daily round of visits as a doctor. He adds: "I have been most pleasantly introduced to the pastime, and this letter is not in any way meant as a puff, as I have no interest in the firm whatever. However, they ought to succeed."

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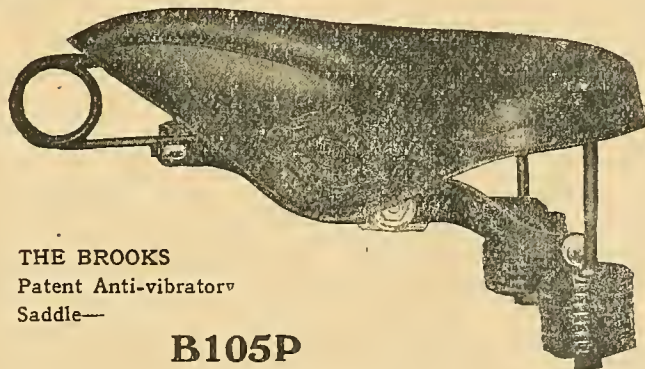
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Readers who reply to advertisements and receive no
answer to their enquiries are requested to regard this
silence as an indication that the goods advertised have
already been disposed of. Advertisers often receive so
many enquiries that it is quite impossible to reply to each
one by post.

IMPORTANT NOTICE.

Owing to the August Bank Holiday,
the issue of "The Motor Cycle" for
August 4th will be closed for press
earlier than usual. All copy and in-
structions for paragraph advertise-
ments in this issue must therefore
be in our hands at Coventry not
later than the first post on Wednesday,
July 28th.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

TRIUMPH 3½h.p. Motor Cycle, 1907, in good condition; £25.—Rae, Oakroyd, Park Rd., West Hartlepool.

3½h.p. N.S.U., magneto, studded cover, only run 50 miles, unscratched; nearest £30.—46, Percy Terrace, Sunderland.

4½h.p. F.N., 4-cyl., spring forks, new tyre, handle control, magneto, very fast; nearest £20.—Pickering, Hart Rd., West Hartlepool.

3h.p. N.S.U., 24in. wheels, 20in. frame, splendid condition; 15 guineas.—Full particulars, J. Bainbridge, Brough Castle, Westmorland.

TRIUMPH, new last August, not done 1,200 miles, very fast, splendid climber; no time to ride; £32; splendid condition.—Jones, Tobacconist, Crook.

1907 3½h.p. Fafnir, Chater-Lea, magneto, Phelon and Moore two-speed gear, splendid order; £30, or near offer.—D. Wright, 99, Stanton St., Newcastle-on-Tyne.

FOR Sale, 3½h.p. Quadrant, second-hand, rubber studded non-skid tyres, condition equal to new; £18.—Kirsop, Murray, and Co., Ltd., 43, Pilgrim St., Newcastle-on-Tyne.

5h.p. Twin, Rex engine, smart powerful machine, very fast, won Sutton Bank, etc., climbing competitions, excellent condition; any trial; £16 15s.—Hardy, 69, Eamont Gardens, West Hartlepool.

LIGHTWEIGHT Clement-Garrard, 2½h.p., good condition, new tyres, new belt, will average 28 m.p.h.; £12 12s., or will exchange for good 3½h.p.—Harry Wilson, Strickland House, Penrith, Cumberland.

MOTOR Bargains.—4h.p. Roc, 1908, single gear, £26; 5½h.p. Rex de Luxe, 1907, £25; both Roc clutches; 3h.p. Singer, £16; all magnetos; 3h.p. Rex, 1906, £10; 3½h.p. Phelon-Moore perfect, all guaranteed perfect; offers considered.—Walker's Cycle Wks., Ferryhill.

SECTION II.

York and Lancashire.

1909 Triumph, new condition; £38.—Dobson, Bury Bridge, Bury.

MOTOR BICYCLES FOR SALE.

1 h.p. Triumph, 1907, splendid condition; £28.—Cox, 25, St. Andrew's St., Cambridge.
 2 h.p. Kerry, 3 h.p. Bat, both perfect; £12 each.—Motorist, 36, Ellisley Av., Cambridge.
 1 h.p. Minerva Motor Cycle, spring forks and seat, 26 in. wheels; £9, or near offer.—Branham, Heath Beach, Leighton Buzzard, Beds.
 1 h.p. Triumph, 1907, perfect, £28; 2 h.p. Minerva, spring forks, £13; 2 h.p. Humber, good order, —Cox, 25, St. Andrew St., Cambridge.
 1 h.p. De Dion, low, long, comfortable, torpedo copper tank, in splendid condition, every accessory and es, most reliable and handsome machine; £17 10s. Motorist, c/o Mrs. Howell, Holt Rd., Fakenham, N.-r.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1 h.p. Triumph, 1909, N.S.U. 2 h.p. twin lightweight in stock; no waiting.—Ranford, Garage, Bar's Green, Gt. Malvern, Worcestershire.
 LIGHTWEIGHT 2 h.p. Twin-cyl. N.S.U., new 1909 model, only used twice, absolutely perfect machine; price £36.—Hopkins, Alveston House, Ledbury.
 1 h.p. Chater-Lea-Minerva, vertical, handle-bar controlled, just overhauled; exchange cycle and cash, sell.—Andrews, Neyland House, Pant Rd., Dowlais.
 1 h.p. Peugeot, magneto, perfect order, also lady's £16 cycle, unscratched; exchange for bigger power for and sidecar; offers.—E., 12, Pontmarlas, Merthyr.
 1 h.p. J.A.P. engine, B. and B. carburetter, magneto, clutch, Whittle, Dreadnoughts, guaranteed; £27, or exchange motor and sidecar.—Phillips, 46, Oxford Rd., Worcester.

SECTION VII.

Worcester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

BROWN, 3 h.p., 1908 shop-soiled; £27.—Motor Co., 165, Above Bar, Southampton.
 1908 Triumph, new last July, perfect condition; £34 cash.—Watts, Rosemont, Lydney, Glos.

1 h.p. Kerry, rebushed, low, grey, running order; £14, or push bike and cash.—72, Totteridge Rd., W. Wymond.

1 h.p. Motor Cycle, B.S.A. fittings, perfect, Palmer cords; £6 10s., cheap.—G. Carter, Shaw, near Radon, Wilts.

15s.—1 h.p. Minerva motor cycle, 26 in. by 2 in. wheels, low, good running order; bargain.—169, Poundland Rd., Bristol.

1 h.p. Brown, magneto, sound condition, spare belt, pulley, valve, new studded cover; £18.—"Highway," Swallowfield, Reading.

1 h.p. Kelecom, Ormonde frame, fine condition, steel and rubber studded tyres; £11 11s.—Saunders, Cher, Dragon St., Petersfield.

1 h.p. De Dion, very good condition; £12; exchange for good 1 h.p. lightweight.—Particulars, Penmon, 37, Market Place, Devizes.

WIN Rex, £14, splendid order, wipe contact; 2 h.p. Stevens, £11, very low built, and good order; offers.—G.S.B., 429, Oxford Rd., Reading.

1 h.p. Ormonde, Kelecom engine, just been re-bushed, new piston and rings, nearly new tyres; £8 10s., nearest offer.—Barrow, 4, Albert St., Windsor.

QUADRANT, 3 h.p., spray, accumulator, spring forks, stand, carrier, Rich tube to back, in splendid running order; £10.—Garside, 22, Lansdowne Rd., Aldershot.

BARGAIN.—2 h.p. Automoto, low frame, long handle-bars, brass tanks, spring seat, 26 by 2 in. wheels, tyres in good condition; accept £11.—F. Rolfe, Ford-on-Sea.

1 h.p. 1908 Auto-Fauteuil, two speeds, free engine, bucket seat, handle starting, water-cooled, chain drive, fittings, complete; catalogue price 60 guineas; immediate purchaser, £30.—2,729, The Motor Cycle Co., Coventry.

1909 3 h.p. Vibrationless Rex, splendid machine, not run 200 miles, footboards, very smart, best spares, etc.; cost complete month ago £46, sacrifice £34, offer; seen any time; any trial given; satisfactory for selling; great bargain.—Whitehead, Kenward, Lough.

SECTION VIII.

Bertford, Essex, Middlesex, Surrey, Kent, and Sussex.

1 h.p. Kerry, long bars, low saddle, perfect; £12.—60a, London Rd., W. Croydon.

If You Want Bargains in motor cycles, you can get them at Wauchop's.

7.—2 h.p. M.M.C., perfect; also 3 h.p. Humber.—26, Halstead St., Brixton.

N.N., 2 h.p., good condition.—Seen at 37, Knight's Hill, West Norwood. £11 10s.

1 h.p. Twin Werner, in new condition; bargain, £18.—H.T., 248, High St., Chatham.

ENTIRE SATISFACTION GUARANTEED

when dealing with us,
"The Fair Factors."

1909 BRADBURY, magneto ignition, spring forks, practically new, not done 200 miles; a bargain. £38
 1908 BRADBURY, latest Bradbury spring forks, only done 500 miles, will climb anything; "a beauty" £25
 MINERVA, 4 h.p., 1907 model, Longuemare, 2 in. Continental tyres, spring forks £23
 MINERVA, 3 h.p., vertical engine, 26 in. wheels, spring forks £16
 REX, 3 h.p., 1906 model, spring forks, spray, good order throughout £15
 ALGYON, 4 h.p., twin, Minerva, spring forks, very good condition £17
 REX, twin-cylinder, 5 h.p., spray, low built, spring forks £17
 QUADRANT, 3 h.p., spray, spring forks, good tyres £10
 KERRY, 5 h.p., low, 26 in. wheels, coil and accumulator ignition £18
 MOTO-REVE, 2 h.p., 1908 model, twin-cylinder, spring forks, perfect order £25
 HUMBER, 2 h.p., spring forks, spray carburetter £9
 RIP, 3 h.p., Peugeot engine, spring frame, Long, spray carburetter, footrests, low built £18
 RILEY, 3 h.p., 26 in. wheels, spray, trembler, good tyres, low built, long bars £14

60/- deposit secures under-mentioned, balance 5/- weekly—

QUADRANT, 2 h.p., spray £8
 SINGER, 2 h.p., magneto £6
 BARTER, 2 h.p., geared pulley £6
 PHENIX, 2 h.p., J.A.P. engine £10
 LLOYD'S, 2 h.p., vertical £8
 WERNER, 2 h.p., 26 in. wheels £6
 MINERVA, 1 h.p., coil and accumulator £5
 EXCELSIOR, 2 h.p., spray £8

TRICARS.

REXETTE Tricar, 8-10 h.p., two speeds and reverse, open frame, water cooled, perfect order £50

We carry an exceedingly large stock of new and second-hand motor cycle accessories at London. Prices lowest.

90/- Beautiful Forecar Attachment, 26 in. wheels, Dunlop tyres. 90/-

£15 Screw-cutting Lathe, 6 in. centres, 6 ft. bed, back geared, compound rest, 22 change wheels, overhead reverse motion. £15

£6 Forecarriage, PHENIX, practically new, 1909 model, not ridden above fifty miles. £6

SPECIAL BARGAINS.

Combined Tube and Belt Carriers 7/6
 F.R.S. Lamp, brand new, bargain £1
 Mudguards, 4 in., well finished (per pair) 3/6
 Mudguards, 3 in., well finished (per pair) 2/11
 Trinote Horns, best quality plating 7/3
 Treble Twist Horns, very noisy 6/6
 Hella Searchlights, best plating, separate generators, divided glasses 16/9
 Long Handle-bars, best quality pair 5/6
 Rex pattern ditto, dropped ends 6/6

We have special facilities for the repairing of magnetos at London. Best work. Moderate charges.

CLINCHER TYRES.

31/6 FOR 25/-

Genuine { 26 x 2 in. } Clincher studded
 { 26 x 2 in. } Covers.

Maker's price, 31/6. Our price 25/-
 All brand new 1909 goods, and in no way faulty or perished.

APPROVAL.**APPROVAL.**

Tubes with valves. Red quality, 5/6; Grey, 6/-

Large Stock CONTINENTAL TYRES.

Good Allowances on Old Covers.

High-class Motor Cycles Wanted for Cash.

MAUDES' MOTOR MART,
 THE FAIR FACTORS,
 Powell St., behind the HALIFAX.

Telephones: 433 day. 904 night.
 Telegrams: "Petrol, Halifax."

Also at 136, Great Portland Street (off Oxford Street),
 Telephone 552 Mavfair. LONDON, W.

MOTOR BICYCLES FOR SALE.

If You Want Bargains in second-hand, exchanges, new, come to 5, Heath St., Hampstead.

1908 3 h.p. Kerry, smart, low; £14 10s., no offer photo.—Michell, Roydon, Essex.

3 h.p. Fafnir, guaranteed perfect, all spares: what offer.—Motorist, 53, Highgate Hill, N.

3 h.p. Brown, 1907, in splendid condition; £14 10s. 20, Knight's Hill, West Norwood.

TWIN Lightweight Moto-Reve, perfect running order £23.—B., 1a, Crewy's Rd., Peckham.

CAMBERWELL (Bright and Hayles).—Makers Camber motor cycles. Catalogues free.

CAMBERWELL (Bright and Hayles).—2 h.p. Nob low frame, girder forks, 26 in. wheels, good condition; £9 10s.

CAMBERWELL (Bright and Hayles).—4 h.p. White and Poppe, Enfield frame, Longuemare carburetter, Dunlop tyre, Brooks saddle, low position; £10s.—Church St.

BRADBURY Motor Cycles, the British-built machine.—Agents, Bright and Hayles, Camberwell.

BRADBURY Motor Cycles; mechanism all easily accessible.—Agents, Bright and Hayles, Camberwell.

BRADBURY Motor Cycles; awarded 18 gold medals. Our price, 1909 models, £42 10s.—Agents, Bright and Hayles, Church St., Camberwell.

3 h.p. Minerva, Mabon clutch, little used; bargain £10.—Thompson, 22, Chancery Lane, London.

FAIRY, 2 h.p., splendid condition; £12 10s., inclusive spares; trial.—Dore, Pinner Hill, Pinner.

3 h.p. Werner; £9; good going order; can be seen at time.—Hewett, 99, Churchfield Rd., Acton, W.

LIGHTWEIGHT Werner, 2 h.p., running order, V belt, Peto; £4.—19, Hampstead Way, Golders Green.

5 h.p. Ariel Twin, J.A.P. engine, perfect condition; cheap for cash.—1, Arminger Rd., Shepherd's Bush.

1908 4 h.p. Roc, two speeds, clutch, new August; £3; partial exchange.—43, Kilmore Rd., Forest Hill.

3 h.p. Low-built Motor Cycle, like new; a great bargain, £10 10s.—Squire, 122, Hackney Rd., London.

3 h.p. Excelsior, good running order; £9; roll-top desk, or furniture.—Wray, 15, Osbaldeston Rd.,

£10.—3 h.p. Kelecom, very low, new engine, Pet Union, new belt.—24, Green St., Bethnal Green, E.

HAMPSTEAD Bargains on page 39; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 267 P.O.

MINERVA, 3 h.p., spring fork, new condition; £10s.—54, Pulborough Rd., Southfields, London, S.W.

2 h.p. Brown, complete, and in excellent condition; lamp, bag, horn; £10.—128, High Rd., S. Tottenham.

3 h.p. Excelsior, 26 in. wheels, low built, Longuemare; very powerful; £10.—128, High Rd., S. Tottenham.

3 h.p. Twin Peugeot, spring forks, magneto, Palmer tyres, all in excellent condition; £20.—128, High Rd., South Tottenham.

2 h.p. Phoenix, two speeds, magneto, handle starting a real gem suit doctor; £18.—128, High Rd., Tottenham.

2 h.p. J.A.P., low built, £10 10s.; 1 h.p. Minerva, long bars, very good condition, £5; 3 h.p. M.M.C. vertical, girder forks, £6; 2 h.p. Precision engine machine, £5; first cash takes.—128, High Rd., S. Tottenham.

F.N., 2 h.p., magneto, splendid condition, girder fork; £16.—Boyce, 23, Grand Parade, Archway Rd., Highgate.

£15.—Chater-Lea, Palmers, Watawata, accumulator or dry cells.—J., 41, Wrotesley Rd., Plumstead, London, S.E.

N.S.U. (magneto), 1908, 3 h.p., in good condition; lamp, horn, etc.; what offers.—Motor, 2, Atter Rd., Putney.

HAMPSTEAD.—1909 Triumphs in stock; delivery once; exchange entertained.—5, Heath St., Hampstead.

HAMPSTEAD.—7 h.p. Peugeot, magneto and spring forks, two-speed gear; £25.—5, Heath St., Hampstead.

HAMPSTEAD.—5 h.p. Vindec Special, magneto and spring forks, two-speed gear, all accessories; £22.—5, Heath St., Hampstead.

HAMPSTEAD.—Motosacoe, good condition, 1 h.p. model, all accessories; bargain, £16.—Rey, Heath St., Hampstead.

HAMPSTEAD for F.N.'s, 1909 models from stock; high price allowed for your old mounts.—Below.

REY, Hampstead, sole London and district agent for Lincoln Elks, all models in stock; exchanges below.

HAMPSTEAD.—Great Bargains; look to page N 39, all machines guaranteed; exchanges speciality.—Rey 5, Heath St.

HAMPSTEAD.—4-cyl. F.N., 4 h.p., new condition; £28, with all accessories; bargain.—5, Heath St.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

You Want Bargains in second-hand, exchanges, or new, come to 5, Heath St., Hampstead.

MOTOR CYCLE, Centaur, 3½ h.p., good reliable machine; £12, near offer.—Wiles, 40, Carlton Rd., Mile London.

h.p. Fafnir, Amac, tyres good, low, take sidecar; £12; hill-climber.—Roper, 12, Gloucester Rd., Ham.

h.p. Minerva-Ariel, Palmer cord, two accumulators; good push bike part.—58, Ferme Park Rd., d Green.

HAMPSTEAD Bargains on page 39; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678.

NITH and Zenette machines; £40 and upwards; on view.—Sherwell's, 46, York St., Westminster. Victoria.

IUMPH, 1907, magneto, 3½ h.p., spring forks, perfect; £27; letters for appointment.—Raab, Powis Bayswater.

IUMPH, 1909, new month ago, absolutely perfect; £40; illness cause selling.—Collins, 207, Maldon Colchester.

NDEC, 3½ h.p., Mabon clutch, faultless, latest fittings, accessories; £18.—1, Cornwall Terrace, r St., N.W.

h.p. Rover, just overhauled by makers, Palmers, accessories, spares; £12.—Redcott, Dacres Rd., st Hill, S.E.

h.p. F.N., 4-cyl., in thoroughly good condition; £27 10s.; seen and tried by appointment.—Wood, 33, hill, London.

h.p. Twin Minerva, Chater No. 6 frame, very low; £15 10s.; cash wanted urgently.—91, Melbourne Eastbourne.

h.p. Quadrant, splendid condition, new Clincher studded back; £18.—E.T., 65, Wickham St., e, Rochester.

h.p. F.N., magneto, 1908, perfect condition, guaranteed; £23.—Trick, 66, Queen Elizabeth's Walk, e Newington.

YL, Magneto F.N., £28; exchange 3½ h.p. Triumph; bargain; offers.—Particulars, 1a, Lyall Mews, n Sq., London.

h.p. 3½ h.p. Kerry, Continental, Voltco coil, S.G. belt, X'Fall spring forks; appointment.—V.G.B., 13, ell Rd., Putney.

HITTLE'S—Clyde, 3h.p., vertical engine, magneto, Palmer tyres, perfect condition throughout; great ain, £11 10s. cash.

HITTLE'S—Fairy, 2½ h.p., lightweight, twin, as new; £11 11s.—Whittle's Motor Exchange, Earls-Phone, 711, Post, Wimbledon.

h.p. Bradbury, brand new model, 1908 machine; £17 10s.; guaranteed.—At Wauchope's, 9, Shoe e, Fleet St., E.C.

h.p. Minerva, excellent condition, tyres, belt, accumulator, new, grey finish; £15, offers.—330, Bur-Rd., Limehouse.

N., 4½ h.p., 4 cyls., magneto, splendid condition; write, or call after 7 p.m.; £27 10s.—108, Oak-Rd., Penge, S.E.

h.p. Minerva, spring forks, all in good condition, complete; £12.—F. Jermy, Leighton Holme, ley Green, Surrey.

h.p. Triumph, all necessary spares, tyres, and belt, very good, mechanical condition guaranteed; —Vallance, Lewes.

IUMPH, 3½ h.p., magneto, thorough condition, good as new; £28.—Herring, 23, Carysfort Rd., Stoke ington, London, N.

TEST Model F.N., 1½ h.p., magneto, spring forks, beautiful order; great bargain, £17 10s.—17, Al-e Rd., Wandsworth.

h.p. Antoine, torpedo tank, long, low, complete, wants slight repairs; £6 10s.—Brown, 140, Turn-Lane, Hornsey, N.

h.p. Minerva, will gratify your immediate attention; £17 10s.; guaranteed.—At Wauchope's, 9, Shoe e, Fleet St., London.

h.p. F.N., handle-bar control, first-class condition, just overhauled, good tyres; £17.—25, Lynton Crouch End, London.

EAGLES and Co., N.S.U. Agency, High St., Acton, have a few brand new 1908 N.S.U.'s at very low s; exchanges entertained.

h.p. N.S.U. Twin, with sidecar, 1908, Bosch magneto, N.S.U. two-speed gear and free engine, new ition; £40; any trial.—Eagles and Co., High St., n.

h.p. N.S.U., brand new, magneto, 1in. belt, 26in. wheels, 1908 specification; £30; approval; ex- changes entertained; only a few left.—Eagles and Co., i St., Acton.

h.p. N.S.U. Twin, brand new, Bosch magneto, 1in. belt, 26in. wheels, 1908 specification; £38; ap- al; exchanges entertained.—Eagles and Co., High Acton

h.p. N.S.U. Twin, 1908, magneto, spring forks, 1in. belt, equal to new; £27 10s.; approval.—Eagles Co., High St., Acton.

h.p. N.S.U., 1909 model, condition as new; first cash 30 guineas; guaranteed.—At Wauchope's, 9, e Lane, Fleet St., E.C.

REXES.**NEW or SECOND-HAND.**

You can't beat us on these machines.
Another supply of each model, with latest improve-ments, is now to hand, and very

SPECIAL

exchange allowances will be made against any make or condition of machine.

We can also supply

MOTO-REVES, DOUGLAS, N.S.U.'s, ROCS, BATS, BRADBURY'S, VINDEC'S, P. & M.'s.

"POPULARS."

1909 4 h.p. N.S.U. de Luxe, a beauty, NEW	£48 0
1909 two-speed HUMBER, new	36 10
1909 3½ h.p. REX Tourist, second-hand	(offers)
1908 T.T. TRIUMPH, nearly as new	84 10
1908 3½ h.p. Magneto REX DE LUXE	29 10
1908 3½ h.p. Tourist REX (NEW)	29 0
1908 REX, 3.6 h.p. R.A.C. rating	17 10
1908 3½ h.p. Magneto REX Racer, 24in. wheels	26 0
3½ h.p. two-speed PHELON & MOORE	22 0
1908 3½ h.p. 2-speed Magneto FAFNIR	28 10
3 h.p. BRADBURY, low, 26in. wheels	13 10
3½ h.p. Magneto VINDEC, fine condition	22 10
1906 3½ h.p. REX, spring forks, M.O.V.	15 10
3 h.p. SINGER, belt drive, H.T. magneto	19 10
3 h.p. ZEDEL, 26in. wheels, fine mount	14 10
3 h.p. CLYDE, magneto, long bars	15 0
3½ h.p. ARIEL, spray, 26in. wheels	14 0
3½ h.p. EXCELSIOR, H.B. control, torpedo	9 10
3½ h.p. REX, handle-bar control, Amac	11 10
2½ h.p. ARIEL, low machine	12 0
2½ h.p. M.M.C., vertical, spray, good	8 15
2½ h.p. LLOYDS, vertical, spray	6 10
2 h.p. MINERVA, spray, goes well	6 10
2 h.p. MINERVA, Lightweight, very low	6 10
2½ h.p. ARIEL, 26in. wheels, fine mount	9 0
2 h.p. VICTOR, spray	5 10

SIDE-CAR MACHINES.

1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer cords	32 10
5½ h.p. 2-speed REX DE LUXE, Conti-nentals	32 10
5½ h.p. REX DE LUXE, Roc clutch	27 10
1909 Twin N.S.U., two speeds, NEW	60 15
6 h.p. Twin REX and Forecar	22 10
5½ h.p. Twin REX, new tyres, black finish	17 17
5 h.p. Twin ZENITH BICAR	19 0
6 h.p. Twin REX and Sidecar	20 0
4½ h.p. 4-cyl. F.N., magneto	28 10
6 h.p. Twin ANTOINE, R.O.M. ignition	17 10

Five 5½ h.p. Twin Rexes, spring forks, long bars, low frames, aluminium finish blue lines, 26in. wheels. £17 17s. Grand sidecar machines.

ONE EACH ONLY.

Brand New 1908 3½ h.p. N.S.U.	29 gns.
Brand New 1909 Two-speed HUMBER	38 "

Amac Carburetters. Liberal exchange.

EASY PAYMENTS.

5/- weekly and reasonable deposit secures any of these machines. All tested and ready for the road:

h.p.		h.p.	
3 Lloyd's	£13 10	3 Quadrant	£10 0
3 Clyde	15 0	4 Coronet	15 0
4 Antoine	16 10	2½ M.M.C.	9 5
3 Humber	10 0	3½ Werner	13 10
3½ Rex	10 0	1½ Thomas	7 0
3 Brown	12 10	2½ Humber	8 10
4 Atelier	13 10	3 Bradbury	10 10

Monster List on application.

SPECIAL EXCHANGE ALLOWANCES.**GARAGE ROOM REQUIRED.**

CARS.	TRICARS.
16 h.p. Remo	£185 0
10-12 Brush	49 10
8-10 Ford	39 10
6½ Humberette	39 10
All ready to drive away, and excellent value.	

DE LUXE SIDECARS, 2½ in. Tyres; every-thing of the best. £6 0

Foreign order terms: 25 per cent. deposit, balance against bills of lading. Packed, F.O.R. Halifax.

1908 Magneto Machines Wanted for Spot Cash.

The Halifax Motor Exchange,

"LARGEST REX DEALERS"

Phone 716. Tel. Perfection. **16, Westgate, Halifax,**

MOTOR BICYCLES FOR SALE.

If You Want Bargains in second-hand, exchanges, new, come to 5, Heath St., Hampstead.

3 h.p. Brown, in nice, clean condition, a good source bargain at £12 10s.; guaranteed.—Wauchope's, Shoe Lane, Fleet St., London.

MOTOR CYCLE, good going order, coil, accumulator complete; only 6 guineas bargain.—Leslie, 12 Rye Lane, Peckham, London.

3½ h.p. 1907 Triumph, magneto, spring forks, searc light, all spares, splendid order; £25, bargain. Storey, 337, Euston Rd., N.W.

HAMPSTEAD Bargains on page 39; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678 P.O.

3½ h.p. Minerva, spring forks, B. and B., handle-bar control, splendid condition; £20.—F. N. Mattin ley, 71, Burchley Rd., Hornsey.

2½ h.p. 1909 Ariel Lightweight, not used 500 miles magneto; bargain at £18 10s.—At Wauchope's, 9, Shoe Lane, Fleet St., London.

4½ h.p. Twin Minerva, new June, 1908, 2½ tyres, lo build, not ridden 300 miles; £20.—Kennet jun., 46, Chapel St., Islington, N.

TRIUMPH, 3h.p., all wearing parts renewed, good as new, new Continental tyres; £20, bargain. Electricity Wks., Caterham Valley.

MINERVA, 2½ h.p., good condition, valve lifter, gi der forks, horn, stand, new accumulator; £8. Westwood, High St., Grays, Essex.

MOTO-REVE, 1908, spring forks, adjustable pulle starting, tank, stand and carrier; £22 10s.; tria —Turpin, 29, Preston Rd., Brighton.

3 h.p. Bicycle, low, Dunlops, fitted with pedal assi ing side attachment, fast, light, and neat; tria £15.—669, High Rd., Tottenham, N.

MOTO-REVE, ridden 200 miles, practically new, ma neto, spring forks, non-skid 2in. tyre, etc.; £30. S., "Hainault," Downs Rd., Epsom.

2½ h.p. Lightweight, low, as new, perfect, vertical e 24 gine, will exchange for higher power, or sell £1 —Cross, 180, Liverpool Rd., Islington.

3½ h.p. Rex, good going order, tyres good, Longuemar footrests, Brooks B100 saddle; £10.—Devere 37, Gaskarth Rd., Balham Hill, S.W.

TRIUMPH Motor Cycle, very fast; can be seen an tried Thursday or Friday after 6 o'clock; £20. Ivy Dene, 77, Boston Rd., Brentford.

2½ h.p. Minerva, low, B.S.A., perfect, many spares, a cessories, etc., new Continental, fast, reliable; £ —23, Mount Pleasant, S. Woolwich.

2½ h.p. Kerry, splendid going order, spring forks, Cli chers, good hill-climber; £12, or near offer.—Buck St., Camden Town, London, N.W.

3½ h.p. Rex, new tyres, battery, and long handle-bar 32 good going order; £12, or offers.—224, Wood S Walthamstow. Tel.: 528, Walthamstow.

6 h.p. N.S.U., twin-cyls., Bosch magneto, with sideca as new; £38.—On view, Holland Park Garag Prince's Rd., Holland Park, London, W.

3½ h.p. Antoine, Chater-Lea frame, splendid hi climber, new non-skid tyres; inspection invite bargain, £11.—127, Eade Rd., Harringay.

4½ h.p. Motor Cycle, Stevens engine, French gre 42 fast, smart; take sidecar any where; £16.—30 Garratt Lane, S.W. Earlsfield, L.S.W.R.

WERNER, 3h.p., very low, Michelin tubes and tyre everything perfect; £9 15s.; wants seeing.—3 Cadogan Terrace, Victoria Park, London.

4½ h.p. Minerva, excellent condition, 26in. by 2½ in. extra Stark Continental tyres; any trial; £2 10s.—Vivid, Motor Works, Bromley, Kent.

3 h.p. Ariel, 35 guineas seven weeks ago, in good co dition; 14 guineas for immediate purchaser. Garle, 49, Regent House, Regent St., W.

1908 3½ h.p. Rex, H.B. control, magneto, ball bea ing engine, Amac carburettor, new condition £26 10s.—44, Dornton Rd., Balham, S.W.

MOTOR CYCLE, 4h.p., twin Werner, spring forks, go condition; £12 only; must sell.—Apply, Kirkda 430, Seven Sisters Rd., Finsbury Park, N.

N.S.U., 3h.p., as new, almost unscratched, non-sk back, searchlight, spares, starts first push; £14. Wild, 54, The Vineyard, Richmond, Surrey.

A RECORD Breaker—16-20h.p. Bat-Jap Motor E cycle, capable of very high speeds, splendid con tion.—Particulars, Bashall, Ockham, Surrey.

3 h.p. Triumph, magneto ignition, good running orde £18 10s., first cheque secures; guaranteed.—A Wauchope's, 9, Shoe Lane, Fleet St., London.

3½ h.p. Minerva, Chater frame, spring forks, 2½ 32 tyre, fast machine, strong sidecar, Clincher; £1 or separately.—39, Hillfield Park, Muswell Hill.

2½ h.p. Motor Cycle, good condition, handle-bar co 24 trol, new Dermatine belt, tyres sound; £10; s before eight.—Ware, 217, Rye Lane, Peckham.

LATE 1908 F.N., 4-cyl., 5-6h.p., with forecar, equ to new, very little used; accept £38.—Mr. Stas, F.N. Motor Agency, 106, Gt. Portland St., W.

3½ h.p. J.A.P., magneto, Chater-Lea parts, sound a 32 reliable, a graceful and useful machine; £22 guaranteed.—At Wauchope's, 9, Shoe Lane, E.C.

2½ h.p. J.A.P., long bars, Chater-Lea frame, 26 2 wheels, steel studded back tyre, very fast; 10s.—Apply, H. Jones, 595, High Rd., Tottenham, N.

CARS FOR SALE.

LIPSE.—20-32h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.

LIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

LIPSE.—10-12h.p. Sorex Cab, 2-cyl., M.O.V., in splendid condition; sacrifice £115.

LIPSE.—16h.p. Pritchett and Gold, 4-cyl., tonneau, hood, pressed frame, perfect order; £80.

LIPSE.—12h.p. National, 3-cyl., 2-seater, hood, very good condition; £45.

LIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £52.

LIPSE.—6h.p. Swift-De Dion, 2-seater, Victoria hood, excellent condition throughout; £42 10s.

LIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £65.

LIPSE.—6h.p. Humberette, 2-seater, hood, three speeds and reverse; £34.

LIPSE.—16-20h.p. Royal Star, 4-cyl., M.O.V., side entrance, screen, in splendid order; £125.

LIPSE.—6h.p. Regal, 2-seater, three speeds, good as new; £36.

LIPSE.—6h.p. Vauxhall, 2-seater, three speeds and reverse, very good condition; £18.

LIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

LIPSE.—7h.p. Pope-Tribune, 2-seater, £32.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Isworth. Phone, 1135, Putney.

p. De Dion, English chassis and body, 2-seater, smart, good running order, three speeds and reverse; ice £50; motor cycle part payment.—17, Kenmore Mare St., Hackney, London.

AUFORT, 10h.p., 2-cyl., magneto, automatic carburetter, perfect running order, nearly new Dunspares, etc.; £125, or near offer; photograph on application.—Richford, 153, Fleet St., E.C.

p. De Dion-Regal, long chassis, 5-seater, 750 by 85, all new Dunlops, Stepney wheel, folding wind up, in superb condition, and complete with clock, light, and three lamps, rugs, jack, tools, and spares, for tour, splendid family car; £80; light tricar decar part payment; photo; any trial.—Woodgate, Coventry Rd., Birmingham.

INSURANCE.

EASE Send for full covering Motor Cycle Policy from 19s. per annum. — Bass, Insurance Broker, r.

URANCE for Motor Cycles of any description arranged by Hugh J. Boswell, Insurance Broker, rich, at very low rates. Fire, 2s. 6d.; third party, accidents to cycle, 14s. 6d.; accident to rider, 19s.; sive policy, 18s. 6d.; please write for particulars.

TOURING.

MPANION.—Wanted, a motor cycling companion, from third week August, for fortnight, to tour on rate lines.—No. 2,830, The Motor Cycle Offices, ntry.

GARAGES.

TOR Cycles in Paddington, one minute Chippenharn Hotel, Shirland Road.—Apply, 39, Fernoy Harrow Rd.

SITUATIONS WANTED.

VERTISER, 31, expert motor cyclist, seeks berth as traveller, any good firm, well educated. — No. 5, The Motor Cycle Offices, Coventry.

DIVER-MECHANIC wants situation, seven years' experience, own repairs, high power car, had nial experience.—W.L., 70, Campbell Rd., Bow, E.

NTLEMAN, aged 27, wants position in really first-class motor cycle firm, eight years' experience, Rex, J., Roc, Excelsior, and Kerry, owned personally, old London to Plymouth and back, only trial ever ed for, used to long distances, would race and run als, good business training.—No. 2,828, The Motor : Offices, Coventry.

BUSINESSES WANTED.

RAGE and Motor Repair Business wanted to purchase, with good fitting shops and modern machinery, must have a high-class and profitable connection. ply by letter, with full particulars, D2221, W. H. h and Son, 34, Union St., Birmingham.

PATENTS FOR SALE.

TOR Cycle Belt.—Patent rights, with stock and catalogue, good demand.—G. E. Fowles, 87, Cheap-Birmingham.

COUPLINGS.

MEL-LIBERTY, perfect; £1 5s.—Robb, Oughterard, Galway.

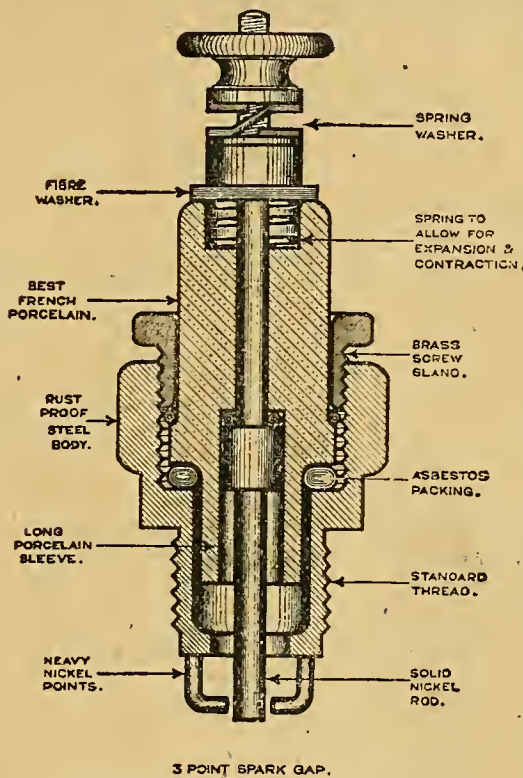
ARGAIN.—Ariel coupler; 14s.—10, Belmont St., Stapleton Rd., Bristol.

BERTY Coupler, perfect condition, complete; 17s. 6d., or offers.—A. J. Springett, "Haslemere," Ricay, Essex.

AN IMPROVED SPARKING PLUG.

"I suppose that in my time I have used as many different kinds of sparking plugs as most motor cyclists, and, as in everything else, some of them have proved satisfactory and others the reverse. Lately I was casting about for a plug, the construction of which would be likely to render it free from such defects as I had found in most of the others, and eventually I lighted upon one which seemed, from the look of it, to possess all the essentials necessary to that end. This was the new three-pointed plug recently introduced by Messrs. Lodge Bros. and Co., of 14, New Street, Birmingham. I was attracted in the first instance by a drawing showing the plug in section, which appeared in one of the motor journals, and I at once saw that the design was based on scientifically correct principles, while later, when I had an opportunity of examining one of the actual plugs, my first impressions in its favour were fully confirmed.

"It so happened that I had to make a week-end run of some 350 miles on a twin-cylinder machine, the engine of which, not having been dismantled for a considerable time, was in a somewhat dirty condition internally, while the piston rings in the front cylinder were anything but a good fit, the oil working past them, and getting on to the sparking plug points rather freely. I took the 'Lodge' plug with me as 'spare,' but the first time I was held up, owing to



THE THREE-POINTED SPARKING PLUG.
BY MESSRS. LODGE BROS. & CO.

oil and carbonised matter getting on to the front plug, I banged the 'Lodge' in, and there it is still, no misfiring having occurred subsequent to its insertion. As this happened before ten miles of the journey had been covered, it is certain that I owe my immunity from ignition trouble in the front cylinder to the presence of the new sparking plug. As a matter of fact, I removed the plug at the end of the outward journey, and found the electrodes smothered in oil; but as I had suffered no inconvenience whatever, and, moreover, with a view to giving the plug a thorough testing, I replaced it as I found it, and it fired away merrily all the way home.

"The illustration appearing on this page, for the original of which I have to thank Messrs. Lodge Bros. and Co., gives a good idea of the design of the plug. The sparking points and central pole are substantial in size, and made of pure nickel, guaranteed ninety-nine per cent., thus ensuring against the wearing away of the points by the action of the spark. The spark is brought well into the gap to be ignited and away from the cooling surface of the body of the plug and cylinder walls, so that extremely weak mixtures can be fired. This claim I found to be amply substantiated during my run referred to above. Special care has been taken to secure the best porcelain obtainable and to ensure its being held firmly in place, with due allowance for expansion and contraction. A porcelain sleeve projects round the central electrode, preventing any leakage of the spark over the surface. Spring washers are fitted to hold the high tension cable firm. Each plug is supplied with a steel gauge with which the sparking points can be quickly and accurately set should the gaps have been altered from any cause.

"Messrs. Lodge Bros. and Co. claim that this new plug of theirs is the best yet designed for petrol engines, and I may say that I am disposed to agree with them."

—Reprinted from "Motor Cycle Notes" in the *Model Engineer and Electrician* of July 8th, 1909.

ENGINES.

12h.p. Double-cyl. Horizontal Petrol Engine; £18. Daimler.—F. W. Blenkin, Burstwick, Hull.

34h.p. M.M.C. Engine, with Longuemare carburetter, perfect; £4.—14, Salisbury Rd., Highgate.

£3.—Antoine-Kelecom, 3h.p., M.O.V., and automatic carburetter. — 113, Wyggeston St., Burton-on-Trent.

NEW 5h.p. De Dion Pattern water-cooled engine with 13in. clutch; £10 10s.—45, Burton Rd. Brixton.

SIMMS 3h.p. Engine, complete with magneto, carburetter and pulley, as new; £5 15s.—406, Garrison Lane, Earlsfield.

6h.p. Vauxhall Engine, perfect condition, suitable for stationary work, outside flywheel, exhaust box, etc.; £9 10s., a bargain.—115, Boundary Rd., S. John's Wood.

34h.p. Rex, fitted Longuemare carburetter, induction pipe, levers, and exhaust, splendid running order, first cheque £3; C.A.V. trembler coil, new, 16s. 6d. cost 25s. 6d.—136, Church St., Lozells, Birmingham.

IGNITION APPLIANCES.

DREADNOUGHT Contacts, cure misfiring; fitted 2s. 6d. each.—Fellows, 49, Hertford St., Mayfair.

TREMBLERS, for all makes of engines, with solid pure platinum tips, 1s. 3d. each.—Meredith, G.O.M., Birmingham.

IT is a fact.—Pure platinum is best for contact tips.—Meredith, G.O.M., Summer Lane, Birmingham.

MOTOSACOCHE Accumulator (new), belt, used twice, cost 32s. 6d., take 24s.—Davey, 16, High St. Brentwood.

P.R., 10 amp, new 10s.; battery compartment, with coil, 10s., or separate; F.N. contact breaker, complete, 10s.—J. G. Smith, Hillend, St. Albans.

JEBRON, Registered 291-289, vastly superior platinum, cures misfiring; best contacts for blades, screws, rockers, magnetos, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmer 9d.; Jebron screws fit Bosch magnetos DA2, DA contact breakers 5a, 5b, 5c, 5s. 6d. pair; old screws Jebronised, 2s. 6d. each.

JEBRON, King of Contacts, fitted return post free. From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent. Liberal trade terms. Over 10,000 fitted. Try it.

JEBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Har Martin, when making their recent world's records.

IRIDIUM Champion Contacts.—Any parts fitted returned same day, 1s. 3d. each, warranted pure special iridium trimmers, 9d.; magneto screws refitted 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.

PLATINUM Contacts, warranted pure, any parts fitted, 1s. per rivet, post free 1s. 1d.; returned same day.—E. C. Potter, Jeweller, 72, Myddleton St., Clerkenwell.

MOTOR Ignition Repairs.—Coils, accumulators, magnetos repaired by skilled workmen; quotations at lists free.—The Victoria Garage and Electrical Co., Ltd., Coventry.

MAGNETOS.—Any make repaired on the premises by skilled workmen; magnetos re-magnetised quickly; work guaranteed.—The Victoria Garage and Electrical Co., Ltd., Park Side, Coventry.

ACCUMULATORS, Magnetos, and Coils repaired at lowest prices; work guaranteed; estimates given; repairs executed in two days; Mayfair accumulator 15s. 10s. 6d.; 20a, 15s.; guaranteed one year; second hand accumulators, from 4s.—Fellows, 49, Hertford St., Mayfair.

TYRES.

HOLDTITE Patch, the absolutely most reliable patch on the market.

HOLDTITE Patch will not come off, no matter how of tyre, or under any condition.

HOLDTITE Patch, combined with Surridge's special solution, 1s. per ½ lb. tin, ensures perfect results.

HOLDTITE Patches, for motor cycle, 1s. per dozen small cars, 2s. 6d. per dozen; car, 3s. per dozen.

SURRIDGE'S Indiarubber Magneto Covers, for motor cycles, 2s. 6d. each.

HOLDTITE Patch; sample free on receipt of penny stamp.—Surridge, 58, George St., Camberwell, London.

26 by 2½ Palmer cord, new, with Brooks case, to large new bike, guaranteed; 35s.—L. Learmonth Gosforth, Newcastle.

1,000 Old Covers and Tubes wanted in part payment for new tyres; gratifying allowances.—Booth's Motories.

2,000 Clincher Tubes with valves, 5s. 6d. each; Clincher covers, 17s. 6d.; 24 by 2, 14s. 6d.; Pete Unions, 18s. 6d.; Clincher studded covers, 25s.—Booth's Motories, Halifax.

3,000 Continental Tyres and Tubes, Shamrock rubber studded Palmers, R.O.M. non-skids; old covers wanted in exchange; right firm for tyres.—Booth's Motories, Halifax.

CLINCHER Tubes.—A few 26 by 2½, shop-soiled, but perfect; 4s. 6d. each.—Premier Motor Co., Ltd., Aston Rd., Birmingham.

TYRES.

CLINCHER A Won Tyres, all sizes, 17s. 6d.; inner tubes, 4s. 11d.; rubber studded, 26 by 2½, brand W, 25s.—Halifax Motor Exchange, Westgate, Halifax.

ASTONE.—New genuine Peter-Union rubber non-skid covers (basket pattern), 26 by 2, 28 by 2; price 37s., my price 25s.

ASTONE.—New motor cycle covers, ribbed pattern, wired edge, 26 by 2, 2½, and 2½, 11s. 6d. each; 28 by 2, 2½, 12s. 6d.; beaded edge 2s. extra.

ASTONE.—New French Dunlop heavy covers, 650 by 65; 30s. each.

ASTONE.—Camel covers, wired edge only, 28 by 2 and 2½; 9s. each.

ASTONE.—Tubes, with valves, best quality, and guaranteed, 26 by 2, 6s. 9d.; 26 by 2½, 7s.; 26 by 2, 7s. 6d.; 28 by 2, 7s.; approval against cash; subject being unsold.—Bastone, 215, and 217, Pentonville Rd., King's Cross, London, N.

6 Dozen Clincher Covers, all sizes, 17s. 6d.; rubber studded, 25s. each; Clincher tubes, all sizes, with valves, 5s. 6d., post free.—Farrar, Square Rd., Halifax.

DUO Steel-studded Leather Non-skid, vulcanised over, 26 by 2½ Clincher cover, £1; Continental 26 by 2½, 10s.—Clinch, 10, Mannoek Rd., Wood Green.

DUNLOP and Michelin, 760 by 90, new, non-skids, £2 17s. 6d. each; 810 by 90, 15s.; 880 by 85, 15s.; non-skid, 700 by 85, 12s. 6d.; several large adlights, 15s. each; 700 by 85 Stepney wheel, grooved unlop, £3.—128, High Rd., Tottenham.

MAUDE'S.—Genuine Clincher rubber studded covers, 26 by 2½ in. and 26 by 2½ in., maker's price 31s. 6d., price 25s.; all genuine goods and guaranteed; 28 by 2½ in. standard Clincher covers, 16s. 6d.—136, Great Portland St., W., and Powell St., Halifax.

REPAIRERS.

CER, Ltd., for repairs.—64, Grosvenor Rd., Hanwell, W. Tel.: 438, P.O., Ealing.

COMPRESSION Restored, cylinder ground to .001 in. guaranteed; pistons fitted.—Acer, Ltd.

ENGINE Repairs in all branches.—Overhauling, re-bushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges.—Lists free.—Acer, Ltd.

5 any motor cycle, we cannot repair. — White's, Brooks Alley, bottom Bold St., Liverpool. Phone, 3782.

XY-ACETYLENE Welding.—Broken cyls., lugs, flanges, water jackets, broken gear wheels; general castings repaired.

XY-ACETYLENE Welding. — Aluminium, copper, etc., specialities.

XY-ACETYLENE Welding.—Repairs guaranteed and returned promptly.

XY-ACETYLENE Welding, also cyls. rebored, new pistons and rings fitted, rebushing, motor, gas engine, and general repairs and alterations of all descriptions.—Address enquiries to West London Welding Co., Essex Place, Chiswick. Tel.: 536, Chiswick.

TOTTENHAM.—For practical and reliable repairs and overhauling try Matthews Bros., 96, West Green. Phone, 1722.

CRACKED Water Jackets of Motors successfully repaired by Lea's metallurgical process. — Lea and Sons, Engineers, Runcorn.

UTOGENOUS Welding.—Send that broken casting to the Alvaston Motors, Derby, to be welded by recent process; metal re-united.

UTOGENOUS Welding.—Costly castings saved from the scrap by our process. Cracked valve seats, water jackets, cylinder liners, pistons, frames, connecting rods, and a thousand other things.

UTOGENOUS Welding.—Wonderful results. Broken flanges, lugs, brackets, etc., all amenable to our process; send part to-day; quotations on sight.

UTOGENOUS Welding. — Alvaston Motors, Derby. Tel.: 1, Alvaston.

ORTH London.—Have your old machine made into 1910 model; modernising cars and cycles our speciality; estimates given.—Davis's Motor Wks., Barnsey Grove, N.

WELDING. — Motor cyls., water jackets, flanges, valve seatings, pistons, gas engines, and machinery of every description executed by experts and guaranteed; aluminium a speciality.

WELDING and Machining.—Cylinders re-bored, pistons fitted, crankshafts, re-bushing, etc.; send parts and

WELDING to the Commercial Inventions Exploitation Co., Ltd., 148, Edmund St., Birmingham.

S Practical Motor Engineers and riders, we can assist you in any trouble; no help, no charge.—Tennant Engineering Co., 53, Tennant St., Birmingham.

NY cast or wrought iron parts repaired equal to new at nominal cost, by oxy-acetylene process; broken cyls. a speciality; no charge if unsuccessful.—Hensell's Acetylene Co., Engineers, Carbide Importers, etc.

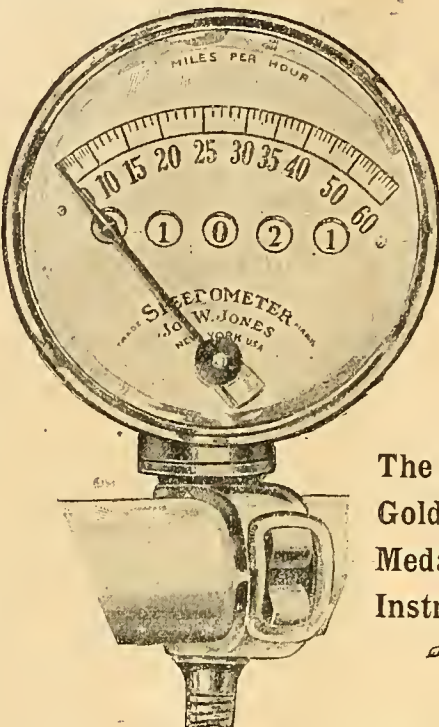
BIRMINGHAM Motor Cyclists.—All repairs cheaply and intelligently carried out under personal supervision. We are compression specialists; cyls. re-bored and new pistons fitted from 12s. 6d.—Tennant Engineering Co., 53, Tennant St., Birmingham.

A FEW GOOD THINGS

for the

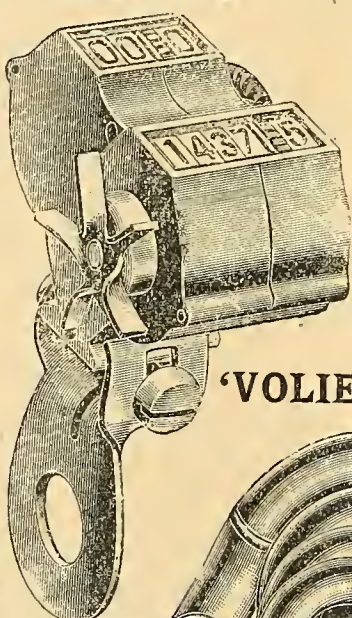
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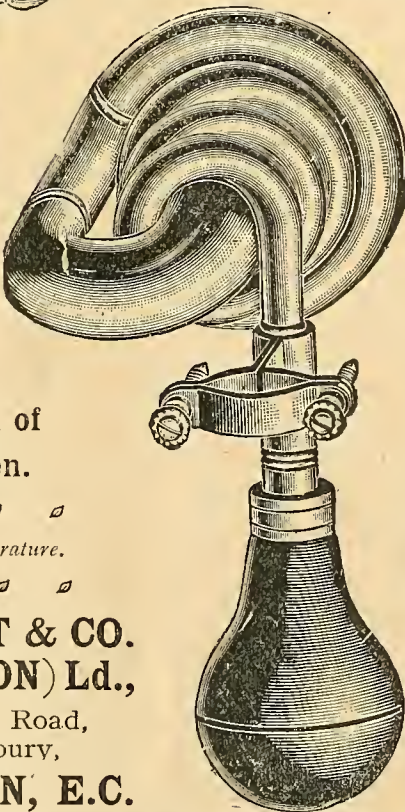
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The WORLD'S Distance Recorder.

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The Horn of the Season.

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MARKT & CO. (LONDON) Ltd., 6, City Road, Finsbury, LONDON, E.C.

REPAIRERS.

REPAIRS of every description promptly executed at reasonable prices; quotations given; workman guaranteed; adjustable pulleys, no tools required, 6d.—Broughton, Waterloo Rd., Hunslet, Leeds.

TO West of England Motorists.—Car and motor repairs, prompt and reliable; cylinders re-bored and new pistons and rings fitted; don't hesitate; straight to us.—Hamlin, Motor Wks., Bridgwater.

CCCCCCCC.—Compression means power; cylinders bored and new piston fitted; guaranteed 4-1,000 in. bears 13 stone on pedal; write for 1 Gradior Machine Co., Compression Specialists, Staff.

BIRMINGHAM.—Overhauling, cylinders re-bored, bushing, pulleys, valves, any make; accumulated and repaired; frames cut down; workman guaranteed; prompt attention.—Priest and Co., Bl Street.

EXCHANGE.

EXCHANGE Tricar for good cob and cash.—See cars.

23 h.p. Bradbury for 3½ h.p. engine, little cash. 24 Gibbins Rd., Selly Oak.

5½ h.p. Twin Rex, spring forks, fast, powerful, new; exchange good 3½ h.p.—7, Carr St., Fulw Preston.

4 CYL. F.N., splendid condition, for 3½ h.p. single good make, or sell £20.—Jackson, Crescent Harrogate.

EXCHANGE 5 h.p. Vindec racer for 1908 Triumph in good order, a real flier.—Cross, Triumph at Rotherham.

6 h.p. Twin Chater-Lea-Coronet, M.O.V., nearly new good single and cash.—Yeats, 18, Sciennes Edinburgh.

EXCHANGE 5 h.p. Twin Kerry, nearly new condition for single 3½ h.p., cash adjustment, or sell.—She Wokingham.

LARGE Graphophone, records, horns, stand, cost £15, exchange good motor cycle.—14, Zermatt Chapeltown, Leeds.

POWERFUL Oak Cabinet Gramophone, latest; cost £15, exchange motor cycle.—1a, Lyall M Eaton Sq., London.

EXCHANGE 3½ h.p. Minerva, H.B. control, etc., cash and low push cycle.—F. N. Mattingley, Burghley Rd., Hornsey.

TWO-SPEED Hub Gear, perfect, fan, and accessories for good push bike, or cash.—39, Summerl Mansions, Muswell Hill.

QUOTATIONS Given of the keenest for exchange with 1909 Rex models. Try us.—Halifax M Exchange, Westgate, Halifax.

EXCHANGE, 3½ h.p. Humber Tricar, splendid condition, for good motor cycle.—Coleman, 48, Bl stock Rd., Finsbury Park, N.

EXCHANGE, 2½ h.p. Clyde engine, new, and 4 Minerva, M.O. valves, for 5 h.p. twin Peugeot Sarolea.—450, High Rd., Streatham.

EXCHANGE, or sell 14 guineas, 3 h.p. motor cycle chain drive, for 3½ h.p. 1907 Rex, other good m —H. Fowler, 41, Beverley Rd., Bolton.

EXCHANGE, £25 Beck Microscope, No. 1 and eye pieces, 1, 4, 1-6 inch objectives, as new, magneto cycle.—Vine-Stevens, Kinver, Staffs.

EXCHANGE 2½ h.p. Werner M.C., and Provident B for £250, paid up £32 for higher power sidecar.—Glazier, 52, Manchester Rd., Swindon.

FOR Exchanges, cash deals, or the like, it will be your own advantage financially to call on Mau 136, Great Portland St., W. Satisfaction guaranteed.

GIVE New Rubber Belt for Xpall spring forks, other accessory. Give brand new gent's cycle, roller brakes, for sidecar.—Booth's Motories, Halifa

EXCHANGE coach-built tricar, 10-12 h.p., three spe and reverse, perfect condition, for Triumph mo 3½ h.p., and cash.—Colelough, draper, Fenton, Stoke Trent.

EXCHANGE, 3½ h.p. Motor Bicycle, inclined eng in good condition. Fitall two-speed gear, and s ear, or sell £11, or offer.—L. Smith, Plumber, H Wycombe.

MOTORS.—Rex, Eadie, and Minerva lightweight, £5, and £5 respectively, or exchange diam jewellery, offers.—Schofield, 2, Wellesley St., Shel Stoke-on-Trent.

WILL give £15 and 2½ h.p. F.N. motor cycle, chased September, 1907, for modern twin m cycle, magneto, suitable for sidecar work.—Mil Salter Gate, Chesterfield.

DENSMORE Typewriter, value £8 10s., perfect; change for cycles, furniture, or anything us to cycle agent.—Apply, X.L., Box L5,785, The M Cycle Offices, 20, Tudor St., E.C.

3½ h.p. Kerry Tricar, free engine, £18 10s., per 3½ 2 h.p. Werner bike, low, light, £5 10s.; motor punt, £28—wanted cash, S.C. lathe, useful changes.—Francis, 6, Dalston Lane, N.E.

3.6 h.p. Magneto Rex, unused, 1909 machine, f with special reinforced Clincher tyres for tou would exchange for lower priced machine and cash sell £20.—32, Rosebery Av., London, E.C.

4 h.p. Roc, magneto two-speed gear, 1908 mac practically unused, and in magnificent order condition: £35, or exchange for lower power and appointment.—101, South Norwood Hill, S.E.

A.C.U. Six Days' Trials.

LIST OF JUDGES' AWARDS.

THE judges have decided that the awards in the above trials should be presented as follows:
"THE MOTOR CYCLE" GOLD MEDALS.—For the best performance by a private owner in the bicycle class: F. S. Barnwell (3½ h.p. Triumph). For the best performance by any competitor on a motor bicycle with variable gear: W. Milnes (3½ h.p. Phelon and Moore, P. and M. two-speed gear).

MISS M. HIND'S CUP (for best performance of a twin-cylinder machine).—T. H. Tessier (7 h.p. Bat-J.A.P.)

A. J. WILSON'S CUP (for best performance of a light-weight machine).—W. W. Douglas (2¾ h.p. Douglas twin).

M. J. SCHULTE'S CUP (for best performance on a single-cylinder machine).—F. C. Mustard (3½ h.p. Triumph).

A.C.U. TEAM PRIZE (for best performance of a team of three machines entered by a trade representative).—Phelon and Moore, Cleckheaton.

WINNERS OF A.C.U. GOLD MEDALS.

A. D. Draper (3½ h.p. Matchless).
 C. Williams (3½ h.p. Triumph).
 W. W. Douglas (2¾ h.p. Douglas).
 P. Phillips (2¾ h.p. Douglas).
 W. O. Bentley (3½ h.p. Rex).
 W. H. Wells (5 h.p. Indian).
 W. Pratt (3½ h.p. P. and M., two-speed).
 W. Milnes (3½ h.p. P. and M., two-speed).
 T. Canby (3½ h.p. P. and M., two-speed).
 J. Slaughter (3½ h.p. Triumph).
 W. H. Bashall (6-7 h.p. Bat-J.A.P.)
 H. H. Bowen (6-7 h.p. Bat-J.A.P.)
 T. H. Tessier (7 h.p. Bat-J.A.P.)
 W. Smith (2 h.p. Moto-Rêve).

G. L. Fletcher (2 h.p. Moto-Rêve).
 O. C. Godfrey (3½ h.p. Rex).
 F. Southam (3½ h.p. Triumph).
 R. W. Duke (3½ h.p. Triumph).
 F. C. Mustard (3½ h.p. Triumph).
 J. Holroyd (1¼ h.p. Motosacoche).
 J. F. Crundall (3½ h.p. Humber).
 A. V. Sumner (3½ h.p. Humber, two-speed).
 F. C. Wood (4 h.p. N.S.U., two-speed).
 W. F. Newsome (3½ h.p. Triumph).
 J. Marshall (3½ h.p. Triumph).
 Gordon Gibson (3½ h.p. Triumph).
 G. E. Stanley (3½ h.p. Premier).
 F. W. Barnes (3½ h.p. Zenith-Gradua).
 G. E. Carrow (3½ h.p. T.T. Triumph).
 F. S. Barawell (3½ h.p. Triumph, two-speed).
 Rev. Basil Aston (3½ h.p. Triumph).

A.C.U. SILVER MEDALS.

G. H. Lake (3½ h.p. Triumph).
 R. Moore (3½ h.p. P. and M., two-speed).
 A. J. Sproston (5 h.p. Rex).
 J. O. M. Dixon (5 h.p. Vindec).
 F. Edmond (3½ h.p. Humber, two-speed).
 O. Parker (3½ h.p. Humber).
 P. J. Evans (3½ h.p. Humber).
 A. Weatherill (3½ h.p. Zenette-Gradua).
 J. W. Morris (3½ h.p. Bradbury).
 P. Platt (3½ h.p. Bradbury).
 J. Eastwood (3½ h.p. Bradbury).
 R. King (3½ h.p. Triumph).
 T. Woodman (7 h.p. V.S.).
 H. B. Lewis (3½ h.p. Triumph).
 R. Fletcher (3½ h.p. Premier).
 A. J. Stevens (3½ h.p. Wolf).

A.C.U. CERTIFICATES.

F. G. Boddington (3½ h.p. Rex).
 G. Simpson (3½ h.p. Bradbury).

BAD LUBRICANTS.

By "IXION."

IHAD thought that the days of inferior lubricants were almost over until I struck the brand recently described in "Occasional Comments," and I received by post the other day from a most reliable correspondent an account of his experiences on a southern tour with a motor bicycle—experiences which tell a lurid tale of villainy. He started with a tank half full of Price's A, and when it was exhausted he chanced to buy the brand of oil I recently condemned as separating into sludge and water at a low temperature. Soon after this oil was put in his engine pulled badly and ran hot, and the plugs carbonised. He went from shop to shop for Price's "A," but could not get it until he met a conscientious cycle agent, who thought he knew where some was to be had. A barrel marked "Price" was found at an oilshop finally, but was very thin—probably "C" water-cooled or gas engine oil. Failing a known brand

of thick oil, my friend preferred thin Price to a dubious thicker oil. The engine ran better on this, but still worked rather hot. At the next town he found a row of samples of Price's oil in a garage—A to C, almost to Z. The proprietor, however, could only supply it in unsealed cans "drawn from the wood," as he averred. So my friend progressed from town to town, paying an average price of eighteenpence a quart, plus 6d. for the tin, always for unsuitable oil, the genuine "A" in sealed cans being unobtainable anywhere. Finally things got so bad that he put up for the night and took his engine down, to find that the pistons were all carbonised, and the rings were jammed so tight in their grooves that nothing would loosen them. The moral is that the big lubricant distributors must keep a far more watchful eye on their agents, and that riders must be careful what brands of oil they buy.

THE MOTOR CYCLE

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

The Motor Pacing Disaster in Berlin.

BY AN EYE WITNESS.

THE catastrophe at the newly built wooden track at Berlin which occurred one day last week must be ascribed to the popular craving for sensationally high speed. German track managers and owners know perfectly well that a programme without a motor cycle paced race has little or no attractions for the average cycle track frequenter, and in consequence a race of this kind always figures in the programme. It is the ambition of every German manager to be connected with a cycle race track admitting of speeds equal at least to that of an express train, and thrice happy he who owns the track in which the record is broken. New tracks are constructed to meet public requirements, and the one that furnished the scene for the gruesome disaster in Berlin, involving half a dozen deaths, to say nothing of injuries, formed no exception to the rule. Very high speeds indeed are attained on this track, and at the moment the smash took place the motor cycle pacers were "trailing" their respective men at nearly fifty miles an hour. As usual, the immediate cause of the calamity was a tyre failure, an indirect cause being on this occasion the comparatively high position of the pacing machine on the banking at the moment the tyre burst. Krueger, who occupied inside position, had just taken his man past the Swiss follower, Ryser, who was paced by a heavy tandem steered by Borchardt, at the time he appeared to be travelling outside the mark allotted to the inside man; in fact, he admits laxity in this respect, but explains that even on the ordinary curve or banking his tyre failed to bite

properly. Borchardt had no option but to take his heavy machine far up the banking in order to avoid a collision with Krueger and his follower, who fell. As long as the tandem travelled along the line of the central curvature, which is not very pronounced, it ricocheted against the barrier, but on reaching the sharper curve at the entrance into the straight it ran into the barrier almost at right angles. At this point the banking is very steep, forming an obtuse angle with the barrier, so that the latter constituted a sort of inclined plane for the tandem to run up. Had the pacing machine been a single-seated one, the necessary momentum for the fatal climb would doubtless not have been there, but in the case of the tandem, with its own weight and the double load, combined with the speed, the huge tandem and its burden, to the horror of the spectators, went over the barrier, the rear part reaching the floor first. The illustration on the next page shows the front wheel caught on the top of the barrier. The tandem was barely over, when the petrol spirit ignited, and the tank, holding three gallons of spirit, exploded. In an instant the "Kurvenplatz" was a river of fire. By the time the firemen had got the better of the flames several spectators had been burnt to death and a large number severely injured. Ryser, the follower, was thrown over the barrier a little in the rear of the tandem, and he and both his pacemakers escaped with a few bruises and burns. Borchardt did not lose his head during that awful moment, but tried his utmost to counteract the outward swing of the tandem and bring it into

The Motor Pacing Disaster at Berlin.—

the straight. Whether the Berlin catastrophe will induce the authorities to prohibit motor cycles for pacing purposes remains to be seen, but, as might be expected, a number of self-appointed correspondents have rushed into print demanding their prohibition.

The point that is most strange after all is, why did the petrol ignite? Either the exhaust pipes must have been almost incandescent, or the contact maker must have been minus a cover, and the sparks at the contacts must have ignited the petrol vapour. Motor cyclists who ride machines with H.T. magneto ignition will bear us out when we say that it is possible to fall and for the engine to run while the machine is lying on the

ground without the petrol igniting or doing anything more dangerous than cooling the external parts of the engine. In all probability the liquid petrol falling on the hot engine was immediately vaporised and a spark from some part of the exposed ignition mechanism set fire to the vapour. That the ordinary roadster or racer is likely to catch fire in the same manner is extremely unlikely, and even if it be not, the spectators, at least as far as Brooklands is concerned, are quite safe. At Brooklands they occupy the centre of the track and not the outside edge of the racing track over which a competitor is likely to be propelled if a tyre bursts suddenly. Moral: Use tyres that are strong enough and unlikely to burst!



A remarkable photograph of the disaster at the new wooden track at Berlin. Our German correspondent who was an eye-witness of the accident, describes on this and the previous page what happened. Cycle racing with huge pacing motors is very popular on the Continent. The burning tandem required one man to steer it and another to attend to the controlling levers.

—•••— SPRING HANDLE-BARS.

THE almost universal fitting of spring forks on motor bicycles has rendered the use of other spring devices less essential than formerly; nevertheless we think that in many instances, a spring handle-bar, such as the one made by S. Allen and Co. and called the "Ideal," would improve the comfort of many motor cycles. On a rigid framed tricar all shocks from the front wheels are communicated direct to the driver's arms, and on "pot-hole" or rough roads the shocks are most unpleasant. These shocks are not the result of actual vibration such as that experienced at high speed on a motor bicycle with rigid forks, but are more due to the rise and fall of the wheels when running on an unequal surface. The roads in the neighbourhood of Coventry are notorious for what are called "pot holes." In some districts these are filled up with tar and stones and rammed in, but outside the borough of Coventry we

have never noticed any attempt to fill up these holes properly except in a short stretch between Castle Bromwich and Stonebridge. The fact remains that they are most unpleasant, particularly to drivers of small cars and passenger motor cycles. In daylight riders of motor bicycles can dodge these holes. The tyres fitted to large cars bridge the holes, somewhat on the same lines as the *Mauwetania* bridges three waves of the Atlantic, but 26in. x 2¼in. wheels fit these holes in a surprisingly efficient manner. The Ideal handle-bar, which we have tried on a Rex Triette, absorbs the shocks arising from the holes and mounds in a worn road, and we find the machine very much more comfortable to drive than it was with a rigid bar. We can safely recommend the Ideal spring handle bar to all motor cyclists, and particularly to owners of three-wheelers, as these machines are more subjected to road shocks owing to the three tracks.

Time to
light lamps

Special Features

CURRENT
CHAT

July 28 .. 8.53 p.m.

,, 31 .. 8.49 ,,

Aug. 4 .. 8.43 ,,

THE SCOTTISH FIVE DAYS' RELIABILITY
TRIALS.

Tests of new pattern motor cycles.

Next Week's Issue a Day Late.

In consequence of the August Bank Holidays, the next issue of *The Motor Cycle* will be published on Thursday, August 5th, instead of Wednesday. Reports of holiday doings, including the Brooklands Race Meeting and the M.C.C. London to Land's End and back run for the Jarrott Cup, will be included in this number.

A.C.U. 24 Hours London-Plymouth and Back Run.

As announced in our last issue, the Palmer Cup in the above trial has been awarded to P. Moffatt ($3\frac{1}{2}$ h.p. Triumph), whose aggregate error was 4m. 53s. The performance of H. A. Cooper ($3\frac{1}{2}$ h.p. Rex) so nearly approaches the best (his aggregate error being 5m. 8s.), that the judges recommend that a gold medal be awarded him. The other medal winners were given on page 511 of the issue of the 7th inst.

To What Base Uses, etc.

Mr. Ernest Frasetti, one of the troupe of entertainers which performs under the name of Les Frassetis, informs us that whilst journeying from London to Newport, Mon., on his 7 h.p. two-speed V.S. and sidecar, the back tyre burst near Witney. The damage was repaired with a four-ply canvas patch, but this gave out near Gloucester. Time was flying, and Mr. Frasetti was at his wit's end to know what to do, as he was due at the theatre at Newport at 6 p.m., and it was three o'clock when the tyre deflated near Gloucester, and he had still over sixty miles to travel. Suddenly he thought of a copy of *The Motor Cycle* which he had in his pocket. This he folded up and placed between the tube and outer cover, and by this means was enabled to reach Newport in time without further trouble. Mr. Frasetti has sent us the dilapidated remains of the copy of *The Motor Cycle* for our inspection.

Constitution Hill, Swansea, Climbed.

While at Swansea Mr. Frasetti made the ascent of Constitution Hill, with Miss Daisy Jerome as passenger. He has since been informed locally that this is the first time the hill has ever been climbed by a sidecar and passenger. The Borough Surveyor of Swansea gives the following particulars of the hill: Length 1,310ft.; steepest portion 950ft., with an average gradient of 1 in 5, the last 100ft. being 1 in $3\frac{1}{2}$. The sidecar was stopped on the last pitch and restarted, but as the brakes would not prevent the machine running backwards bricks had to be placed behind the wheels.

Cardiganshire Free of Police Traps.

As a result of a paragraph in *The Autocar* drawing attention to police traps on all roads leading to Aberystwyth, the Town Clerk of Aberystwyth communicated with the Chief Constable of Cardiganshire, and asks us in fairness to Aberystwyth and the Cardiganshire police authorities to state that *The Autocar* has been misinformed, for during the past nine months in the whole of Cardiganshire only six of the most flagrant cases of driving through villages—the speed ranged from twenty-three to thirty-two miles per hour—have been prosecuted, and one for driving to the danger of the public. Motors have not been timed on open roads in Car-

medals, and two single-cylinder bicycles will receive certificates. Eleven of the above successful machines had variable gears, and five were fitted with chain drive, the remainder being belt-driven. Altogether forty-nine are to receive an award out of seventy-four starters.

Police Traps.

At Godalming traps are working both ends, and in the middle of the town.

Mold, first mile out on the Denbigh Road, said to be worked three days per week.

We have received information that a police trap is working between Cromer and Overstrand, Norfolk.

Between Thirsk, Yorkshire, and Yarm, about four miles from Yarm. Another two miles north of Yarm, on the way to Stockton.

The Guildford police have instructions to enforce the ten miles limit, which has just been somewhat extended, and are working traps on the steepest part of Hogs Back, near the hospital.

1,500 Miles in One Week.

Mr. Basil H. Davies holds the longest authenticated record, but the following week's running would take a lot of beating. Mr. Hugh Gibson sends us a summary of his journeys from the evening of July 12th to the evening of the 18th inst. On the Thursday (15th inst.) he did not ride. Monday evening (July 12th), Southport to Wigan; Wigan, Ashton-in-Makerfield and back; Wigan to Garstang (picked up Hart-Davies) and back to Wigan; Wigan - Gloucester. 13th, Gloucester, Exeter (lost way ten miles), Okehampton (lost way and went on *via* Callington, Liskeard, to Bodmin) 15-20 miles further round, Redruth, Penzance, Land's End. 14th, trained to Bristol, rode from Bristol, Gloucester, Hereford, Shrewsbury, Chester, Liverpool, and Southport. 15th, did not ride. 16th, train to Willesden, rode to Taplow, etc. (28 miles), and then competed in M.C.C. twenty-four hours' trial (450 miles), finished 8 p.m. July 17th. 18th, left Taplow 10 a.m. and rode home *via* Oxford, Banbury, Coventry, Northwich, Runcorn, and Prescott, arriving at 8 p.m. Two hours stop at Alsager, Cheshire. Mr. Gibson's only troubles all the week were two punctures. The mileage works out at about 1,500 for the six days, yet we are told his 1909 Triumph pulled as well as ever at the finish.

FUTURE EVENTS.

July 28 (Wed.)—A.C.U. Quarterly Trial. Uxbridge to Banbury and back.

„ 25-Aug. 1—The Tour de France Reliability Trials, organised by the Auto Cycle Club de France.

„ 31 and Aug. 2—M.C.C. London to Land's End and back Run for the Jarrott Cup.

„ 31 and Aug. 2—Race Meeting at Brooklands (five events for motor cycles).

Aug. 2-3—Open 400 Miles Reliability Trial for Muratti Trophy, in connection with the Ulster Centre M.C.U.I.

„ 2—Motor Cycle Races at Cambridge Mammoth Show.

„ 2—Motor Cycle Racing at St. Albans Hospital Sports.

„ 18—British M.C.R.C. Meeting at Brooklands.

„ 21—Coventry and Warwickshire M.C. Open Hill-climb.

Sept. 23—THE TOURIST TROPHY RACE FOR MOTOR CYCLES IN THE ISLE OF MAN.

diganshire, and the Chief Constable says that motorists are treated with great leniency. It is to be hoped that Cardiganshire's nearest neighbours will take a lesson from this statement, for we have still to be convinced that Aberystwyth can be reached from England without undue attention from the police, although Cardiganshire may not be the defaulting county.

Six Days' Trials. The Successful Machines.

From the list of judges' awards in the Six Days Trials, it will be seen that twenty-three single-cylinder machines and eight twin-cylinder machines gained gold medals, twelve single-cylinder machines and four twin-cylinder machines will receive silver

Well-known Photographer a Motor Cyclist.

Professor Carlton Lombert, who writes the photography articles in the *Daily Telegraph* and other papers, owns and makes use of a 5 h.p. twin two speeded Rex and a 20 h.p. Rover car. He resides at Cudham, Kent, in the vicinity of the test hill.

A Sensible Move.

So many complaints having been made as to the ten miles speed limit notice-board at Bromley being obscured we are pleased to hear that the board has now been moved, and placed in a much more prominent position nearer Bromley Hill, and over a furlong from the point where the speed limit commences. The police trap has now been suspended, and it is to be hoped there will be no cause for further "timing."

First Aid Tricar.

We understand that the tricar for first aid purposes at fires, for which the Bromley Urban District Council is inviting tenders, will specify a water-cooled engine, two-speed gear, and chain drive. The machine at Beckenham, the first of its kind in the country, has a twin air-cooled engine and belt-drive, but with the two heavyweight firemen, some slipping of the belt, we are told, takes place on steep hills, and especially in rainy weather. This we can readily understand with such a heavy load.

The Fascination of the Folkestone Road.

Since the Brighton boycott, the Folkestone Road has become the favourite seaside run with motor cyclists. The projected cross-Channel flights are proving a fillip to both Dover and Folkestone, and from the crown of Dover and Folkestone hills the fields and cliffs on the French coast are quite discernible on a clear day. The coast road to Margate is in excellent trim. We recommend Margate and Folkestone as seaside touring centres for Metropolitan readers, the roads for some distance round being excellent and free from traps.

A Growing Bad Habit in Scotland.

A young tube worker named Thos. Dickson, residing at Airdrie, Lanarkshire, was last week fined 25s. in the police court for laying down pieces of a broken glass bottle on the public road. It was stated that this menace to motor cycles and motor cars and other vehicles with rubber tyres on their wheels was becoming too prevalent in the district.

Quaint Roadside Signboard.

Motor cyclists riding on the direct road from Canterbury to Margate cannot fail to notice a large and prominent signboard erected in a field adjoining the road near Sturry. On this is painted in white letters on a black ground the words, "Motor cars are the curse of our roads." Apparently motor cycles do not come under the ban. We must be thankful for small mercies. Will some tame idiot erect a notice board in the future calling attention to the fact that aeroplanes are the curse of our skies?

The Two-stroke Scott.

Readers may have noticed that there has been some delay in getting batches of the new model Scott motor bicycle on the road, caused by the makers' determination to have the machine right in every detail before delivering it to private customers. When in Bradford a week ago Mr. Eric S. Myers invited a member of *The Motor Cycle* staff to try the latest machine out of the works on a local test hill. This machine Mr. Myers described as perfect in every way, and certainly its ease of starting, smoothness of running, and hill-climbing capabilities were all that could be desired. Those readers who have two-stroke Scott motor cycles on order should wait patiently for delivery, for they will certainly receive a machine to be proud of. Mr. Phillips, who was a competitor in the Six Days' Trials on a Scott, completed two days runs without losing any marks, but on the third day he experienced an engine mishap. The makers immediately set

to work to guard against a similar occurrence on engines coming through the shops, and by eliminating any possibility of trouble in this manner the machine has reached its present stage of excellence. The week-end before last the designer, Mr. A. A. Scott, made a clean ascent of Sutton Bank on one of his machines, which is certainly a fine performance.

Round the world by Motor Cycle.

At the beginning of last week an American motor cyclist, Mr. T. E. Riley, arrived at Southend-on-Sea, having completed 4,000 miles of his journey round the world by motor cycle, he told our correspondent. He started from Spokane, on the Pacific Coast of America, and the registered number of the motor cycle is K 2433.

An Important Test Case.

A case of interest to motor cyclists has been decided in the Dunmow County Court before his Honour Judge Tindal Atkinson. The claim arose from the destruction of a motor cycle while being filled with petrol by a local motor agent, it being pleaded that his employee had been careless in allowing the petrol to spill upon the heated silencer. Evidence having been given to show that the silencer in question had a tendency to rapidly soot up, and that the owner was not a skilled driver, His Honour, in delivering judgment in favour of the motor agent, held that the explosion had been caused by the petrol vapour having been ignited by soot still burning in the silencer, that the spilling of petrol was a usual occurrence in the filling of motor cycle tanks, and did not constitute carelessness on the part of the filler, and that, finally, a motor agent, on being requested to fill a tank, was not bound to assure himself that the machine was in a fit condition to be filled. It does not follow that another judge would take the same view of the matter. Frequently we have seen petrol tanks overflowed entirely owing to the carelessness and negligence of garage attendants.



At the Norwich City Football Club sports on the 17th inst. a three miles motor cycle race was included. There were ten entries. The illustration shows the start of the final. Reading from the left—H. Duge (3½ h.p. Rex) who won, M. Parfitt (2½ h.p. Peugeot), A. Lincoln (3½ h.p. Triumph) second, and R. O. Clark (5 h.p. F.N.)

OCCASIONAL COMMENTS.

BY "IXION"

A Defect of Some Engines.

Not a few riders and writers have hinted of late that sundry manufacturers are inclined to overdo the horsepower efficiency business. The worst symptom I have struck in some of this year's ultra-efficient single-cylinders is their inability to climb really steep hills when they are hot. We old stagers can remember how the $2\frac{3}{4}$ h.p. machines of 1903 would baulk on hills after they had been driven a few miles on a generous throttle allowance; then from 1904 to 1908 I possessed machines which did not overheat, and were game to climb hills like Dashwood or Broadway or Newnham, even when they had been forced along for many miles at a good pace in the early morning. But during 1909 I have handled two or three different makes which can only take a mile of 1 in 10 when they start cold. If I take them out on a lonely road and drive a few miles in excess of legal limit, and then put them at a stiffish hill of half a mile in length, they invariably baulk. My explanation is genuine overheating, arising from too high a ratio of engine compression. The moral is that the test of a first-class engine to-day is to see whether it will stand hard driving over a short course liberally sprinkled with stiffish hills. If it won't, the probabilities are that it is not suited to localities where steep hills occur every few miles, *e.g.*, Durham or Devonshire.

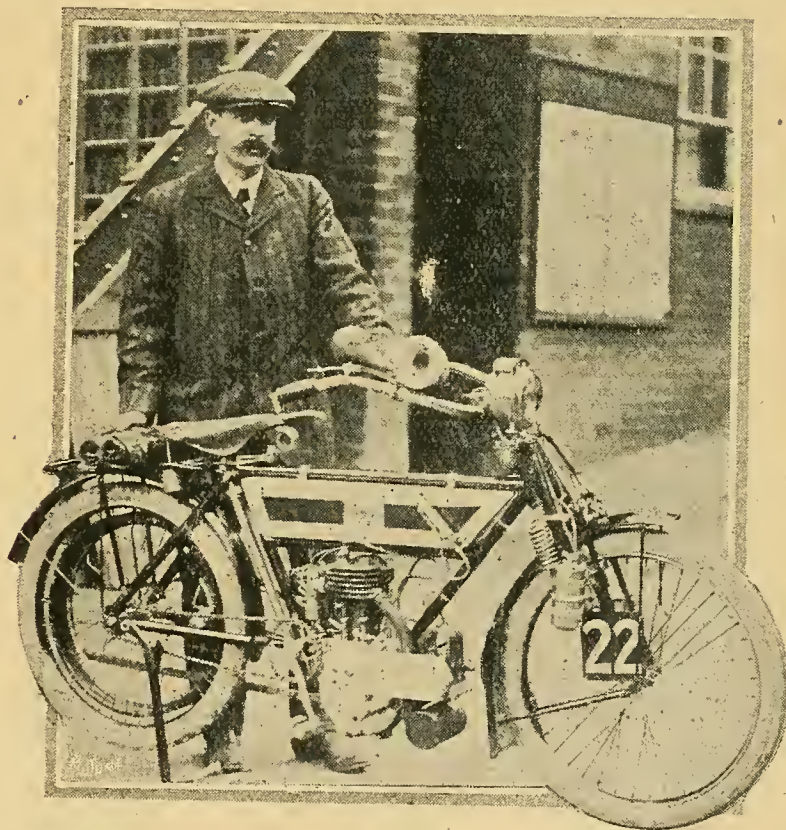
Standard Machines.

Any sincere club committee who is trying to eliminate special machines from its competitions will run up against a difficulty when it receives the entry of a "small make." To take an actual example, the Trump-J.A.P. and N.L.G. machines have proved rather successful at Brooklands. I do not wish for a moment to imply that these machines were dishonest, or that any blame attaches to their makers if they were provided with details not ordinarily to be met with on tourist machines made by firms with huge annual outputs. These points do not enter into the question at all. My point is simply this: We will suppose the committee of the Blankshire M.C.C. arranges a class confined to standard touring machines both in practice and theory. Attracted by the performances of the two above-named machines at Brooklands, I buy a sample of each and enter them respectively in the single and twin classes of the Blankshire hill-climb. Who is to say whether either of my machines is a standard tourist machine? Of course, if it had exhaust outlets drilled in the cylinders or dummy silencers it could easily be disqualified. But if it had a very light frame and a racing compression it might yet be a standard example of its make. I think it is advisable that the A.C.U. council should draw up a standard equipment of a touring machine, fixing certain mudguard widths, sizes of tyres, and insist on lamp, horn, toolbag, stand carrier, etc., and debarring such racing fitments as noisy silencers or drilled cylinders, and that these rules should be sternly interpreted by the officials in touring competitions. I saw a machine the other day which had just won a premier award in a tourist competition, and its cylin-

der was bored with holes all round at the foot of the piston stroke. I cannot understand how any judge who was not either a rogue or a lunatic could have permitted such a machine to start in a touring event.

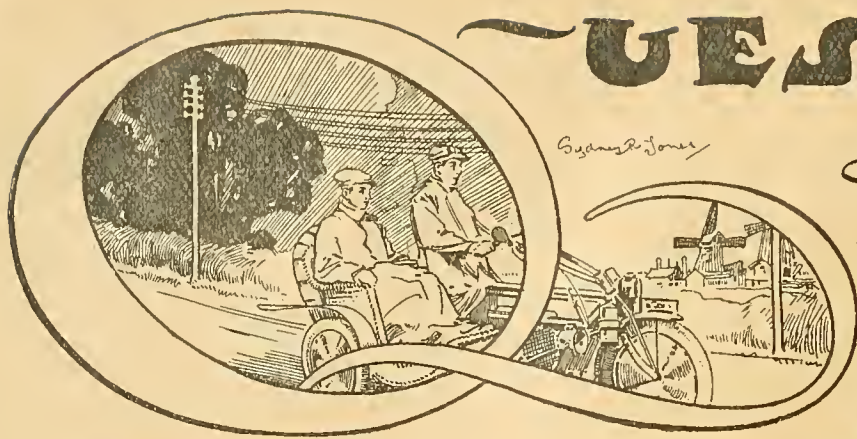
Spare Carburetter Jets.

Until all machines are fitted with multiple jets or variable jets riders who use a modern carburetter with easily detachable jets will find it well worth their while to carry an assortment of jets of different sizes. I am now using a Brown and Barlow carburetter, for which I have four jets of as many different bores. The biggest I slip in when I am taking my machine over an ultra hilly course. It enables the machine to



R. M. Brice and the new model $3\frac{1}{2}$ h.p. Brown he rode in the A.C.U. 1,000 Miles Trials. He retired on the fifth day owing to an accident, but had lost no marks up to that point.

accelerate very quickly, and renders it easy to start on up-grades. The bigger of the two medium jets is that which I employ in all ordinary riding. The lesser of the two middle sizes affords the best running on a really sultry day when a long run is to be made at rather high speeds. And the smallest of the four is the best suited to club competitions in which a powerful twin-cylinder machine has to be kept back to a schedule of eighteen miles an hour or so. It is also serviceable whenever I want to gear the engine very low by means of the adjustable pulley, as it keeps the engine very cool; and I can conceive that I may substitute it for one of the others when I want to travel really slowly on greasy roads or right across London from Barnet to Tooting, as the big engine will not run very slowly on its normal jet. I find one air supply serves all four jets very nicely, though as a matter of fact I have a secondary extra air supply which I can call upon should I ever want to use the biggest jet on a very sultry day. The jets only take three or four minutes to change.



QUESTIONS

AND

REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Are Pedals Unnecessary?



I think of buying a new Humber two-speed motor cycle with free engine, but would be grateful if you would kindly let me know which is the more serviceable, pedals or foot-boards?—J.A.

There is not very much advantage in having pedals if a two-speed gear is fitted (except for starting the engine), and we should think that you might well dispense with these unless you propose to tour with a sidecar in exceedingly hilly districts.

Oil Escaping from Magneto.

Can you explain why I have trouble with the Eisemann magneto on my 1907 $3\frac{1}{2}$ h.p. N.S.U.? When the magneto is oiled it usually finds its way on to the armature, causing misfiring. The outlets for oil are open. I have had armature winding revarnished, but it makes no difference. The last time I had to take magneto to pieces I found the oil only on brass end plates and iron pieces of armature. When armature is cleaned it goes all right again. Could you recommend an oil that is a non-conductor?—E.M.

The only remedy is to oil less frequently, and try a thicker quality of oil. Water-cooled oil is the most suitable lubricant. Oil is a non-conductor when absolutely clean, but the slightest trace of dirt in it causes the trouble you complain of.

Reducing Vibration.

I have a two-speed chain-driven machine, and the only complaint I have is that, even with a partly deflated front tyre, the vibration coming up to the hands is very considerable, and very tiring. This, of course, comes from the engine being part of the frame. Can you kindly tell me if I can get the special handles recently referred to in *The Motor Cycle* fitted on my handle-bars, and, if so, where I can obtain them? Or failing this, can you recommend me any firm that supplies any device that will reduce this vibration on the hands?—REV. R.

We fancy you refer to the rubber extended handles called the Hartford Rough Rider Grips. These are not suitable for use with inverted levers. The agents are Brown Bros., Ltd., 15, New-man Street, Oxford Street, London. If these do not reduce vibration sufficiently, try also the spring handle-bars made by S. Allen and Co., Elswick Court, Northumberland St., Newcastle-on-Tyne.

Fitting a Free Engine Clutch.



I want to fit a free engine and adjustable clutch pulley to my $3\frac{1}{2}$ h.p. Premier. I am advised that one cannot be fitted owing to large boss on crankcase, $2\frac{1}{2}$ in. diameter. (1.) Would it be safe to turn $\frac{1}{4}$ in. off the end of boss as suggested? (The boss contains a cup containing ball bearings.) (2.) Is the Albion clutch and free engine thoroughly satisfactory in operation and wear? Can you strongly recommend it? (3.) Does it entail any side or end push, or thrust, or damage engine in any way? (4.) Are there any similar devices on the market except Mabon and Albion? If so, please name them.—T.D.F.

(1.) Probably it would be quite safe to turn $\frac{1}{4}$ in. off the end of the boss, but if your engine is a White and Poppe we should advise you to write to this firm and ask them if turning down the boss in this manner will, in their opinion, do any harm. (2.) We have heard good accounts of the Albion clutch, and have no doubt you will get satisfaction from it. (3.) Your engine being of substantial build would be hardly likely to be damaged by the

use of an engine-shaft clutch. The end thrust when the free engine is in operation is taken up by ball bearings. (4.) We know of no others without variable gear.

Engine Knocking.



Can you account for the knocking in my engine? I have had same taken down and cleaned, also carburetter and valves seen to, but directly the engine begins to take up the load, or when I accelerate on the level, it knocks badly. I have tried every method of driving, have had timing regulated, and thoroughly seen to lubrication, but still it knocks, and my repairer (a practical man) says he cannot understand it. Can you suggest a cause or a remedy?—Y.A.

Possibly you are using a sparking plug the points of which project rather too far into the cylinder, get red hot, and cause pre-ignition. Try changing the sparking plug, and also reducing the air when the knocking begins. Other likely causes of the knocking are too high a gear for your weight, and the timing of the spark too far advanced.



G. E. Stanley ($3\frac{1}{2}$ h.p. Premier) making a fast ascent of Birdlip Hill on the last day of the A.C.U. 1,000 Miles Trials. His performance drew forth hearty applause from the spectators. The photograph does not convey an accurate idea of the gradient which is 1 in 6 at this point. Half a mile lower down, at the Knap, the gradient is 1 in $5\frac{1}{2}$. Stanley was one of the gold medal winners.

Easy Starting and Slow Running.

[?] I am thinking of having dry battery ignition for my 1908 Moto-Rêve cycle, in addition to the magneto ignition. My objects are—(1) easier starting, (2) slower running, and (3) greater reliability. Can this be done? If so, would you be so kind as to give directions as to how it should be done? —Dr. P.

The fitting up of a dry battery ignition to your machine would be somewhat of a difficulty, as it would mean extending the shaft drive on the magneto, fitting up a new contact breaker, and carrying two plugs in each cylinder. It would be far better to turn your attention to the carburetter, and get it adjusted so that you can run slowly and start easily.

Slow Running.

[?] I have a 5 h.p. twin Peugeot engine in Châter Lea frame. It has an Advance adjustable pulley at the lowest possible ratio—about 5 to 1—but I am unable to run the engine steadily at less than 15-17 m.p.h. It will climb any hill and reach very high speeds. Can you tell me how to slow the engine speed? My carburetter is H.B. Amac, and ignition plain coil. The commutator has not a very long range, but I can get from 17 to 55 m.p.h. from it. At the same time the engine knocks as soon as I get down to 17 m.p.h., and only the back cylinder fires below that speed, and neither fires below 15 m.p.h. I do not want to put on a smaller pulley, as the engine has a tendency to overheat. The engine is quite clean, and was overhauled by a good firm a few weeks ago.—L.F.E.

The simplest way is to fit a device to the carburetter called White's economiser. This restricts the amount of air admitted *via* the main air inlet, causing a greater suction on the jet, and thus enabling a richer mixture for easy starting and slow running. If only one cylinder fires at slow speeds, it points to the contact breaker points being adjusted unequally, or the inlet valve springs of different tension, or the amount of the openings not equal.

Using a Voltmeter as a Speed Indicator.

[?] I have a four-cylinder machine which is fitted with a Bosch magneto, to which is attached a handle-bar switch for short-circuiting the current. I have been thinking of investing in a speedometer, but have been wondering whether the speed of the engine and (as the latter is direct geared to the back wheel) of the cycle might not be determined by voltmeter showing the pressure of the dynamo output. I understand that the voltage varies directly as the revolutions, so that the former should give an exact index of the speed of the machine, but am not sure whether a voltmeter might be

NEXT WEEK

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interposed in the short-circuiting leads without impairing the efficiency of the dynamo as a current producer. As the resistance of the voltmeter would be high I am inclined to think that it would not injuriously affect the system. I am ignorant, however, as to the effect of the make and break and consequent discharge upon the voltage, and whether a voltmeter would be at all a suitable indicator when subjected to the vibration of a motor cycle. I know that some speedometers (Vulcan, for example) operate upon this principle, but with direct current, whereas I think I am right when I say that the Bosch and Simms magnetos deliver alternating current. Would you be kind enough to advise me as to the feasibility of the scheme?—M.E.D.

We presume you wish to use the pri-


mary current of the magneto in conjunction with a voltmeter for determining the speed of the engine. This is a matter we have never tried any experiments with, but one thing—on the assurance of the Bosch Magneto Co.—we can say with certainty, and that is that the magneto used on the F.N. motor cycle, which is the machine we believe you have, has been brought down in size so as to just have sufficient power to perform the work imposed upon it, and we are certain that other work cannot be put upon it without detrimental effect to the running of the engine. There is, of course, not only the question as to whether the amount of energy is sufficient. There are many other questions as regards condenser, and so on, that will have to be taken into consideration. In addition to this, only a hot wire instrument could be used for regulating the speed, and this could not be expected to work at low speeds, as there is an interruption of the current every half cycle, and although the current generated by the magneto is actually classed as an alternating current, it is not distributed as an alternating current, as each cycle is cut in half, and the half cycle used to produce the spark, and we would strongly recommend that the magneto should be left alone to perform its own duties.

READERS' REPLIES.**Starting by Pushing.**

I found my $3\frac{1}{2}$ h.p. single-cylinder N.S.U. difficult to start by pushing, the back wheel nearly always skidding, so I took off the cylinder and inserted another sheet of fairly thick brown paper as packing between the crank chamber and cylinder, of course, leaving the original packing there as well. This dodge does not affect the valves in the least. Now I can always start up my motor by pushing it along at three or four miles an hour. I dare say if "F. W." will go to the trouble to remove his cylinder and fit brown paper coated with oil, his difficulty will disappear.—JERWERTH MORRIS.



Some competitors in the School of Mines Students' Association (Adelaide, S.A.) eighth annual sports on May 22nd last. The winner was H. Behrens, who is second from the left with his 3 h.p. N.S.U. His time for the three miles was 4 min. 22½ secs.



Scottish Five Days' Reliability Trial.

EDINBURGH TO JOHN-O'-GROAT'S AND RETURN.

THIS event, organised by the Edinburgh Motor Cycling Club, took place last week, commencing Monday, the 19th inst. Some notes on the start were published in the last issue (page 46).

First Day.—Murrayfield car terminus, via Stirling, Crieff, Sma' Glen, Amulree Hill, Aberfeldy, Pitlochry, Newtonmore, Carrbridge, and Inverness. Approximate distance 186½ miles.

The following is the official list of starters and numbers:

1. W. W. Douglas (2¾ h.p. Douglas).
2. R. H. Salvesen (3½ h.p. 1909 Triumph).
3. A. H. Hay (3½ h.p. 1909 Rex).
4. A. A. Dixon (3½ h.p. 1909 Bradbury).
5. J. D. Morrison (5 h.p. 1909 T.T. Matchless).
6. W. Niven (5-6 h.p. 1909 F.N.).
7. J. M. Dobson (5 h.p. 1908 Vindec).
8. B. P. McRae (3½ h.p. 1908 Triumph).
9. A. G. Bostock (1909 T.T. Triumph).
10. G. L. Fletcher (2¾ h.p. Douglas).
11. C. McGregor (5 h.p. 1909 T.T. Matchless).
12. A. Pearson (3½ h.p. 1908 Triumph).
13. R. S. Morrison (4 h.p. 1906 twin Werner).
14. D. H. Gainsford (3 h.p. Advance, Roc gear).
15. S. J. K. Thomson (3½ h.p. 1907 Triumph).
16. G. Wilson (3½ h.p. 1908 Triumph).
17. A. Downie (3½ h.p. 1909 Ariel).
18. W. Scott (3½ h.p. 1908 Triumph).
19. G. Muirhead (4 h.p. Matchless).
20. M. Pratt (3½ h.p. 1909 Brown).
21. Q. Clark (5 h.p. 1906 Rex).
22. W. Atkinson (3 h.p. Cheviot).
23. C. N. Henderson (1909 T.T. Triumph).
24. W. Brown (3½ h.p. 1909 Bradbury).
25. J. Donaldson (3½ h.p. T.T. Matchless).
26. G. Alexander (3 h.p. Midget Bicar).

There were seven non-starters.

The trial opened in glorious weather, a warm sun pleasantly tempering a strong headwind. No rain fell all day, but the run was sufficiently arduous, as covered 190 miles, including the ascent of Amulree and the crossing of the Grampians. For no one was more arduous than for the writer. To begin with, he was acting as judge; secondly, he was the only photographer accompanying the run; thirdly, the representative of the Scotch papers had a breakdown, and implored *The Motor Cycle* correspondent to send the news to Glasgow as well as Coventry; fourthly, not a single competitor succeeded in climbing Amulree, and from 10 a.m. till 1 p.m. in the intervals between taking notes and photographs I helped to push eighteen different motor bicycles up the hill.

The first thirty-five miles until we were clear of Stirling were far from pleasant. The district was populous, the surface execrable, and much of the road under repair. Having escaped these obstacles, we were able to enjoy the lovely scenery further on, and pushed on rapidly to the famous ascent of Amulree.

Arrived there, we found a very strong wind blowing straight down the hill, far stronger than the gale which raged down Dinas Mawddwy in the A.C.U. trials. The surface was bone dry, but rather rough. The hill measures a mile and a half from start to finish, and some of it is fairly easy, but there are two or three pitches nearly as bad as 1 in 5, and after a mile comes the ill-famed S bend. The two corners are so severe that no one can round them at more than about six miles an hour, although the Scottish A.C. had them windened and banked up this year. Not one competitor climbed the hill. At the same time, the hill struck me as a perfectly fair, though very severe, test. Mr. Adamson, of the Perth club, made three separate clean ascents in my presence on a pedalless touring Triumph with a hot engine. This performance shows that the hill can be climbed every time by a clever rider who knows it. The competitors failed because they were either strangers to the hill or inefficient motor cyclists or green at the competition game. For instance, several riders hugged both the bends closely, and were not prepared to pedal. Had they swung wide where the grade was easiest and kept their feet on the pedals a dozen or more would have gone up easily. Several of the machines were in no sense tuned up, and stuck right at the bottom on a 1 in 10 grade. Again, several riders "scrapped" out from the check at Crieff at a fast pace, and essayed the hill straightaway without giving their engines a chance to cool. Many had fixed pulleys and idiotic gears; one rider of a 3½ h.p. was geared 3½ to 1.

Pratt on his 1909 3½ h.p. Brown made decidedly the best attempt of all. He rode clean round the S bend in splendid style, and had he swung wider at the second corner and pedalled would have climbed the hill fast. Fletcher on the 2¾ h.p. Douglas looked more like getting up than anyone else except Pratt, but pulled up at the second corner.

My impression is that if the A.C.U. entry had attempted the hill quite a third of them would have made clean ascents.

The remainder of the ride necessarily proved something of an anti-climax. The road over the Grampians was in better condition than I have ever seen it, and the terrible descent from Amulree down towards Kenmore had troubled no one except Scott, who tore out his tyre valve, but was able to borrow a butt-ender, and he also broke an engine valve later on. The following retirements are reported: Ray Morrison, last seen in trouble with his twin Werner three miles north of Crieff; Dixon, magneto trouble four miles south of Pitlochry, and trained on to Inverness; Quinton Clark, riding Felix Scriven's 1906 5 h.p. Rex, tore his belt rim completely out of the back wheel

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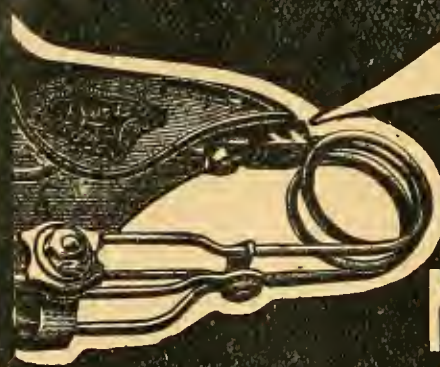
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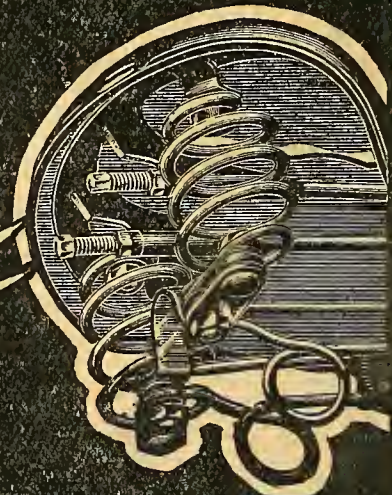
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AT THE BACK!

Scottish Five Days' Reliability Trial.—

two miles south of Newtonmore, and trained into Inverness.

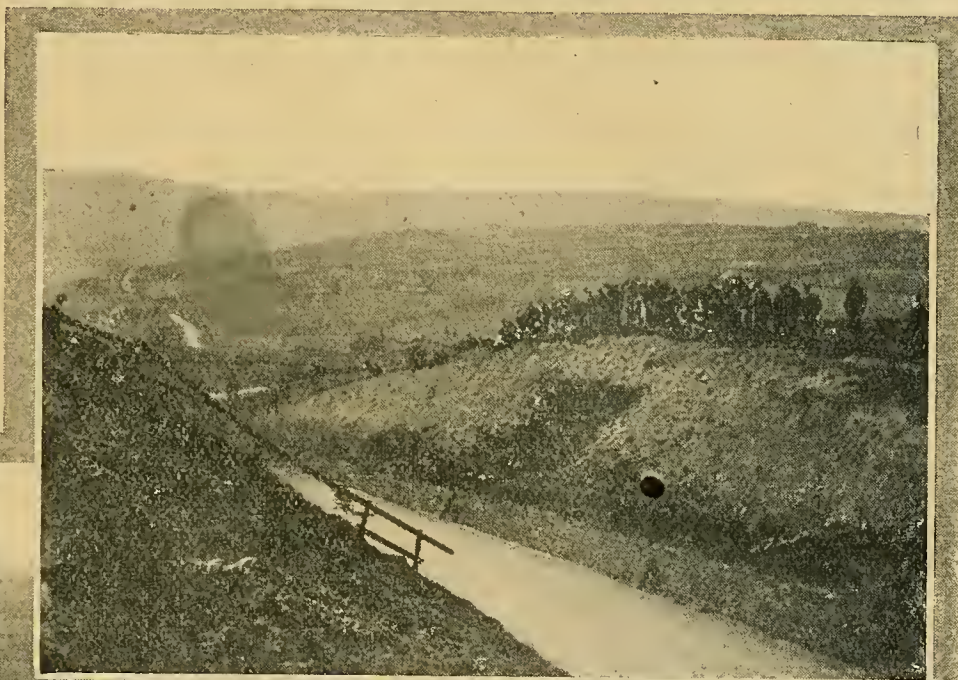
The following lost no marks: S. J. K. Thomson (Triumph), J. M. Dobson (5 h.p. Vindec), and R. H. Salvesen (3½ h.p. Triumph).

The remainder lost marks as follows: Muirhead 161, Scott 168, Bostock 17, McGregor 11, J. D. Morrison 14, Fletcher 4, Hay 75, Douglas 29, Henderson 28, Wilson 28, Pratt 30, McRae 83, Niven 80, Atkinson 142, Gainsford 42, Pearson 83, Donaldson 138, Brown 121, and Downie 20.

Second Day.—Inverness, Dingwall, Tain, Bonar Bridge, Evelix, Mound, Brora, Berriedale, Wick, John-o'-Groat's, and Thurso. Approximate distance 177 miles.

At 3 a.m. on Tuesday I was nearly blown out of bed, and, getting up, I found a terrific gale blowing and heavy storms of rain sweeping over the town at brief intervals. This weather continued all day. The roads were indescribably bad for practically the entire distance of 176½ miles between Inverness and Thurso, and the competitors reached their destination draggled and plastered with mud from head to foot. Probably no competitors in any motor cycling trial have ever had to face such an exacting journey, though, fortunately, the wind veered round from the north towards the west, and so its stopping power on the long ascent of the Ord was negligible

ever had punctures, he would escape, for his rear wheel was shod with a Thorne puncture-proof cover (overlapping steel discs embedded in the rubber), and contained a Dreadnought Clincher inner tube about ⅜ in. thick. However, two miles from Wick the joint in his inner tube came unstuck, and as he was riding fast to make up time he was thrown over his handlebars, luckily escaping serious injury. The men who lost no marks, averaging twenty miles an hour all day over the frightful roads, have registered extremely creditable performances. Berriedale Hill proved more of a stumbling block on this occasion than in the End-to-end trial last year, comparatively few of the riders rounding the double corner successfully. They will readily be excused, as the whole hill was greasy, and a very heavy storm (the worst of the day) burst over it after the first half-dozen men had gone up. The men who had R.O.M. combination covers on their back wheels were able absolutely to ignore the grease.



The Steep, Denholme, the scene of the Bradford M.C.C. Open Hill-climb on the 17th inst. The left-hand illustration shows the second bend on the hill, while the right hand illustration is of the 1 in 6 section at the summit.

(Photograph kindly sent by H. W. Turner.)

Amongst the exciting experiences of the day may be mentioned the breaking of a handle-bar by Thomson whilst pedalling hard up the Ord. He pluckily rode on to Thurso with only half his bar, and by an extraordinary piece of luck the Thurso agent had a spare in stock.

We on the official car had no time to stop for lunch at Brora, as we wanted to reach Berriedale ahead of the first man, so I went into an hotel and ordered a packet of sandwiches. "Wull ye hae canny anes or wee anes?" quoth the landlady. I replied that I wanted a generous supply for two persons. When I returned ten minutes later the ample figure of mine hostess was almost concealed behind a huge pile of a dozen sandwiches, each consisting of two enormous slabs of bread about a foot square and an inch thick, and containing about 1 lb. of ham apiece. "It'll be 9s.," quoth the landlady; "twelve canny sandwiches at 9d. apiece." I refused to burden myself with the whole of this enormous bale. "Ye'll tak the hail or ye'll

—in fact, it only met the riders head on between John-o'-Groat's and Thurso. The roads having been dry on the previous day, the grease was often of a dangerous character, and spills were frequent. The corners on the Ord, which are very acute, were so slimy that the riders had to slow right down to get round safely, and as a consequence few of them reached the summit without pushing or heavy pedalling. Portions of the route were scarred with deep pot holes full of surface water, and belt slip with rubber belts was almost universal. To add to the general misery, punctures were very common. At the start Henderson, of Ayr, prophesied that, who-



Scottish Five Days' Reliability Trial.—

tak nane," she retorted curtly. So I "tak nane" from her, but got cheaper and better supplies across the road.

We saw one competitor well ahead of his time and riding hard, so we sang out, "You're ahead of time."



S. J. K. Thomson (3½ h.p. Triumph) rounding the first bad corner near top of Amulree Hill. Note the fishing creel on his carrier.

He replied, "Man, a'ken naething at a' about time, I'm juist riding as fast as a can!" This is a fair sample of the methods of certain inexperienced competitors.

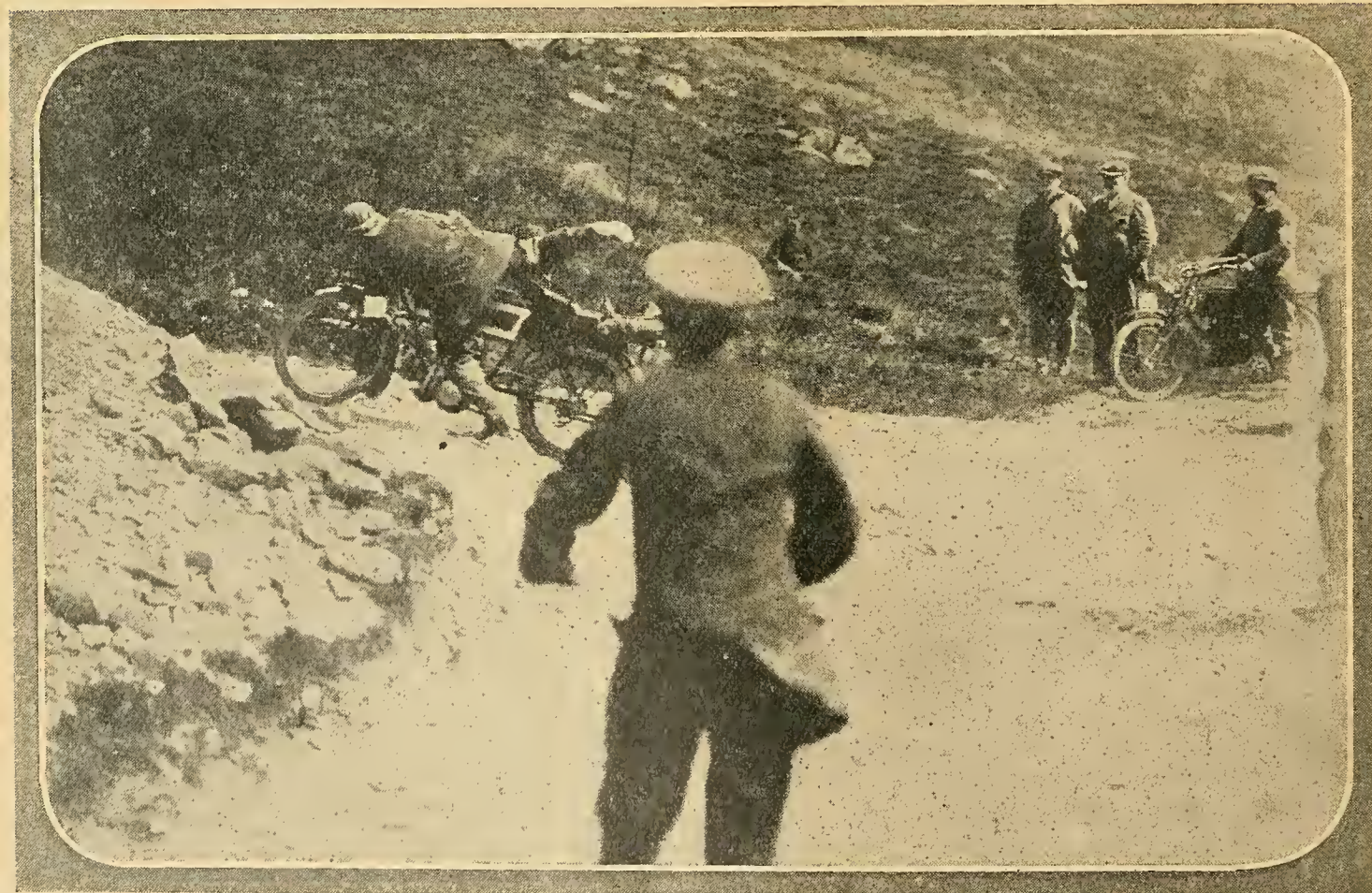
I observed the following riders on Berriedale Brae: Dobson (5 h.p. V.S.) failed on corner; Morrison and McGregor (both on T.T. Matchless machines) came up too fast, jumped off at the corner, ran a few steps, and went up well; Thomson (Triumph) rode clean up the hill, pedalling on the corner (one of the best performances, as he cut across the steep part of the corner); Salvesen (Triumph) came up slowly, and jumped off after rounding the bend; Fletcher on the lightweight Douglas came up too fast, and had to jump off hurriedly on the corner, but went up without pedalling, good; Downie on the Ariel rode up with splendid judgment, slipping his clutch on the bend; Bostock (Triumph) fell off at the corner; Douglas on his lightweight made a very neat and fast ascent with pedal assistance; Pratt (3½ h.p. Brown) very fair; Wilson (Triumph) very fair; Hay (Rex) failed at corner; Gainsford on the two-speeded Advance made an excellent climb, rounding the corner on his low gear.

It is interesting to note that, owing to the number of cars smashed on the southern side of Berriedale Brae, the authorities have put up a board at the summit with the notice, "In case of brake failure, use emergency road," and half-way down the hill a short road forks off to the right, being specially constructed with an up-gradient of 1 in 5 to stop runaway motors.

Donaldson (3½ h.p. Matchless) failed to arrive by nine o'clock.

The following have lost no marks to-day: Salvesen, J. D. Morrison, Dobson, Bostock, Fletcher, Gainsford, Thomson, McGregor, Wilson, Downie, and Pratt.

Others have lost marks as follows: Douglas 53, Hay 36, Niven 38, McRae 122, Pearson 22, Henderson 125, Alexander 35, and Scott 48; Muirhead lost his checking card.



M. Pratt (3½ h.p. Brown) falling off at the second bad bend near top of Amulree Hill, after climbing up farther than any other competitor. There are stretches of 1 in 5 on Amulree.

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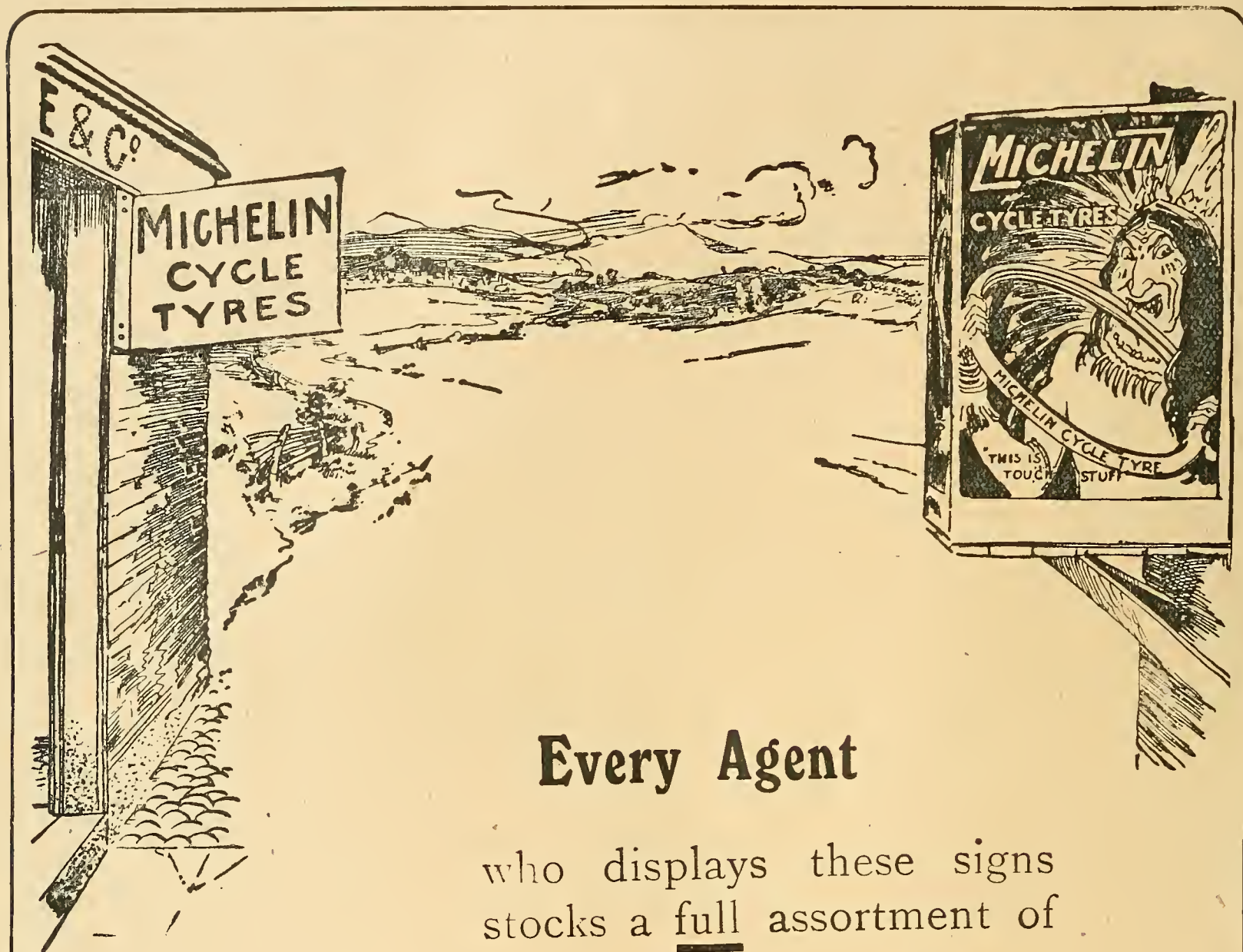
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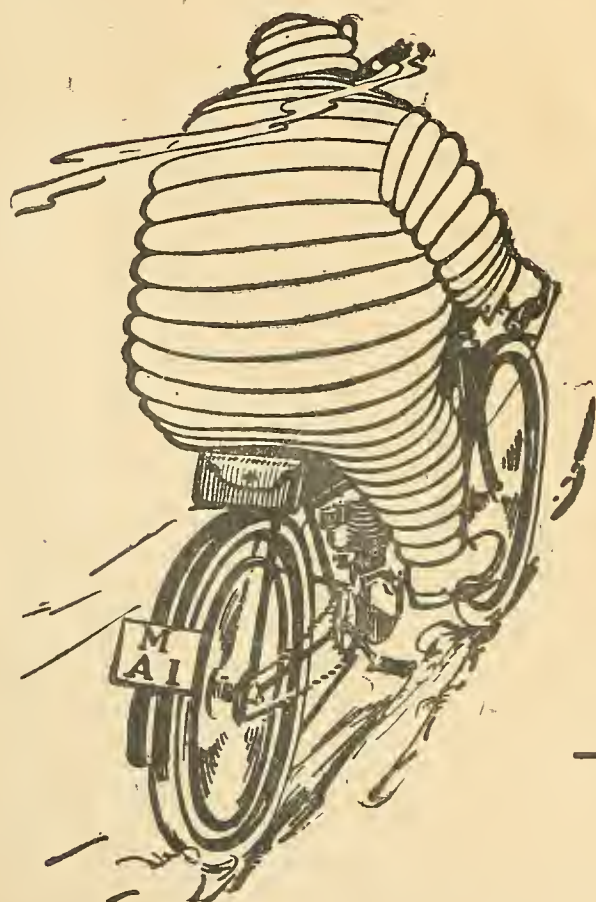
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Scottish Five Days' Reliability Trial.—

Third Day.—Thurso, Bettyhill, Lairg, Bonar Bridge, Alness, Dingwall, and Inverness. Approximate distance 141 miles.

The Scotch "trials" must be understood in a scriptural sense. Amulree and the Grampians and the distance combined to make Monday a very trying day. Tuesday, owing to the awful weather, was the

Dingwall was the finest I have ever seen in Great Britain.

Scott withdrew his Triumph at Thurso this morning, his leg being painful from an accident before the trials. News came in that Donaldson had broken his cylinder in a fall near Tain last night, but was riding on, and that Ray Morrison's retirement at Crieff was due to a derangement of the magneto timing gear.

The number of starters this morning was thus reduced to twenty, of whom only thirteen had arrived by 9 p.m. Salvesen, T. D. Morrison, McGregor, Fletcher, Thomson, and Pratt have earned full marks for the day—a remarkably creditable performance, recorded by such pluck and endurance as have rarely before been equalled.

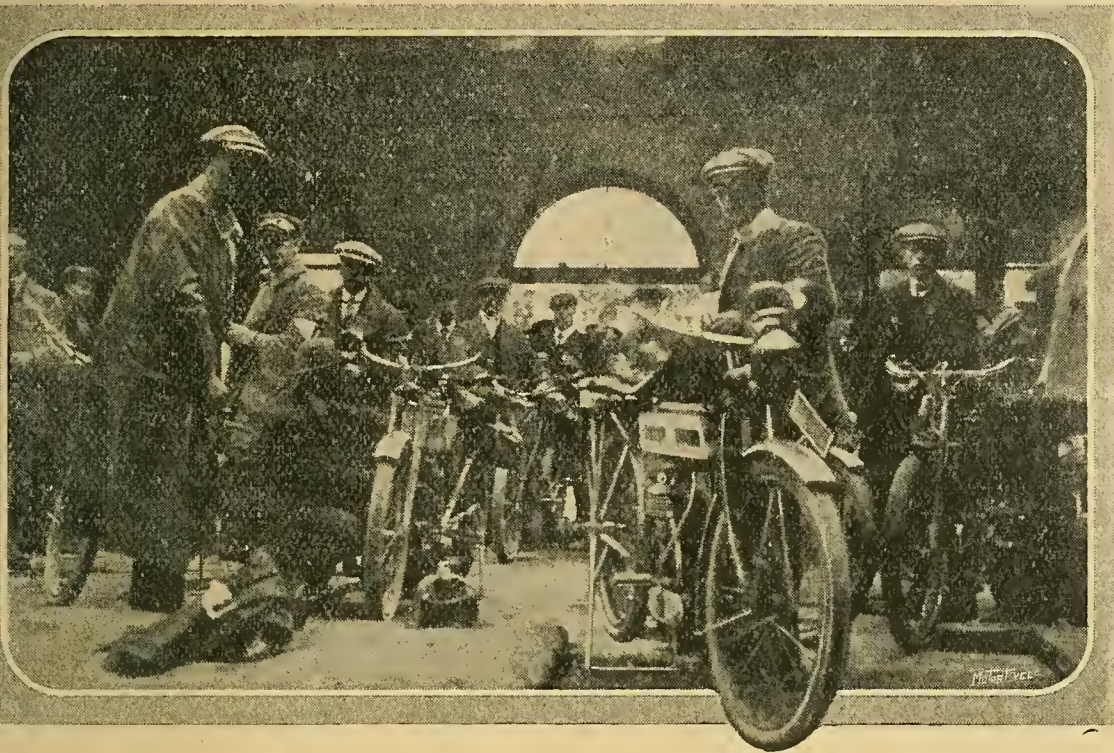
Hay, McRae, Pearson, Muirhead, Atkinson, Henderson, and Alexander are all missing, and were last heard of in trouble with tyres.

The following have lost marks: Douglas 147 (both tyres ruined), Niven 4, Dobson 14 (broken inlet valve), Bostock 164 (nine punctures and three falls), Gainsford 15 (he has one of the smallest engines in the trial, and felt the head gale severely), Wilson 15 (punctures), and Downie 54 (punctures).

The two Brooklands Matchless machines are doing splendidly, as are several of the Triumphs, Pratt's 3½ h.p. Brown, and Fletcher's lightweight Douglas.

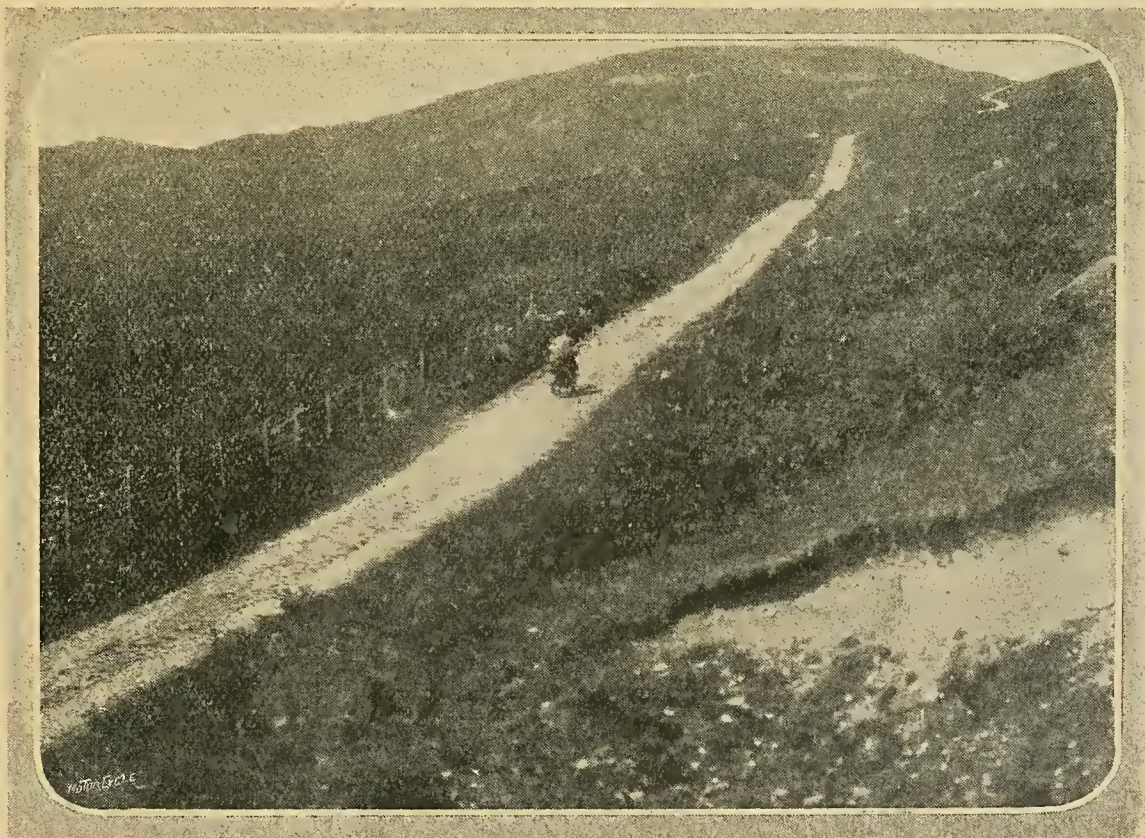
10 p.m.

Alexander, Henderson, Atkinson, Pearson, and McRae have just arrived, having been on the road fourteen hours for 140 miles. They have lost all



Competitors arriving at the Garage—Thurso.

hardest day's trial I have ever known. To-day is stated by the men who have at present arrived to have been far worse than either Monday or Tuesday. It was raining when the men left Thurso, and pot-holes and puddles, plus a head-on gale, caused many riders to be late over the first section of thirty-two miles to Bettyhill. From Bettyhill the men had to strike due south over a steep switchback road to Bonar Bridge, and for about thirty miles the road consisted of a constant succession of patches of rough granite blocks. It was like riding mile after mile over newly laid unrolled road metal. Spills were frequent, accessories on the machines came loose by vibration, and some of the thinner tyres were badly cut. I noticed several machines in the Inverness garage to-night minus axle nuts on both front and back spindles. Bostock had his tyres gashed clean through by sharp stones on nine separate occasions. Gainsford and Douglas both broke the tiny pins holding the balance bobs in their carburetter float chambers—an extraordinarily unusual mishap, especially when occurring in duplicate. When Bonar Bridge was once passed the roads were excellent, and the view from the top of Fearn Hill on the short cut across the mountain, to



A competitor half-way up Amulree, which accounted for so many failures. The surface is exceedingly rough.

British Five Days' Reliability Trial.—

marks for the day, and have scarcely had anything to eat. They report a fearful journey as far as Bonar Bridge. They have seen nothing of Hay and the remaining absentees, who have probably retired north of Lairg, where there is no railway. Up to date Salvesen and Thomson, both on 3½ h.p. Triumphs, are the only men who have lost no marks at all. Fletcher is third (four marks lost), McGregor fourth (eleven), Dobson and Morrison equal sixth (fourteen), and Pratt eighth (thirty). All these performances are probably better than any previous achievement in any British motor cycling reliability trial.

Fourth Day.—Inverness, Nairn, Forres, Elgin, Huntly, Aberdeen. Approximate distance 105 miles.

To-day's run was comparatively easy. Fine weather favoured the competitors, and for once the roads were fairly level. Yesterday's missing men arrived at Inverness in the small hours, except Atkinson, who has



A Scottish Trials competitor climbing Berriedale, probably the most severe hill on the route.

retired. Hay on a Rex arrived at 4 a.m. Being unable to wake the porter, he burgled the window, and slept on a chair in the lounge. It appears that in restarting from a side road on a steep hill Hay went over a bank and 200 feet down the side of a ravine. He was hauled up by four men, and finished after twenty hours on the road. Order for special prize, best performance: Salvesen and Thomson, both on Triumphs (lost no marks), and Fletcher on Douglas third (lost four marks). Muirhead has not been heard of since yesterday.

The little 8 h.p. Humber carrying officials has come through the trial non-stop to date.

Douglas, Salvesen, Hay, Morrison, Niven, Dobson, Fletcher, McGregor, Pearson, Thomson, Downie, and Pratt have gained full marks to-day. Bostock lost thirty-five and Gainsford three. McRae, Henderson, Wilson, and Alexander are missing at time of writing.

Machines will be detained to-morrow night for B. H. Davies and Gordon Gibson to examine their condition. The police were out with watches and a telescope near Nairn, but the official car spotted them, and warned the competitors.

Fifth Day.—Aberdeen, Laurencekirk, Brechin, Perth, Stirling, Murrayfield Car Terminus, Approximate distance 149 miles.

The Scottish motor cycle trials were concluded to-day (Friday), July 23rd. The distance ridden was 140 miles *via* Brechin, Perth, and Stirling.

The road is an easy one for motor cycles, but a furious headwind met the competitors, and considerably delayed their progress. They were also hampered by frequent heavy storms of rain, which fell at intervals throughout the day. Of the twenty-six starters (see page 562) sixteen have qualified for awards. The names of the riders who qualified for gold medals and the names of the machines they rode are as follows: No. 2, H. H. Salvesen (3½ h.p. Triumph); No. 15, S. J. K. Thomson (3½ h.p. 1907 Triumph). Both these competitors secured full marks. H. H. Salvesen also won the special prize for the best performance by a rider using British-made pneumatic tyres; he rode Palmer Cords.



H. Davison (3½ h.p. Rex) hon. sec. of the North Islington Conservative and Unionist M.C., who won a gold medal in the M.C.C. 24 Hours' Trial on the 17th inst.

Silver Medals: N. 10, G. L. Fletcher (2¾ h.p. Douglas); No. 11, C. McGregor (5 h.p. 1909 T.T. Matchless); No. 13, R. S. Morrison (4 h.p. 1906 twin Werner); No. 7, J. M. Dobson (5 h.p. 1908 Vindec); No. 20, M. Pratt (3½ h.p. 1908 Brown); No. 16, G. Wilson (3½ h.p. 1908 Triumph); No. 14, D. H. Gainsford (3 h.p. Advance, Roc two-speed gear); No. 17, A. Downie (3½ h.p. 1909 Ariel).

Bronze medals have been awarded as follows: No. 6, W. Niven (5-6 h.p. 1909 four-cylinder F.N.) No. 1, W. W. Douglas (2¾ h.p. Douglas); No. 12, A. Pearson (3½ h.p. 1908 Triumph); No. 3, A. H. Hay (3½ h.p. 1909 Rex); No. 9, A. G. Bostock (1909 T.T. Triumph); No. 23, C. N. Henderson (3½ h.p. 1909 T.T. Triumph); No. 19, G. Muirhead (4 h.p. Matchless-J.A.P.)

All the above are in order of merit in accordance with marks gained and the condition of the machine at the close of the trials.

A. H. Hay wins the prize presented for the best performance on a Rex motor cycle.

Those who finished the trials outside the maximum schedule time were: No. 26, G. Alexander (3 h.p. Midget Bicar); No. 8, B. P. McRae (3½ h.p. 1908 Triumph); No. 25, J. Donaldson (3½ h.p. T.T. Matchless-J.A.P.)

The remaining six competitors retired at various points of the route for reasons I have already stated.

The only machine

in the 6 days' A.C.U. Reliability Trials that can claim the following remarkable record is the

N.S.U.

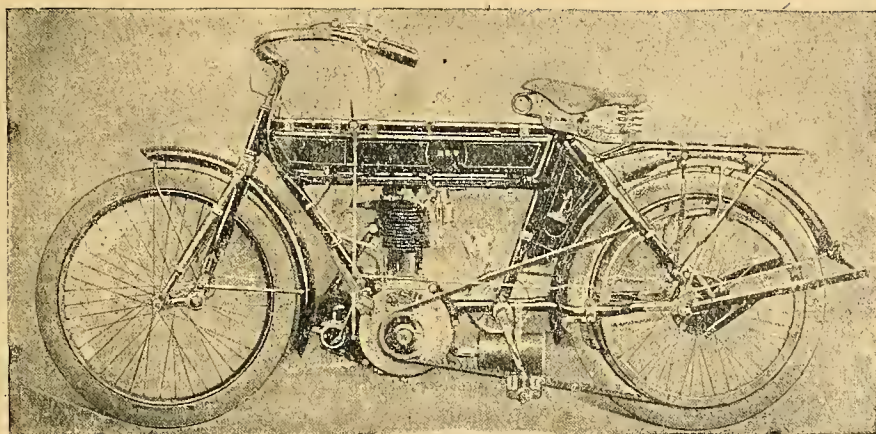
fitted with N.S.U. Two-speed Gear.

1. The only make represented by one model.
2. Ridden and entered by an owner-amateur.
3. AWARDED GOLD MEDAL.
4. A standard pattern throughout.
5. Awarded full marks.
6. Performances on all hills officially reported "EXCELLENT."
7. Machine and two-speed gear finished in excellent condition.

NOW NOTE THIS:—

This performance will be more appreciated when the fact is pointed out that the 4 h.p. N.S.U. model de luxe was purchased by Mr. F. C. Wood—the rider—only two days before the commencement of the trials, and that it was an ordinary stock model taken from the window.

**N.S.U.
MOTOR
CO., Ltd.**



4 h.p. N.S.U. Model De Luxe.

Offices and
Showrooms:

186, Great
Portland St.,
London, W.

Goods and Repairs:

83-85,
Bolsover St.,
W.

**'A1
at
Lloyds'**

132, Monument Rd.,
Birmingham.
July 16th, 1909.

"It may interest you to know that we have found your magnetos wonderfully satisfactory and on our machines which we have run ourselves we daresay we have in several cases done over 20 000 miles with hardly any replacements to speak of. We have also had the same experience with customers who have given the Magneto reasonable attention as regards lubrication, but those who are a little careless in this respect have had some trouble."

THE LLOYD
MOTOR AND
ENGINEERING
CO.

**You can well
understand why
all the leading
makers fit
BOSCH.**

**"Scooped
the pool."**

BOSCH

MAGNETOS.

In the A.C.U. Six Days' Trials
Bosch Magnetos were fitted to
the machines which secured

TWO GOLD MEDALS

Presented by "The Motor Cycle,"

MISS M. HIND'S CUP,

A. J. WILSON'S CUP,

M. J. SCHULTE'S CUP,

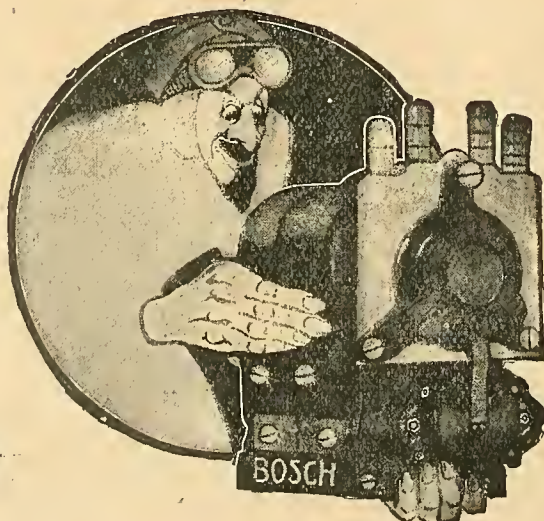
A.C.U. TEAM PRIZE,

27 GOLD MEDALS

out of a possible 31

ALL Silver Medals, Both Certificates.

"The
World's
Best
Magneto."



"The
World's
Best
Magneto."

**"2,000
miles
without a
misfire."**

"Dunollie,
Liverpool Road,
Ainsdale, 19/7/09.
Messrs. The Bosch
Magneto Co., Ltd.

Dear Sirs, — The following may be of interest to you. On Monday last I paced Mr. J.B. Hart-Davies from Garstang to Land's End on his record ride. On Wednesday I rode home to Southport from Bristol. On Friday and Saturday last I competed in the M.C.C. 24 hours (450 miles) Trial, gaining second place (only three marks behind the winner). On Sunday I rode home from Taplow. The total distance covered by me in the 5 days was 1,500 miles, and during this mileage I have never touched the Bosch plug nor experienced a single misfire. The plug has now done upwards of 2,000 miles of hard work the engine being run for a large number of hours at a stretch, and it is a wonder to me that a plug could stand such a continuous strain. I shall certainly use no other than the Bosch plug as I am convinced it is absolutely trustworthy.

Yours faithfully,
(Signed)
HUGH GIBSON.

**The Bosch Magneto
Co., Ltd.**

23, Store St., London, W.C.

Tel: "Bomag, London."
Phones: Gerrard 8610 (2 lines)

Scottish Five Days' Reliability Trial.

The official car—Gordon Gibson's 8 h.p. Humber—came right through the trials and completed the whole course without an involuntary stop; this despite the fact that the selected course was the most arduous I

have ever known. The Scottish Trials course was far more exacting than the one selected for the A.C.U. 1,000 miles trials. It is therefore not surprising that the performances on some of the precipitous hills were somewhat disappointing. **BASIL H. DAVIES.**

MILITARY MOTOR CYCLING.

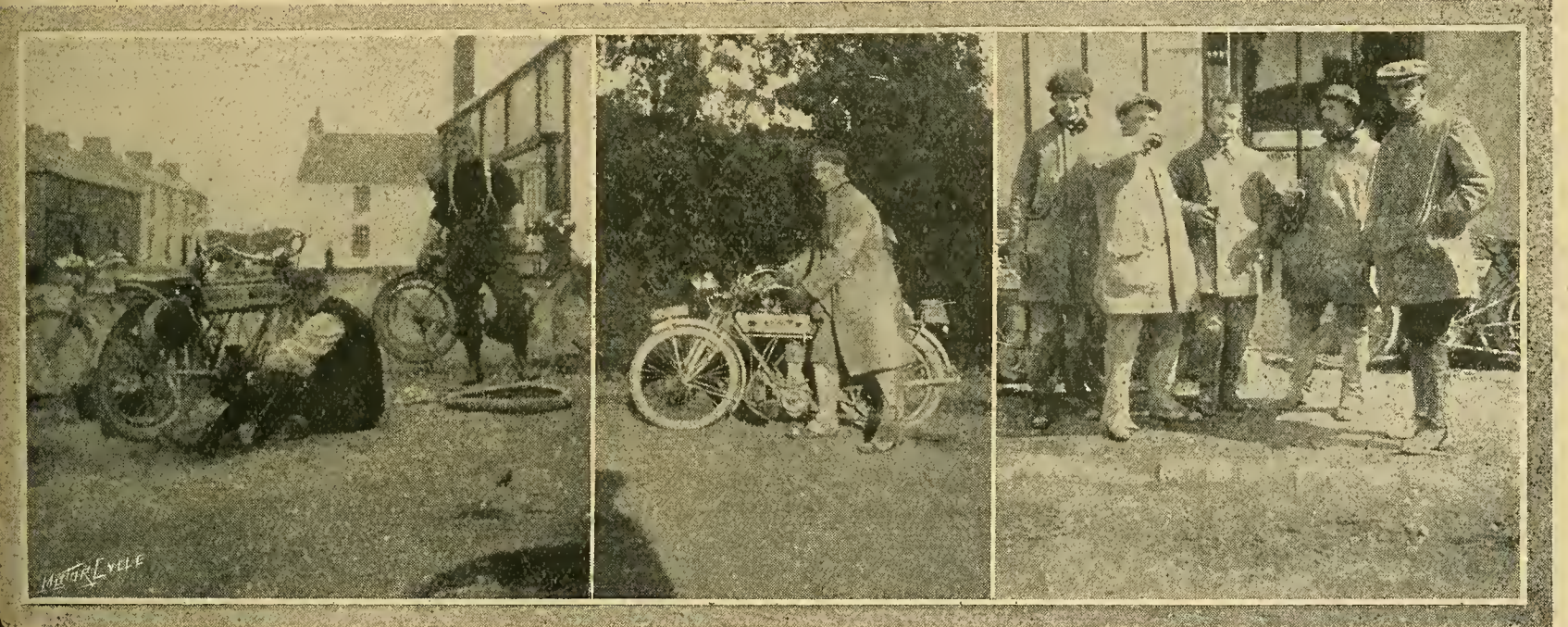
THE M.U. MILITARY MOTOR CYCLISTS' SCHEME.

The Motor Cycle Committee of the Motor Union has been in communication with the War Office on the subject of military motor cycling. The chairman of the committee has had an interview with the authorities, with the result that they have expressed their willingness to accept the services of a limited number of motor cyclists at the cavalry manoeuvres in September next. Motor cycling members of the Motor Union who would like to take part are requested to communicate at once with the secretary, 1, Albemarle Street, Piccadilly, W., stating whether they have had any military experience, and what machine they propose to use. The manoeuvres will take place in the neighbourhood of Oxford, from September 18th to the 23rd. Motor cyclists will be attached to the staff as dispatch riders. They will be provided with quarters, and they will have free messing and 6s. 6d. a day for expenses, petrol, etc. The War Office regard this as purely experimental, as they are anxious to test the usefulness of the motor cycle for military purposes.

THE AUTO CYCLE LEGION.

Early this month a letter appeared in various daily papers regarding a new motor cycle corps proposed to be formed. Mr. F. Straight, the secretary of the Auto Cycle Union, has now addressed a letter in reply, pointing out that the A.C.U. has formed the Auto Cycle Legion, with a view to placing at the disposal of the War Office a body of motor cyclists able to take an intelligent part in the defence of their country in a time of national danger. The A.C.L. is therefore already covering the ground suggested by Capt. E. Trevor Wright, and in the A.C.U. secretary's opinion it is undesirable to form another motor cycle corps which would necessarily tend to weaken an existing organisation. The following commands have already been established: London, Essex and Suffolk, Bradford and district, Manchester and district, Oxford and district, Glasgow, Kent, and Reading and district, and motor cyclists desirous of joining will be gladly put into communication with the commandant of either of the above districts.

THE IRISH END-TO-END RELIABILITY TRIALS on the 13th inst.



J. Lavery and J. Stewart putting the finishing touches to their machines previous to the start.

C. E. Murphy, the winner, with his 3 1/2 h.p. Triumph.

Competitors refreshing themselves at one of the controls.

INTER-CLUB HILL-CLIMB BETWEEN BIRMINGHAM AND OXFORD M.C.C.

The above event was successfully run off last Saturday at Irondown Hill, near Deddington, Oxfordshire. Teams of six were selected to represent each club. The results were worked out on A.C.U. formula, the Birmingham team easily proving winners. The first six best times were also made by the Birmingham men, who are now becoming quite *au fait* with hill-climbs and similar competitions.

Owing to obvious reasons, it was impossible to publish the venue of the climb broadcast, consequently there were few spectators, and there was no difficulty in keeping the course clear. The results are:

BIRMINGHAM TEAM.				
Name.	Machine.	Total weight.	Time.	Figure of merit.
Edwards (3 1/2 Triumph)	...	312 lbs.	42.2s.	64.4
Southam (3 1/2 Triumph)	...	319 lbs.	44.4s.	65.4
Troman (3 1/2 Triumph)	...	336 lbs.	48.8s.	69.2
Raper (3 1/2 Triumph)	...	312 lbs.	47.8s.	73.0
Fowler (5 Rex)	...	305 lbs.	37.6s.	89.4
Heath (7.9 Peugeot)	...	385 lbs.	42.6s.	109.0

Fowler made the fastest time of the day; he literally

appeared to fly up the hill. Edwards on his 3 1/2 h.p. Triumph for the second time this year made the best performance on formula; he is awarded Mr. Norton's prize, value £1 1s. Southam made third best time on his 3 1/2 h.p. Triumph, and would probably have done better but for the fact that he had a new cylinder out for the first time.

OXFORD TEAM.

Name.	Machine.	Total weight.	Time	Figure of merit.
Smith (2 3/4 N.S.U.)	...	305 lbs.	60.2s.	65.6
Braithwaite (3 1/2 Triumph)	...	305 lbs.	53.8s.	80.2
Betteridge (3 1/2 Triumph)	...	301 lbs.	54.0s.	85.4
Salter (3 1/2 Triumph)	...	319 lbs.	58.0s.	86.5
Matthews (3 1/2 Triumph)	...	319 lbs.	60.2s.	90.1
Moore (3 1/2 Brown)	...	312 lbs.	60.2s.	91.8

Braithwaite made the fastest time of the Oxford team on his 1907 Triumph, Betteridge coming second on his 1909 Triumph; both made very clean climbs. Smith on his 2 3/4 h.p. N.S.U. made the best performance on formula, and, considering the size of his engine, he made a very good show.

ENTRIES FOR THE BROOKLANDS MEETING.

Saturday, July 31st.

2.0.—THE JUNIOR MOTOR CYCLE HANDICAP.

Entrant and machine.	No. of cylinders.	Bore and stroke.
F. A. McNab (3½ h.p. Trump-J.A.P.) ...	1	85×85
A. R. Abbott, jun. (3½ h.p. Triumph) ...	1	84×86
P. W. Bischoff (5 h.p. F.N., "Effendi") ...	4	50×57
L. C. Munro (3½ h.p. N.S.U.) ...	2	63×80
G. Schink (4 h.p. N.S.U.) ...	1	82×94
W. Dewar (3½ h.p. Triumph) ...	1	84×85
F. W. Barnes (3½ h.p. Zenith Gradua) ...	1	85×85
W. O. Bentley (3½ h.p. Rex) ...	1	82×89
A. G. Fenn (3½ h.p. Triumph) ...	1	85×88
E. C. W. FitzHerbert (5 h.p. F.N.) ...	4	50×57
J. C. Smyth (3½ h.p. Rex) ...	1	82×89
S. F. Garrett (3½ h.p. N.L.G.) ...	1	85×85
A. F. Rowell (M. and M.) ...	1	72×77
W. Pollard (3½ h.p. Quadrant) ...	1	81×88
O. C. Godfrey (3½ h.p. Rex) ...	1	82×89
J. T. Bashall (3½ h.p. W.H.B.) ...	1	84×86

2.30.—THE AUGUST JUNIOR HANDICAP, for cars.

3.0.—THE SPRINT RACE, for cars.

3.20.—THE AUGUST MOTOR CYCLE HANDICAP.

F. A. McNab (3½ h.p. Trump-J.A.P.) ...	1	85×85
A. R. Abbott, jun. (3½ h.p. Triumph) ...	1	84×86
P. W. Bischoff (5 h.p. F.N., "Effendi") ...	4	50×57
L. C. Munro (5½ h.p. N.S.U.) ...	2	75×84
G. Schink (4 h.p. N.S.U.) ...	1	82×94
W. Dewar (3½ h.p. Triumph) ...	1	84×86
F. W. Barnes (3½ h.p. Zenith Gradua) ...	1	85×85
A. G. Fenn (3½ h.p. Triumph) ...	1	85×88
E. C. W. FitzHerbert (5 h.p. F.N.) ...	4	50×57
J. C. Smyth (3½ h.p. Rex) ...	1	82×89
W. H. Wells (5 h.p. Indian) ...	2	70×80
W. H. Wells (5 h.p. Indian) ...	2	70×83
S. F. Garrett (3½ h.p. N.L.G.) ...	1	85×85
W. Pollard (3½ h.p. Quadrant) ...	1	81×88
O. C. Godfrey (3½ h.p. Rex) ...	1	82×89
F. A. Applebee (5 h.p. Rex) ...	2	76×80
J. T. Bashall (3½ h.p. W.H.B.) ...	1	84×86

3.45.—A PRIVATE MATCH (cars).

4.10.—THE JULY SENIOR PRIVATE COMPETITORS' HANDICAP, for cars.

4.35.—THE SENIOR MOTOR CYCLE HANDICAP.

F. Toman (5 h.p. Laurin-Klement) ...	2	80×90
L. C. Munro (5½ h.p. N.S.U.) ...	2	75×84
G. Schink (8 h.p. N.S.U.) ...	2	80×99
H. G. Partridge (6 h.p. N.S.U.) ...	2	75×90
J. Forster (7 h.p. N.L.G.) ...	2	80×94
A. G. Forster (7 h.p. N.L.G.) ...	2	80×94
W. H. Wells (5 h.p. Indian) ...	2	70×80
W. H. Wells (5 h.p. Indian) ...	2	70×83
H. V. Colver (7 h.p. Matchless) ...	2	85×85
C. R. Collier (7 h.p. Matchless) ...	2	85×85
F. H. Arnott (7 h.p. Minerva) ...	2	82×85
F. A. Applebee (5 h.p. Rex) ...	2	76×80
W. H. Bashall (7 h.p. Bat) ...	2	85×85

5.0.—THE RELAY RACE, for cars.

Monday, August 2nd.

2.0. — THE SECOND ROADSTER MOTOR CYCLE HANDICAP.

A. R. Abbott, jun. (3½ h.p. Triumph) ...	1	84×86
G. Aldington (5 h.p. Eland) ...	2	75×75
G. Schink (8 h.p. N.S.U.) ...	2	80×99
W. Dewar (3½ h.p. Triumph) ...	1	84×86
F. W. Barnes (3½ h.p. Zenith Gradua) ...	1	85×85
A. G. Fenn (5 h.p. Rex) ...	2	76×80
E. C. W. FitzHerbert (5 h.p. F.N.) ...	4	50×57
W. W. Genn (2¾ h.p. Eland) ...	2	85×60
J. Forster (7 h.p. N.L.G.) ...	2	80×94
A. G. Forster (3½ h.p. N.L.G.) ...	1	84×86
J. C. Smyth (3½ h.p. Rex) ...	1	82×89
W. H. Wells (5 h.p. Indian) ...	2	70×80
W. H. Wells (5 h.p. Indian) ...	2	70×83
J. Liscombe, jun. (4 h.p. Laurin-Klement) ...	2	70×80
H. A. Collier (7 h.p. Matchless) ...	2	85×85
O. C. Godfrey (3½ h.p. Rex) ...	1	82×89

2.30.—AUGUST SENIOR HANDICAP, for cars.

3.0.—THE JULY JUNIOR PRIVATE COMPETITORS' HANDICAP, for cars.

3.30.—THE SECOND CHAMPION MOTOR CYCLE PLATE.

Entrant and machine.	No. of cylinders.	Bore and stroke.
G. Schink (8 h.p. N.S.U.) ...	2	80×99
W. Dewar (3½ h.p. Triumph) ...	1	84×86
J. Forster (7 h.p. N.L.G.) ...	2	80×94
A. G. Forster (7 h.p. N.L.G.) ...	2	80×94
F. W. Barnes (3½ h.p. Zenith Gradua) ...	1	85×85
H. V. Colver (7 h.p. Matchless) ...	2	85×85
H. A. Collier (7 h.p. Matchless) ...	2	85×85
C. R. Collier (7 h.p. Matchless) ...	2	85×85
F. H. Arnott (7 h.p. Minerva) ...	2	82×85
W. H. Bashall (7 h.p. Bat) ...	2	85×85

3.50.—THE SECOND GRAND PRIX RACE, for cars.

4.15. — THE SECOND RACE FOR THE O'GORMAN TROPHY, for cars.

5.0.—THE AUGUST WINNERS' HANDICAP.

For all winners at August Meeting except the Second O'Gorman Trophy.

M.C.C. LONDON-LAND'S END-LONDON RUN.

The following entries have been received for the above run, which starts at 4 a.m. on Saturday next from Cranford Bridge, the competitors returning on Monday, August 2nd. Mr. Harry G. Bell, the trials hon. secretary, informed us that at least a dozen more entries were expected before the list was closed:

Harry G. Bell (3½ Triumph)	W. W. Douglas (2¾ Douglas)
Owen Summers (6 Acacia)	W. Watson (7 Vindec Special)
F. A. Hardy (3½ Norton)	G. Brough (5 Brough)
E. Gwynne (7 V.S.)	F. Mussell (3½ Rex)
A. T. Stanton (3½ Bradbury)	Dr. C. B. Moss Blundell
E. Clark (2¾ Douglas)	(3½ Nondescript)
G. Purchase (3½ Triumph)	H. Karslake (3½ Nondescript)
D. S. Baddeley (7-9 Baddeley)	W. Cooper (3½ Triumph)
L. A. Baddeley (3½ Yelladab)	H. Crole-Rees (6 Advance)
Stanley Webb (3½ Triumph)	J. V. Robinson (2¾ Douglas)
G. L. Fletcher (2¾ Douglas)	Hugh Gibson (3½ Triumph)

A.C.U. QUARTERLY TRIAL.

The third Quarterly Reliability Trial of 1909 takes place to-day (Wednesday) over the usual course from Uxbridge to Banbury and back, a distance of 125 miles. The competitors will be timed on Dashwood and Amersham Hills as before. The luncheon stop is at the Red Lion, Banbury.

The entrants are:

R. D. T. Wood (3½ Triumph)	S. Kempson Jones (3½ L.M.C.)
J. L. Norton (3½ Norton)	V. Underhill (3½ L.M.C.)
A. Brown (3½ Midget Bicar)	P. W. Bischoff (5-6 F.N.)
R. Bell (N.S.U.)	J. Seyfried (3½ Triumph)
H. D. Teage (3¾ Premier)	G. Simpson (3½ Bradbury)
G. E. Stanley (3½ Premier)	G. L. Fletcher (2¾ Douglas)
R. W. Walker (3½ Premier)	A. W. Wall, Ltd. (Roc)
H. G. Partridge (2½ N.S.U.)	Eric Myers (3½ Scott)
A. H. Haden (—)	F. W. Newsome (3½ Triumph)
E. A. Colliver (3½ Triumph)	J. Marshall (3½ Triumph)
J. Forgan Potts (3½ Triumph)	F. W. Applebee (5 Rex)
James Cycle Co. (3½ James)	H. G. Potts (3½ Triumph)
James Cycle Co. (3½ James)	R. C. Griersbach (3½ Triumph)
F. C. Wood (4 N.S.U.)	A. G. Fenn (6-7 Bat)
W. J. Akerman (2½ N.S.U.)	H. H. Bowen (7 Bat)
Howard Smith (3½ Triumph)	H. Berwick (3½ Excelsior)
D. F. Steeves (2½ N.S.U.)	W. Hewitt (3½ Excelsior)
A. T. Stanton (3½ Bradbury)	C. H. Crole-Rees (6 Advance)
R. Measures (3½ Triumph)	J. Weller (5-6 A.C. tricar)
W. Pratt (3½ P. and M.)	G. Seymour (5-6 A.C. tricar)
H. Bevir (3½ L.M.C.)	J. Portwine (5-6 A.C. tricar)
J. A. Wake (3½ P. and M.)	F. Eagles (6 N.S.U. and side-car)
C. J. Janssen (2 Moto-Rève)	

Six Days' Trials. A Correction.

G. E. Stanley did not pedal his 3½ h.p. Premier up the test hill, Blaenau-Festiniog, as stated in the Auto Cycle Union judges' report of the Six Days' Trials. As a matter of fact, his machine had no pedals, and we are assured that he made a clean ascent of the hill.

CLUB NEWS.

Middlesbrough M.C.C.

The reliability trial for the Ggers cup and club medals on Wednesday, the 21st inst., proved an unqualified success. The trial was over a distance of 205½ miles, and the competitors were allowed 11h. 20m. to cover the course, including one hour stop at York for dinner. A most difficult trial was planned, the men travelling from Marton Bungalow (the club's headquarters) to Guisborough, Ruswarp, Scarborough, York, Wetherby, Harrogate, Ripon, Northallerton, Ellerbeck, Yarm, Leven Bridge, and thence to Marten Bungalow, which course contains, amongst others, two very trying hills, namely, Birk Brow and High Leven Bank. The competitors were: E. Young (3½ h.p. Bradbury), R. Archdale (3½ h.p. Triumph), W. A. George (3½ h.p. Rex), J. Benjamin (2 h.p. Moto-Rève), W. E. Price (3½ h.p. Premier), Bennett (5 h.p. Norton), G. R. Sanderson (3½ h.p. Triumph), J. E. Grafton (3½ h.p. Rex), E. Rees (3½ h.p. Triumph), J. Bellerby (3½ h.p. Minerva), Wm. Danby (3½ h.p. Auto Moto), E. Nock, J. Tenford, J. Turner, J. H. Dale, and H. Fairgrieve (3½ h.p. Triumphs), R. Richardson (2 h.p. Moto-Rève), and J. Tennick (3½ h.p. Brown). J. H. Dale was awarded

With the appearance of daylight and the Cheshire roads matters improved considerably, and the going was first-rate. The awards for the competition are as follows: 1st, the Hutton Shield and club gold medal; 2nd, prize value £2 2s.; 3rd, prize value £1 1s. The following five riders ran to schedule time throughout, so necessitating another competition to find a winner: H. T. Wanklyn (3½ h.p. Triumph), Jack Haslam (2½ h.p. J.A.P.), J. A. Stacey (3½ h.p. Triumph), T. Durant (3½ h.p. J.A.P.), and T. Dunstan (3½ h.p. Rex). The following five riders having covered the course at an average of seventeen miles per hour qualify for the club's bronze medal: F. Dover (3½ h.p. Triumph), S. Sawyer (3½ h.p. Kelecom), H. W. Fawley (3½ h.p. Triumph), W. Barber (3½ h.p. Barber), and D. Bradbury (3½ h.p. Norton).

Manchester M.C.

Although the weather conditions were very unfavourable, a successful hill-climb took place on Saturday last. The venue was, as usual, in the Longendale Valley, close to Woodhead. Rain fell heavily most of the afternoon, accompanied with a gusty wind. The results on the handicap are: 1st, D.



The Manchester Motor Club's hill-climbing competition in the Longendale Valley, close to Woodhead.

A. J. Moorhouse, who rode a 5 h.p. Twin-cylinder Rex, is seen ready to start.

the cup and gold medal, and also the Triumph gold medal for the best performance on a Triumph machine, whilst other prize winners were: 2, E. Young, motor cycle riding outfit (presented by Stewarts, Ltd.); 3, R. Archdale, motor cycle head lamp (presented by W. Armstrong); 4, W. A. George (special prize presented by R. Richardson). T. Almgill acted as judge, and J. Dickenson as timekeeper.

Sheffield and Hallamshire M.C.C.

The club's reliability trial which took place on the 17th inst. created much local interest. The course was from Sheffield to Holyhead and back, a distance of 324 miles. This had to be covered at an average of eighteen miles per hour. Fifteen riders faced the starter, Mr. J. W. Gound, at midnight on Friday, the 16th. The night ride over the Derbyshire hills to Macclesfield proved most trying, the roads being for the most part greasy; moreover, a stiff head wind was blowing, causing the smaller-powered machines to have rather a rough time of it over the Cat and Fiddle.

Thomas (5 h.p. twin Peugeot); this rider also made fastest time. 2nd, P. Butler (5 h.p. twin Dot). 3rd, C. Kettle (3½ h.p. Triumph).

Essex M.C.

The members' hill-climb took place on Saturday last at Lippetts Hill, near High Beech. The results were:

SINGLE-CYLINDERS.

	Time in secs.	Formula.
J. Norton (3½ h.p. Norton) ...	X ...	34.7
R. M. Brice (3½ h.p. Brown) ...	24½ ...	37.0
F. G. Smith (3½ h.p. Triumph) ...	.16 ...	44.6

TWIN-CYLINDERS.

F. W. Applebee (5 h.p. Rex) ...	41½ ...	55.9
B. Siffken (5 h.p. Rex) ...	92½ ...	59.7
F. A. Applebee (5 h.p. Rex) ...	X ...	61.6

F. A. Applebee made fastest time of the day.

PASSENGER MACHINES.

	Time
F. W. Applebee (5 h.p. Rex, single gear) X ...	58.2
R. M. Brice (5½ h.p. Brown, two-speed) ...	142½ ... 72.1

Club News.—

Newcastle M.C.

It has been decided to hold a non-stop run on August Bank Holiday to include a hill-climbing competition. Members are asked to communicate to the president any suggestions they can make for motor cycle events at the N.E.A.A. gymkhana, which will be held at Gosforth Park.

Coventry and Warwickshire M.C.

Saturday, August 21st, is the day fixed for the annual open hill-climb. The name of the hill will be made known a few days before the competition. This year two classes only will be included—Class I., for touring motor bicycles, single, twin, or four cylinders; Class II., for Tourist Trophy, racing, and special machines. A committee of scrutineers will inspect the machines and equipment in Class I., and their decision as to whether the machine can be classed as a full touring mount conforming to the rules will be final. Two cups and medals are the awards offered, whilst four extra prizes will be awarded for the best performances on formula and time by members of the Coventry and Warwickshire M.C. Applications for entry forms and particulars should be made to W. F. Grew, 19, Hertford Street, Coventry. Several motor cycle members attended the R.A.C. Warwickshire meeting on Saturday last, the visit to Warwick Castle and the concert and tea at Leamington being much appreciated.

Edinburgh M.C.C.

By permission of Col. Wardlaw-Ramsay, a speed contest was held on the avenue of Whitehill Estate, Lasswade, on the 17th inst. The avenue is of magnificent surface, and almost level, with the exception of one short hill of a gradient of about 1 in 14. The results are as follows:

Mile flying start (open to machines with engines of 505 c.c. or under).—1, A. H. Alexander (3½ h.p. Rex), 1m. 9¼s.; 2, A. H. Wilkie (3½ h.p. Triumph), 1m. 10¾s.; 3, R. A. Macmillan (5 h.p. F.N.), 1m. 20½s.

Mile flying start (open to machines with engines of 1,000 c.c. or under).—1, A. H. Alexander (3½ h.p. Rex), 1m. 7¼s.; 2, C. McGregor (5 h.p. Matchless), 1m. 10½s.; 3, A. H. Wilkie (3½ h.p. Triumph), 1m. 13½s.

One-third of a mile slow race (run off in heats).—Winner, D. S. Turnbull (5 h.p. F.N.)

Half-mile race (open to machines with engines of any capacity, run off in heats).—Winner, Campbell McGregor (5 h.p. Matchless).

Harrogate and District M.C.C.

Owing to the success of the last novel hill-climb promoted by this club, it was decided to hold another one on the same lines as before, and it proved quite as successful. The individual and aggregate times were as follows:

Rider and machine.		M. s.		Position.
W. Grange (3½ h.p. T.T. Triumph)	28¾s.	2	7½	1st
J. A. Tindall (3½ h.p. Triumph) ...	36s.			
H. Fortune (2¼ h.p. Ariel) ...	62¼s.			
E. R. Davies (3½ h.p. Rip) ...	54¼s.			
H. Addison (3 h.p. Triumph) ...	48¾s.	2	14	2nd
W. Fawcett (3½ h.p. T.T. Triumph)	31½s.			
C. Wilson (3½ h.p. Rex Speed King) ...	30¾s.			
*J. Bramley (3½ h.p. Triumph) ...	49¾s.			
G. Mackay (3½ h.p. Triumph and sidecar) ...	56½s.	2	16½	3rd
J. E. Brooke (3½ h.p. Triumph and sidecar) ...	56½s.			
F. Milner (3½ h.p. Triumph) ...	38¾s.			
T. Atkinson (3 h.p. Triumph) ...	48s.			
R. Breare (3½ h.p. P. and M. and sidecar) ...	76s.	1	52	5th
W. Turner (3½ h.p. Triumph) ...	36s.			
†F. Mackay (3½ h.p. T.T. Triumph) ...	—			

* Disqualified. † Non-starter.

The next competition will be held on August 14th, and will take the form of speed trials.

Nottingham and District M.C.C.

The 100 miles non-stop reliability trial for the Dennis-Bayley Challenge Cup Competition took place on Saturday over a course of 20¼ miles, which the competitors had to cover five times in all—three times in one and twice in the reverse direction. The competitors were started on the first three circuits at 2.15 by Mr. Scothern (hon. timekeeper).

The first of the competitors arrived on the second circuit within a few minutes of time. It was then noticed that there

were several absentees (Fairburn missing, also the holder of the cup—Pearson). Pearson came through twenty minutes or so late—belt trouble on hills.

Third circuit.—Still two more missing. Smith punctured badly, and Pearson fifty minutes late—magneto troubles.

Third circuit.—Competitors remaining in the running all arrived to time except Pearson, sixty minutes late.

After this third circuit all competitors stopped for tea, their machines being locked up. After tea a start was made in the reverse direction. About twenty minutes after the start



The 100 miles non-stop trials of the Nottingham and District M.C.C. for the Dennis-Bayley Challenge Cup. Competitors preparing for the start.

Reilly came back with punctured back tyre. Next to retire was Gee—ran out of petrol at eighty-five miles. The last half-circuit commenced with six competitors still in the running, namely, Lole, Claude Johnson, Birley Johnson, Geo. Brough, and Oswald Parker.

At the finish the stewards quickly checked the timesheets, and in less than half an hour the result was declared by the judge, Mr. Henry Bircumshaw:

- 1, Geo. Brough (5 h.p. Brough), cup and gold medal.
- 2, F. Birley Johnson (3½ h.p. Humber, two speeds), gold medal.
- 3, A. E. Lole (5-6 h.p. F.N., four cylinders), silver medal.

Yarmouth Club's Twelve Hours Reliability Run.

A 200 miles twelve hours' reliability run was held on the 15th inst. round Norfolk. The course was Gorleston, Yarmouth, Cromer, Hunstanton, Ely, Newmarket, Bury, Scole, Beccles, Oulton, and Gorleston. Out of sixteen starters fifteen completed the journey, of whom twelve arrived within the twelve hours allowed. The result was:

Rider and machine.		Marks lost.	
H. A. Lock (3½ h.p. Triumph)	2
A. Wyatt (4 h.p. Roc)	4
L. Gowing (4½ h.p. F.N.)	9
E. A. Hallinsteel (2¾ h.p. Wanderer)	10
H. R. Mayo (5 h.p. Vindec-Special)	14
G. H. Cross (2¾ hp. Anglian)	19
F. G. Galley (3½ h.p. Brown)	23
H. Collins (5 h.p. Roc)	40
N. Adcock (5 h.p. F.N.)	55
R. O. Clark (5 h.p. F.N.)	56
F. C. North (4 h.p. Roc)	66
C. F. Lacy (5 h.p. F.N.)	33

The three who finished outside time were: F. E. Bearwood (5-6 h.p. F.N.), broken footrests and lost his way; S. G. Allen (3½ h.p. Triumph), broken belt and lost his way; V. H. Blake (2½ h.p. Ariel), exhaust valve mechanism jammed and broken valve.

University of Birmingham M.C.

This club is holding a petrol and lubricating oil consumption trial of twelve hours running time around Birmingham on Bank Holiday, August 2nd. Members may enter for the consumption or reliability trials separately or together as both are run off at the same time. A gold medal will be awarded for the best performance in both trials. The chairman's prize will be awarded for most points in the reliability trial. Mr. West's prize will be given for best figure of merit in consumption trials. A start will be made at the New University at 8 a.m. sharp, and competitors are expected to be there by 7.30 a.m.

Club News.—

Bolton and District M.C.C.

The results of the re-run reliability trial are as follows: 1, J. Fishwick ($3\frac{1}{2}$ h.p. Triumph); 2, S. Groom ($3\frac{1}{2}$ h.p. Rex); 3, J. Nuttall (5 h.p. Vindec).

Bradford M.C.C.

The annual twenty-four hours' reliability trial for the Wm. Briggs Cup, value twenty-five guineas, resulted as follows: 1, T. G. Bullus ($3\frac{1}{2}$ h.p. Phelon and Moore), cup and gold medal; 2, Felix Scriven ($3\frac{1}{2}$ h.p. Rex), gold medal; 3, Chas. Sydney ($3\frac{1}{2}$ h.p. Phelon and Moore), gold medal. Messrs. J. Bottomley, O. Bocock, E. W. Lee, and W. Gilliard, qualify for bronze medals, and a special gold medal given by the R.O.M. Tyre Co. goes to T. Bullus for best amateur time schedule by non-trade rider. A prize given by the president (Mr. Johnson) goes to J. Bottomley for best performance outside gold medal winners.

Richmond and District M.C.

The reliability trial for the Carmichael Challenge Cup has been postponed until September 5th, when a run to Winchester and return will be made. Full particulars will be forwarded in due course to all members of the club. A picnic was arranged for Sunday last on Newlands Corner.

Western District M.C. (London).

Mr. F. H. Mullett having resigned the secretaryship of the club, Mr. Edwin W. Macbay has been elected in his place. Mr. Macbay's address is 9, Whitehall Road, Hanwell, W.

The competition for the Wingrove medal resulted in W. F. Ritchie (5 h.p. Vindec) and T. J. G. Babbage ($4\frac{1}{2}$ h.p. twin Minerva) tying for first place, both arriving dead to time and making non-stops both ways. S. Wood ($3\frac{1}{2}$ h.p. Triumph) was third, 20s. late, non-stop runs. It is expected that the tie will be run off at an early date.

North-west London M.C.C.

The correct results of this club's hill-climb on A.C.U. formula are as follows:

CLASS I.—Single-cylinder, any capacity.

E. A. Colliver ($3\frac{1}{2}$ h.p. Triumph) ...	+ $4\frac{3}{5}$ s. ...	90.00
W. O. Bentley ($3\frac{1}{2}$ h.p. Rex) ...	+ $7\frac{1}{5}$ s. ...	90.64
A. W. Bentley ($3\frac{1}{2}$ h.p. Triumph) ...	X ...	92.63
J. P. Le Grand ($3\frac{1}{2}$ h.p. Rex) ...	+ 13s. ...	101.17

CLASS II.—Multi-cylinders, any capacity.

S. R. Tyssen (5 h.p. Vindec) ...	+ $9\frac{2}{5}$ s. ...	108.00
Glynn Rowden (8 h.p. Bat) ...	X ...	140.41
Miles Brunton (5 h.p. Rex) ...	+ 27s. ...	143.07
C. M. Simpson (5 h.p. Vindec) ...	+ $20\frac{2}{5}$ s. ...	146.14
A. S. Phillips (5 h.p. Vindec) ...	+ $27\frac{2}{5}$ s. ...	156.41
A. Brunton (5 h.p. Rex) ...	+ $32\frac{3}{5}$ s. ...	217.29

The climb was held on Cop Hill, Princes Risboro'. The results given on page 549 last week were worked out on a different formula.

A petrol consumption trial held on the 17th inst. attracted fourteen entries, and was most successfully carried out on a very sporting course near Stanmore. The results, subject to being passed by the committee, are as follows:

1, S. R. Tyssen (5 h.p. Vindec); 2, E. A. Colliver ($3\frac{1}{2}$ h.p. Triumph); 3, G. H. Hollis ($3\frac{1}{2}$ h.p. Triumph); 4, T. G. Blundell ($3\frac{1}{2}$ h.p. Triumph); 5, C. A. Stern (4 h.p. N.S.U.); 6, H. V. Bate (5 h.p. Vindec and sidecar); 7, H. H. Berlandina ($2\frac{3}{4}$ h.p. Douglas); 8, Glynn Rowden (8 h.p. Bat); 9, H. V. Davidson ($2\frac{1}{2}$ h.p. Rex); 10, F. Fox (5 h.p. Rex).

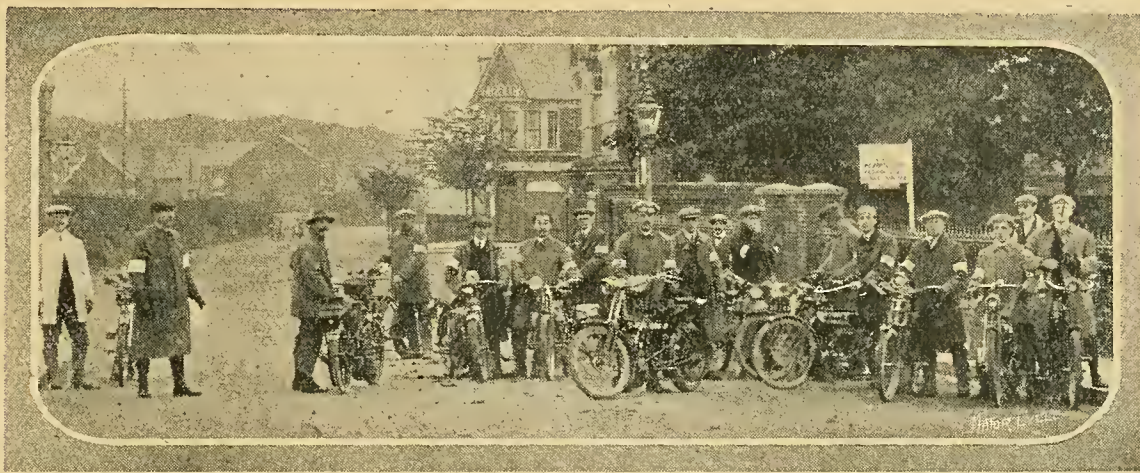
The winner's mileage works out at 102 miles per gallon. The petrol was supplied by Messrs. Beard Bros., of Cricklewood. The club is very greatly indebted to Mr. R. G. Booth, who at great personal inconvenience assisted with his car the whole of the afternoon.

An inter-club hill-climb has been arranged with the Oxford M.C.C., to be held on August 14th.

On September 11th an inter-club competition with the St. Albans and District M.C.C. will be held. Particulars will be published later.

Walthamstow M.C.

The second annual competition for the Dinner Cup, over a course of 100 miles on the London-Newmarket road, was held recently. Twelve competitors started, and nine succeeded in making non-stop runs qualifying for the gold centre silver medals. The destination of the cup and gold medal was decided by a further ten miles run, during which the competitors were timed over a secret two miles, the competitor running nearest to the time allotted being declared the winner. Those who made non-stop runs were: J. H. Kerr (5 h.p. twin Rex), V. R. A. Wain ($3\frac{1}{2}$ h.p. Rex), Dr.



Start of the Yarmouth and District M.C.C. Twelve Hours' Reliability Trial from Gorleston-on-Sea.

(Photograph kindly sent by Dr. V. H. Blake.)

H. Samuel (5 h.p. Vindec and sidecar), F. A. Applebee ($3\frac{1}{2}$ h.p. Rex), A. T. Stanton ($3\frac{1}{2}$ h.p. Bradbury), G. Whitter ($3\frac{1}{2}$ h.p. Rex), F. W. Applebee ($3\frac{1}{2}$ h.p. Rex), R. J. Lises ($5\frac{1}{2}$ h.p. Humber tricar), and J. W. Percival (6 h.p. Fafnir tricar). In the final ten miles, R. J. Lises succeeded in finishing within three seconds of the schedule time, and was declared the winner of the gold medal and silver dinner cup. V. R. A. Wain was second, qualifying for the special prize given by the hon. secretary, Mr. J. W. Percival.

Motor Cycling Club.

The following official awards have been made in connection with the twenty-four hours' reliability run for motor bicycles, a report of which was published last week. The official awards confirm the report as far as the winner of the cup and the medals for private owners are concerned.

Silver cup presented by F. G. Jenkins and W. H. Wells: H. Karslake ($3\frac{1}{2}$ h.p. own make De Dion engine, N.S.U. two-speed gear).

Gold medals presented by E. Gwynne and C. J. Seed for three best performances by private owners: H. Davison ($3\frac{1}{2}$ h.p. Rex), Hugh Gibson ($3\frac{1}{2}$ h.p. Triumph), and W. Price ($3\frac{1}{2}$ h.p. Rex).

Gold medals presented by M.C.C. to every competitor completing full distance in twenty-four hours: J. S. Barratt (5-6 h.p. Chater Lea-Peugeot), G. Brough (5 h.p. Brough), C. Burton ($3\frac{1}{2}$ h.p. Vindec Special), C. C. Cooke ($3\frac{1}{2}$ h.p. Triumph), A. H. Forbes ($3\frac{1}{2}$ h.p. Triumph), E. Pond (5 h.p. V.S.), F. G. Smith ($3\frac{1}{2}$ h.p. Triumph), and A. J. Stevens (3 h.p. Wolf).

Newcastle and District M.C.

The team trial of three was held on the 18th inst. The route chosen this year was from the club garage *via* Spenny-moor, West Auckland, Barnard Castle, and Bowes, to Penrith (about seventy-eight miles out), and back by Alston, Haydon Bridge, Hexham, and Corbridge, to the club garage (sixty-four miles), being a total of 142 miles. There were twenty-one starters, making up seven complete teams. The object of the trial was of a sporting nature, the three riders in each team starting together and finishing together. It was thus incumbent on each individual member of a team doing his utmost to get his fellow members through the trial. The winning team was decided on accuracy of arrival of complete teams at the luncheon stop at Penrith, and at the club garage, based upon twenty miles an hour.

The winning team who timed in within four seconds of minimum time was as follows: R. B. Smith ($3\frac{1}{2}$ h.p. N.S.U.), Stan Hudson ($3\frac{1}{2}$ h.p. Premier), and R. Archdale ($3\frac{1}{2}$ h.p. Triumph).

The second team was G. W. Raper (6 h.p. N.S.U.), D. M. Mallett ($3\frac{1}{2}$ h.p. Excelsior), and C. Reinhart ($3\frac{1}{2}$ h.p. N.S.U.).

THE 1909 BRADBURY ON THE ROAD.

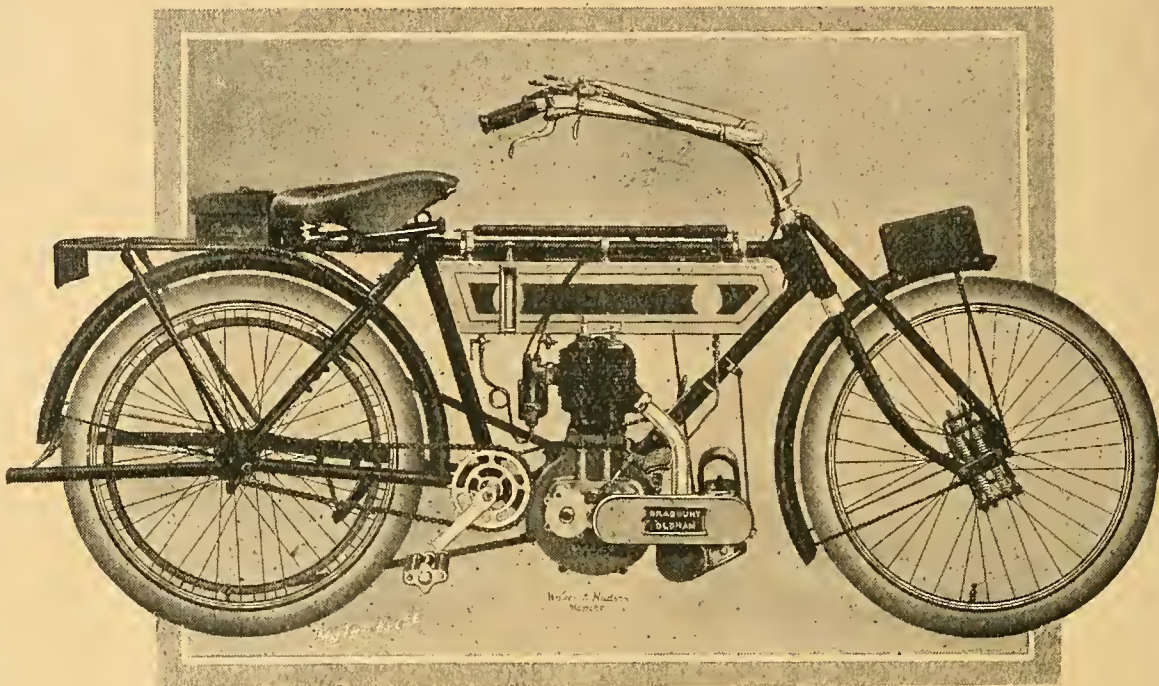
HAVING lately carried out a test of the $3\frac{1}{2}$ h.p. 1909 model Bradbury motor bicycle, we are in a position to speak very highly of its capabilities. The machine which the makers

sent to us for trial was not a new one by any means—we should say it had been ridden several thousand miles—but the way it romped up hills was an eye-opener. This was partly due to the big jet in the carburetter (proved by the rather high consumption), but this jet always enabled the engine to start readily at walking pace. There was no need to warm up the engine on the stand when starting for a run, for it never refused to start with the throttle barely open. The engine is a ball bearing one of 87 mm. by 87 mm., with interchangeable mechanical valves larger than any other engine of the same power, it is claimed. We cannot confirm this statement, not having had occasion to inspect them during the time the machine was in our possession.

The crank case forms the basis of the frame, and is constructed of a special steel casting, and open only on one side. This results in greater rigidity and strength. The flywheels are large, and render the engine extremely flexible. With this machine it is possible to crawl up to the foot of a hill, suddenly open the throttle and air lever, and away the machine bounds at full speed.

The frame is very low, the handle-bars extended well back, and footrests are fitted. These latter,

however, would be much more comfortable if placed a little lower. The spring forks are of special pattern, but the springs of the machine sent us were apparently intended for a rider of heavier weight, for there was



The 1909 pattern $3\frac{1}{2}$ h.p. Bradbury, with 87×87 mm. ball bearing engine

very little movement in them. Still, we have formed a very good opinion of the Bradbury after a test of 250 to 300 miles, for we never found a hill it could not climb, and the speed was always quite sufficient for our purpose. We cannot truthfully say that the machine was silent, for someone had unwisely enlarged the silencer outlet holes, although a cut-out is fitted. The actual machine we tried was afterwards successful in completing the 1,024 miles reliability trials of the A.C.U.



M.C.C. 24 Hours Reliability Trial, July 17th.

On the right, Harold Karslake (3 h.p. nonde script), winner of the Silver Cup presented by Messrs. F. J. Jenkins and W. H. Wells. Left, Hugh Gibson ($3\frac{1}{2}$ h.p. Triumph), who was a close second. Harry G. Bell, trials hon. sec. (centre.)

SIX DAYS' TRIAL.

The

GOLD MEDAL

was awarded to Mr. J. S. Barnwell, private owner,
whose machine was fitted with a genuine

ROC CLUTCH

and 2-speed gear conversion set.

A. W. WALL, LTD., Roc Motor Cycle Works,
Aston Road and Dartmouth Street, BIRMINGHAM.

Send for booklet describing Roc Conversion Set, adaptable to any make
of machine.

L.M.C. AUTO-VARIA PULLEY

A rider's convincing testimony to its advantages

3½ h.p. L.M.C.

Price:

45 Guineas.

**The IDEAL
TOURING
MOUNT.**

Engines and
Machines overhauled
—made equal to new

New pattern
3 h.p. cylinder.

GENTLEMEN,

TIPTON, STAFFS., 4th July, 1909.

You may possibly be interested in hearing the result of a further test to which I put your Automatic Variable Pulley yesterday. With the object of testing my old 1906 Quadrant which, as you will remember, you have recently overhauled, I rode down to Sunrising Hill with two friends, and succeeded in climbing the hill without any pedal assistance. The way the pulley responded to the gradient was astonishing, the engine speed remaining practically constant, even when rounding the sharp bend on the steepest bit at a slow pace. There was not the least trace of slip, although the engine was on full throttle. My friends admired the pulley very much, and had previously scoffed at the idea of my machine making the ascent. I had eight springs in pulley, and machine was in full touring trim, my own weight being about 13 stone.

Yours faithfully, H. T. P.

Fit any standard engine. Price 25/-

Important to
Owners of
"Quadrants"

(Birmingham Make).

**REPLACE-
MENT**

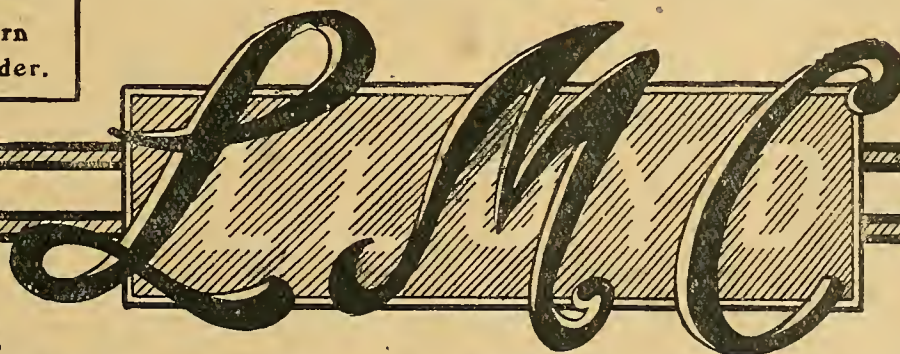
FITTINGS

from Stock.

**MAGNETO
conversion sets.**

LIST FREE.

Excellent second-hand
QUADRANTS
for disposal.



Machines
designed by
Mr. W. J. Lloyd.

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Designer of the
original
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THE **BAT** SUCCESS STANDARD **BAT** UPON ESTER **BAT** ESTS SUCCESS

RELIABILITY

SIX DAYS' TRIALS.

W. H. BASHALL, ESQ.	..	GOLD MEDAL
H. H. BOWEN, ESQ.	..	GOLD MEDAL
Mr. T. H. TESSIER ..	..	GOLD MEDAL

Mr. T. H. Tessier also awarded the Silver Cup presented by Miss M. Hind for

BEST PERFORMANCE OF A TWIN-CYLINDER MACHINE.

HILL CLIMBING

W. H. BASHALL, ESQ.,	ALL HILLS,	EXCELLENT
H. H. BOWEN, ESQ.,	" "	EXCELLENT
Mr. T. H. TESSIER	" "	EXCELLENT

"The behaviour of the Bat Machines on all the Hills throughout the Trial has been **QUITE REMARKABLE.**" (*The Motor Cycle, July 14th, 1909.*)

BRADFORD OPEN HILL CLIMB. W. H. BASHALL, ESQ. **FASTEST TIME OF THE DAY,** also
July 17th, 1909. **winner of SILVER CUP.**

"He literally flew up the hill. The ascent naturally created a stir amongst the numerous spectators, and Bashall was **HEARTILY APPLAUDED.**" (*The Motor Cycle, July 21st, 1909.*)

SPEED

BROOKLANDS. July 14th, 1909. **ALL COMERS' HANDICAP.** **FIRST**
H. H. BOWEN, 3½-4 h.p. BAT.

Distance, 8¼ miles. Winner's Speed, 62¾ m.p.h. Standing Start. **RECORD**

T. T. HANDICAP. H. H. BOWEN, 3½-4 h.p. BAT. **FIRST**

RECORD TRIALS for 500 cc. Engines. H. H. BOWEN, 3½-4 h.p. BAT. **FIRST**

Kilo Speed, 65.023 per hour. }
Mile Speed, 64.283 " } **RECORD**

"It will be noticed that three records were broken, probably the most surprising being the **WONDERFUL SPEED ATTAINED BY H. H. BOWEN ON A SINGLE-CYLINDER Bosch Magneto Ignited BAT-J.A.P.**" (*The Motor Cycle, July 21st, 1909.*)

COMFORT

ALL RIDERS OF BAT
SPRING FRAMES & FORKS

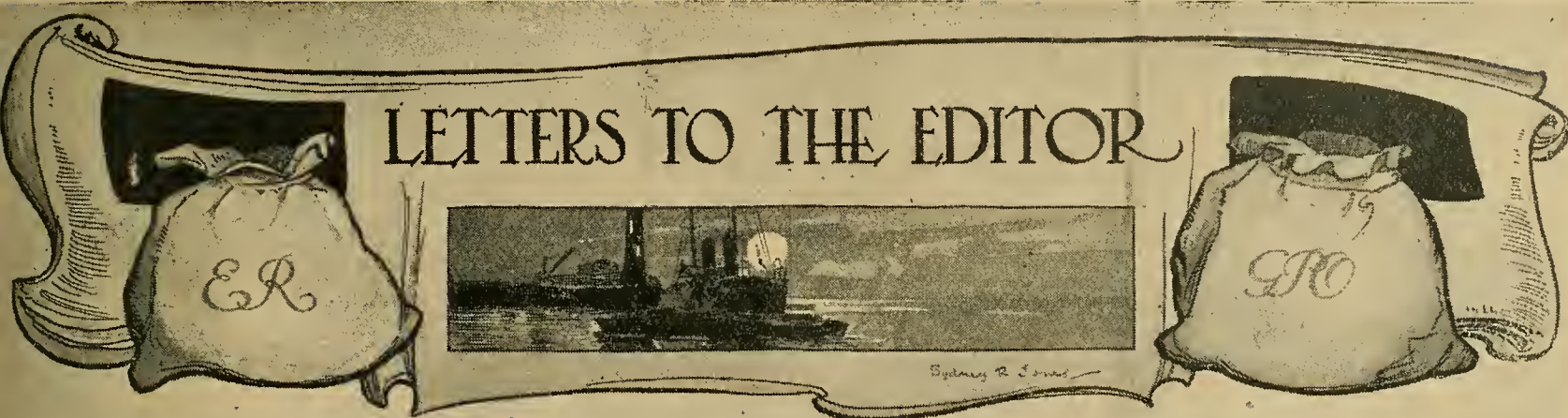
- FIRST

MODELS : 3½-4 h.p., £47 10s. 6-7 h.p., £58. 7-8 h.p., £60.

J.A.P. Engines. Automatic Lubrication. Gear-driven Magneto, protected in Tank and running on Ball-bearings. Low Build. Comfortable Footboards.

THE BAT MOTOR MANF. CO., Penge, London, S.E.

In answering this advertisement it is desirable to mention "The Motor Cycle."



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Appreciation of a Variable Gear.

[4152.]—As there are so many motor cyclists on the lookout for a good two-speed gear, it might not be inopportune to give my experiences with the Root and Clarke engine-haft gear which I have fitted to my machine. Although quite light in weight, the gear wheels are very broad, and it has stood up to the strain of a 7 h.p. engine for over 10,000 miles without showing a sign of wear. The clutch is very sweet in action and apparently capable of being slipped indefinitely, though once in, its grip is perfect. The gear is absolutely fool-proof.

FRANK THOMAS.

The Future of Passenger Motor Cycles.

[4153.]—I and a party of six passenger motor cycle owners, i.e., sidecars and forecars, will be at the Swan's Nest Hotel, Stratford-on-Avon, on Saturday, August 7th, at 5 p.m. It would be interesting and instructive if other Midlands sidecar and forecar enthusiasts would muster at the same time and place, to compare notes on fitment in the way of gears, lamps, and tyres. I shall, therefore, be glad if you will give this letter prominence.

A photographer will be in attendance to photograph each vehicle and its occupants, and, if you so wished, copies of these could be sent to your paper for publication, with a short description of the machine and its service. The meeting will be quite unofficial, and there will be no function of any sort.

W. A. MILLINGER.

We shall be pleased to receive the photographs and will give them our best consideration.—ED.]

Sunday Competitions.

[4154.]—I, with the majority of my club's members, am feeling very annoyed at the resolution recently passed by the A.C.U. condemning "Sunday" competitions. Surely the affiliated clubs are at liberty to hold competitions (not hill-climbs or races) without the grandmotherly legislation of the A.C.U., and I am of the opinion it is exceeding its powers. Of course, I refer to closed meetings, not open competitions.

Our members are nearly all employed in offices or are in such a position that they cannot take Saturdays just when they choose, and even when two o'clock comes there is lunch, change, getting home, and getting to the rendezvous. This all means time. Now how is it possible, after allowing for contingencies, say, to make a start at five o'clock and run off a 200 miles reliability trial in schedule time; it is unreasonable, and furthermore, these supporters of our competitions are after all the "live" members.

What harm can there be in starting at a certain time on Sunday for a schedule run to a spot selected, lunching, and getting back at a certain time? We do not parade with armlets and flags, but simply hold a harmless reliability run. What is the difference between that and going an ordinary touring run?

The sooner the A.C.U. rescinds such "silly" resolutions the better, otherwise my club seriously contemplates withdrawing its support. We look forward to reports of our doings in your valuable journal, as they tend to increase

our membership, and I sincerely hope you will not pander to the A.C.U. in this matter, as it still inserts the Sunday doings of affiliated clubs in the *R.A.C. Journal*. I apologise for this lengthy letter, but I can assure you we feel very angry in this matter.

WILSON PROSSER,

Chairman Western District M.C.

The M.C.C. Twenty-four Hours' Reliability Trial.

[4155.]—Might I suggest that the next time the M.C.C. hold this trial it favours a route where it does not cover the same ground twice during the night. I live on the Henley-Oxford main road, and on the night of July 16th I was kept awake the greater part of the time by the machines roaring through the village with their cut-outs open. I should not have minded if they had only come through once. I am not an anti-motorist, as I ride a motor cycle and drive a car.

SURGEON.

[4156.]—I feel that some recognition is due to Mr. Hugh Gibson for his very sportsmanlike behaviour in the above competition. As is stated in your report, he was only two marks from me on the losing side after the third round, and stood a very good chance of winning, as he had a much better watch than I. Yet on the two last rounds he was sportsman enough to give me the exact time five miles from home, so that we should both have an equal chance as regards time. It is such instances as this that promote the good fellowship which exists amongst motor cyclists, and I cannot find words to express my admiration. I may perhaps mention that I had only met him once previously, when on the last London-Edinburgh run we rode together from Stamford to Edinburgh.

It may interest your readers to know that the machine I rode has done nearly three years' hard service, and has done about 18,000 miles without once failing me. The only adjustment during the trial was to replace two links in the Whittle belt at Oxford on the fifth round. I think it is safe to claim that this is as little as any other competitor did to his machine.

HAROLD KARSLAKE.

Repairs and Replacements.

[4157.]—Referring to the letter of Dr. Charles S. Patterson, M.B., M.R.C.S., in the issue of July 14th, 1909, I am glad to be able to state that I have proved the Humber motor bicycle to be interchangeable. I have one of their 1909 3½ h.p. models, which I find to be an excellent machine, and will take sidecar anywhere. On two or three occasions I have wanted replacements, and in each case I have received them per return, and they have fitted exactly, so that I could put them in myself, and what is more I have found the Humber Co. a most obliging firm. At Whitsuntide I was passing through Coventry, when I thought my machine required a little adjustment; I took it to the works, and the firm immediately put three mechanics to work at it, who found out that the engine simply required cleaning, which they did while I waited, and for which they made no charge. I think the doctor might do worse than purchase a 1909 Humber.

WALTER BUCKERIDGE.

Hill Climbing.

[4158.]-In the issue of *The Motor Cycle* dated July 14th, 1909, a correspondent writes of Mow Cop Hill, near Congleton. Two enthusiastic motor cyclists journeyed there from Winsford, Cheshire—Messrs. Arnold Stubbs and Clement Kitchen. We were both riding $3\frac{1}{2}$ h.p. Standard 1907 Triumphs, geared $5\frac{1}{2}$ to 1. Mr. Arnold Stubbs negotiated the hill successfully with pedal assistance at the second attempt. The first attempt failed, and the failure was due to a slipping belt. Mr. Kitchen also successfully climbed the hill, after repairing a burst tyre and putting in a new belt fastener.

We agree with all your correspondent says about the condition of the road surface, especially just as we began to climb the last and steepest portion. It was simply awful. In fact, we spent a few minutes removing some of the biggest boulders to give us a better chance.

The innkeeper at the Railway Hotel assured Mr. Stubbs that his was the first single-gear machine that had ever climbed the hill. Needless to say we both very proudly entered our names in the visitors' book spoken of by your correspondent. We referred back carefully, but failed to find any previous record of a single-gear single-cylinder motor cycle ever having climbed the hill. The date was Wednesday, July 14th.

ARNOLD STUBBS.
CLEMENT KITCHEN.

Passenger Machines in the Thousand Miles Trials.

[4159.]-I am surprised that no passenger vehicle gained an award in the 1,000 Miles Trial, as I feel that I could have pulled my twin and sidecar through, but perhaps I am underestimating the difficulties of such a test. It may interest your readers to know of the satisfaction I have experienced with my twin Rex de Luxe and Mills-Fulford fixed wheel sidecar. I have been riding this combination continually this summer, and have had excellent results. On the level I can do thirty-five miles if required, and take most ordinary hills on the top gear, and any hill (up to now) on the second speed. My two-speed is a Rex Roc adapted gear, and has worked very sweetly indeed. I use a Whittle belt, and as I have had previous experience of rubber and canvas belts for sidecar work, my opinion is that a Whittle will wear out several rubber ones.

I have read a lot of correspondence about skidding, and must say that I have ridden fixed wheel sidecars both in 1907 and 1909, over very greasy surfaces, bad corners, and tramlines, and have not had anything approaching a skid. With regard to steering, if care is taken in adjusting the sidecar in line with the cycle, one can release the steering bar on the level for some distance, but of course when steering round a corner to the left particularly (sidecars are usually fixed on the left) the speed should be kept down so as to negotiate it without any undue strain on the combination. With regard to safety, I have ridden at varying speeds over bad roads with heavy passengers and have never had broken tube or connection—and the explanation I think is a first-class machine and sidecar, and careful and firm adjustment. It is advisable to keep an eye on nuts and bolts, as vibration will work nuts loose.

I have not the slightest connection or interest with any firm in the motor trade. W. A. MILLINGER.

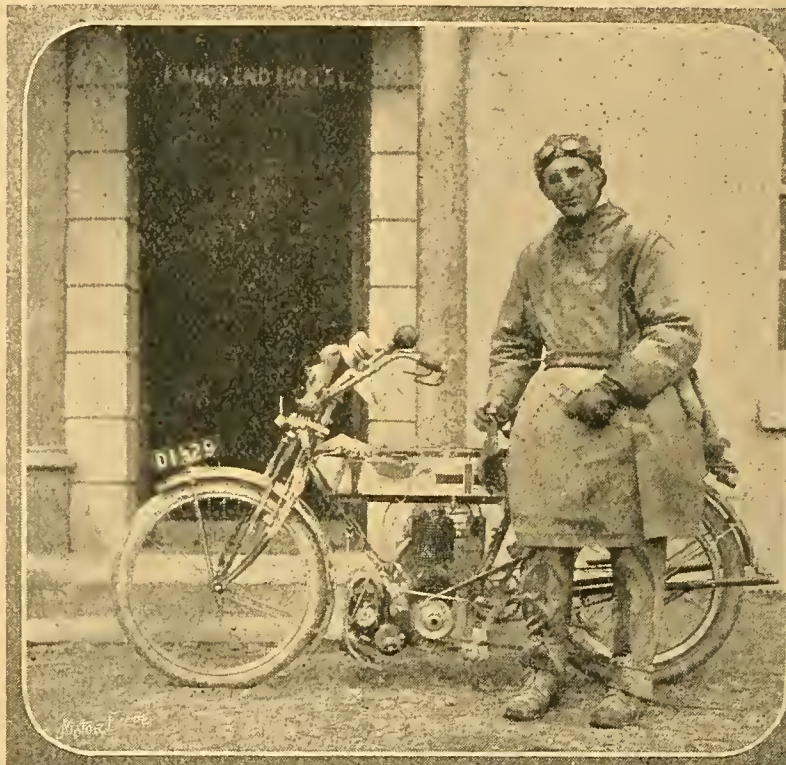
The Lightweight Question Again.

[4160.]-It seems a little late in the day to be called upon to defend the lightweight motor cycle, but it is impossible to let the remarks of "Ex-lightweight" in your issue of July 14th pass without comment. I have used motor cycles since their inception, and have owned most of the best-known makes, but till the present year I did not know what comfort, ease of handling, and economy of upkeep in a motor cycle meant. My experience of these things has coincided with my purchase of a lightweight. Perhaps "Ex-lightweight" and I are somewhat at variance as to what we mean by a "lightweight." He had a $1\frac{1}{4}$ h.p. motor; mine is a Douglas $2\frac{3}{4}$ h.p. But he says he now wants a machine weighing from 160 to 180 lbs. The Douglas weighs just 100 lbs., and from it I get everything, and a great deal more than he gets from his $3\frac{1}{2}$ h.p. As my last mount was a 1908 machine, I claim to know what a really good $3\frac{1}{2}$ h.p. motor cycle is; but for everything that makes motor cycling enjoyable the heavy single-cylinder motor cycle is not to be compared with the light $2\frac{3}{4}$ h.p. twin. I have covered over 3,500 miles with mine, and that in Scotland, where the roads are calculated

to bring out any inherent vices of an engine, so that I may fairly claim to know something of the possibilities of the machine.

My only previous lightweight was a 2 h.p. Clément-Garrard, and I confess that I did not like it; but the Douglas sacrifices neither comfort nor stability to lightness. Mine has footrests, $2\frac{1}{2}$ in. Palmer Cord tyres, spring seat-pillar, and Brooks double-sprung saddle. It is, in fact, positively luxurious to sit upon. The wheelbase is long, and the saddle position low. Then it starts at once—almost as easily as a push-bicycle, in fact. As for speed, I find that I can now get from 5 to 35 m.p.h. out of it. It takes me up any hill that my 1908 machine would take me up. It does not side-slip, and there is no vibration whatever from the engine. To ride it is like perpetual free-wheeling.

I write this letter rather reluctantly, and it is only a sense of fair-play that induces me to do so. In Scotland the Douglas



Ivan B. Hart-Davies, of Rugby, on arrival at Land's End, after his record run from John-o'-Groat's in 33 hrs. 22 mins. How long will the record stand? We may be able to answer the question in the next issue.

is not yet well known, and one has a certain amount of selfish satisfaction in owning a good thing that other folk have not had sufficient gumption to pick up. But the makers of motor cycles get (deservedly) plenty of abuse from we riders, and I think that praise, when it is merited, will probably prove an equally effective stimulant to good work.

GEORGE A. MACKAY.

[4161.]-In reply to your correspondent "Ex-Lightweight" [letter 4140] I should like to ask him if he is aware that there are other lightweights than $1\frac{1}{4}$ h.p., viz. 2 h.p. Moto-Rêve and $2\frac{3}{4}$ h.p. Douglas. As soon as he has given either of these machines a 500 miles trial I venture to say he would not readily go back to the heavyweight. I recently purchased a $2\frac{3}{4}$ h.p. Douglas which is eminently satisfactory in all respects as regards easy starting, speed, hill-climbing, and getting about amongst traffic in busy thoroughfares. If "Ex-Lightweight" would like to test his $3\frac{1}{2}$ h.p. against my $2\frac{3}{4}$ h.p. Douglas through traffic and on a long journey I shall be very pleased to meet him any time by appointment, and feel sure the little Douglas will not be second throughout a fifty miles journey.

AN 863.

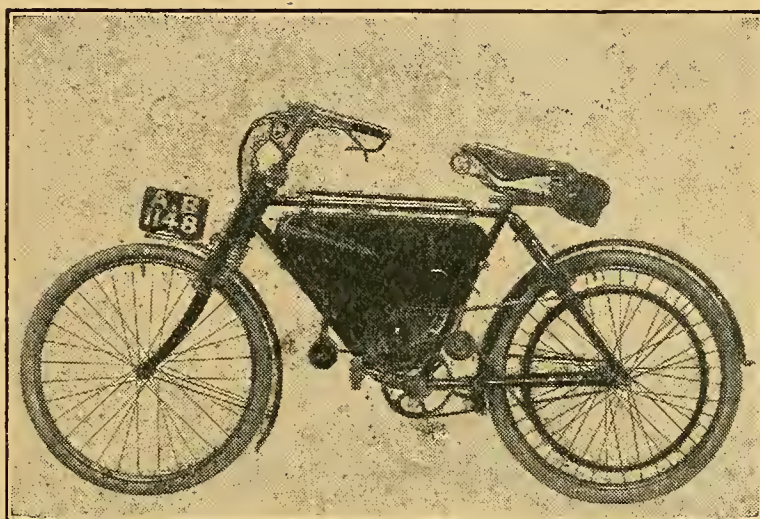
[4162.]-I am afraid that letter 4140 may mislead intending motor cyclists as to the merits of a good lightweight. I am the amateur owner of a lightweight, and although it is a lightweight it leaves nothing to be desired in regard to reliability, comfort, speed, and power. I suppose this is all that is required for touring purposes. This lightweight will easily carry me (9 stones 9 lbs.) and a passenger on the carrier (12 stones) up such steep inclines as Ashley Hill, Bristol, without pedalling and without a two-speed gear. The arrangement of the engine—being a twin-opposed—

PONDER OVER THIS.

ONE—AND ONE ONLY.

3, 4, 5, etc., H.P.
Engines
have to be
pedalled up hills.

Vide
Six Days' Trials.



AND IT WON
a
GOLD
MEDAL.

MOTOSACOCHE

was entered in SIX DAYS' TRIALS,
AND IT FINISHED.

There is NOTHING WONDERFUL about this for a

MOTOSACOCHE

but we would like to draw your attention to the fact
that it was an

ABSOLUTELY STANDARD ENGINE.

Verbum sat sapienti.

65, Holborn Viaduct, London, E.C.

RELIABLE ACCESSORIES AT GAMAGE'S

"ROM"

COMBINATION NON-SKID.

The tyre that gives absolute immunity from side slip under any road conditions. Exceptionally durable and very resilient. Equally serviceable for summer or winter use. No leather in its composition — which makes the tyre "dead"—yet practically unpuncturable.

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	Cover (Beaded.)	Rom Tube.
26 x 2 ..	52/-	9/-
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Butt Ended Tubes 2/- extra.



"MATCHLESS" FOOT BRAKE.

Working on back belt rim, very powerful. Complete with pedal on stud, which fixes in place of one of the crank case bolts. Price, complete 16/6. Postage 6d.

"Matchless" Spring-Fork Attachment.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!! 15/6. Postage 6d.

Belting

Every good make in stock, including Shamrock, Stanley, Dermatine, Whittle, Continental, etc.

The "Gamage" Box Spanner Sets

For Motor Cycles, 2/3 per set. State make of cycle when ordering. A very neat and handy set.

The "Gamage" Motor Pliers.

A very handy tool for not crists. Pliers, wire cutters, b rner nipper. Nickel-plated, 2/6. Postage, 3d

"PATCHQUICK" PATCHES

The "Elastes" Motor Cycle Expanding Luggage Carrier.

Price in leather 10/6.

In Fibre, 3/6. Price 6d. and 1/- per tube. Patches 2d. each. Repair Outfits, 3/- Can be sent by post or rail.



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THE WHY AND WHEREFORE.

¶ Motor Cyclists who follow the subject of aeronautics should read "Flying," a breezy non-technical book for amateurs dealing with the first principles of human flight by means of aeroplanes.

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mpletely overcomes the vibration from which the average $3\frac{1}{2}$ h.p. heavyweights suffer. The engine never fails, and barring stoppages with punctures or belt troubles I am able to go any journey of 150 miles in a day in England, Wales, and run close to schedule at three or four checks every twenty miles an hour average, and I am as certain of getting to my destination as I should be in a train. I say this because I have ridden my lightweight—a $2\frac{3}{4}$ h.p. Douglas—many thousands of miles.

ARTHUR J. LUMBERT.

Silence.

[4163.]—Letters 4034, 4076, and 4141 concerning silence have interested me. The writers may like to hear of my experiments concerning silence. After trying all kinds of silencers, mostly of the cylinder kind, with one, two, and three fans in them to chop up the sound, I have at last found an efficient silencer. It consists of 5ft. of $1\frac{1}{2}$ in. diameter tube fitted to an engine $82\frac{1}{2} \times 89$ mm. with 5 to 1 gear ratio. A butterfly valve is fitted in the extreme end of the pipe. The following are fractions of a square inch which the butterfly valve is opened.

I can run the machine at fifteen or twenty miles an hour on a good road on a valve opening of $\frac{3}{8}$ in., twenty to thirty miles per hour on $\frac{1}{2}$ in. opening. The exhaust is so silent at the hum of the magneto chain can be heard quite easily, and people stop to look at the machine as I pass by. Although the valve when closed fills the tube, to the one-hundredth part of an inch, the engine will run well at about 10 miles per hour, and fire about once in three. Opening the valve to half a square inch or more, the noise made is only like a large car. The momentum of the exhaust gas going through the tube has a tendency to scavenge the engine and dissipate the heat. There is absolutely no exhaust sound up to a quarter of an inch opening of the valve.

HENRY GRAFTON.

The Berlin Track Disaster.

[4164.]—I enclose a cutting from a daily paper describing the above, which you may probably have read. The disastrous accident, to my mind, is yet another instance of the folly of these excessive speeds, which a few men in this country (probably for personal gain, e.g., £50 cups and trophies) are still willing to uphold. Motor cycles have now reached a pitch of perfection sufficient to enable them to run speedily and consistently throughout all weathers and over nearly every class of road, and many of us have yet to learn the advantage of breaking some previous record by one-fifth of a second round some track.

It was once mentioned in your columns by a professional rider, as a defence of long-distance records on tracks, that probably no amateur would succeed with his touring machine, but before treating such a remark as other than a joke, I should like to hear what percentage of motor cyclists have bought machines with the idea of sitting on them for any time approaching twenty-four hours.

No doubt while there are cups given for such performances we shall always have the cup-hunters. Probably, when the track speeds reach about 90 to 100 m.p.h. on an average, a family grave will be offered as an inducement to professionals to compete.

CLEMENT G. CADY.

We have read several reports of the above regrettable disaster, and, although some mentioned that the dead and dying lay all around and other similar sensational statements, we believe the fatalities were whittled down in subsequent reports to three. We would remind our correspondent that men will always be ready to race, whether on horse or motor cycle, in yacht or flying machine, and a man was even unfortunate enough, a few days ago, to be killed whilst reposing in his armchair by the chimney of his house falling upon him. It so happened that in the Berlin disaster the spectators suffered most.—ED.]

Lubrication.

[4165.]—"Oile's" letter [No. 4058] regarding the oiling of a 1908 Triumph is interesting, and to expect a machine to run sixty to eighty miles without lubricating is, to say the least, tempting providence. Of course, it must be remembered that when a machine is sent out from the makers it invariably has a liberal supply of oil in the crankcase, and this be further added to by the rider, which is usually

the case, it naturally follows that the engine will run for a longer period without needing further lubricant. "Oile" does not say how much he had in the crankcase when he started, or what quantity was found in the crankcase after the abnormal runs.

I presume the oil tap does not leak, and that the same was turned right off, as with this type of machine, if it be left on, the oil will continue to run down into the crankcase. I would like to ask what condition the cylinder was in immediately after the long runs? Also, did "Oile" record his mileage upon a cyclometer?

H.G.

[4166.]—Mr. McMinnies's interesting article in a recent issue, particularly the paragraph criticising the "rough and ready" system of lubrication in vogue on present-day motor cycles, has prompted me to mention the result of my experiments, extending over a long period, with a view to perfecting a really automatic system of lubrication.

It is readily acknowledged, by those who have closely studied this question, that any method based merely on a drip feed is inaccurate, wasteful, and inefficient. Recognising this, also that a pump and sump add unnecessary complications, I concluded that the only way to maintain a constant minimum level of oil in crank case was to utilise the well-known principle of the bird water fountain. No good purpose would be served by stating here the various difficulties encountered in adapting this principle; but with certain modifications, which are the subject of a final application for a patent, and which it would be inadvisable to detail at present, the most gratifying and successful results have been obtained. Utilising the present hand pump for filling, a small, auxiliary, airtight tank, containing about twelve pumpfuls of oil, is attached close to the crank case of engine, a feed pipe connecting crank case with tank. The feed is self-starting and uninterrupted by any needle or other valve.

The action of this system depends upon the air pressure in crank case, i.e., the down stroke of piston causing air pressure in crank case forces a few bubbles of air into the airtight auxiliary tank, thereby releasing from the partial vacuum in the tank a corresponding quantity of oil which is immediately drawn into the crank case by the upward stroke of engine piston. This operation is repeated until the level of oil in crank case covers the feed hole, thus forming an air seal, preventing further admission of air to auxiliary tank until the supply of oil in the crank case is consumed.

The advantages of this method of automatic lubrication are:

- (1.) The supply of oil is accurately proportional to engine consumption.
- (2.) The flow of thick "air-cooled" oil is unaffected by cold, the tank being warmed by its proximity to the hot crank case.
- (3.) Economy of consumption and consequent freedom from charring.
- (4.) No complication or working parts.
- (5.) Extra oil given when hill-climbing.

I may say that the above system has been in use on my $2\frac{1}{2}$ h.p. engine during this season, giving perfect satisfaction. A charge of twelve pumpfuls sufficed for a long run recently of 240 miles, leaving a quantity remaining in tank on completion of the run.

The result of my placing practically this invention before two of the principal British manufacturers of motor cycle engines has not been encouraging; but I live in hope that when the system is more widely known by my long-suffering fellow motor cyclists its adoption by progressive manufacturers will speedily follow.

E. ALLAN GLEN.

EXPERIENCES WANTED.

"5799" would like readers' experiences with the Centaur chain-driven motor bicycle, its faults as well as its good points.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

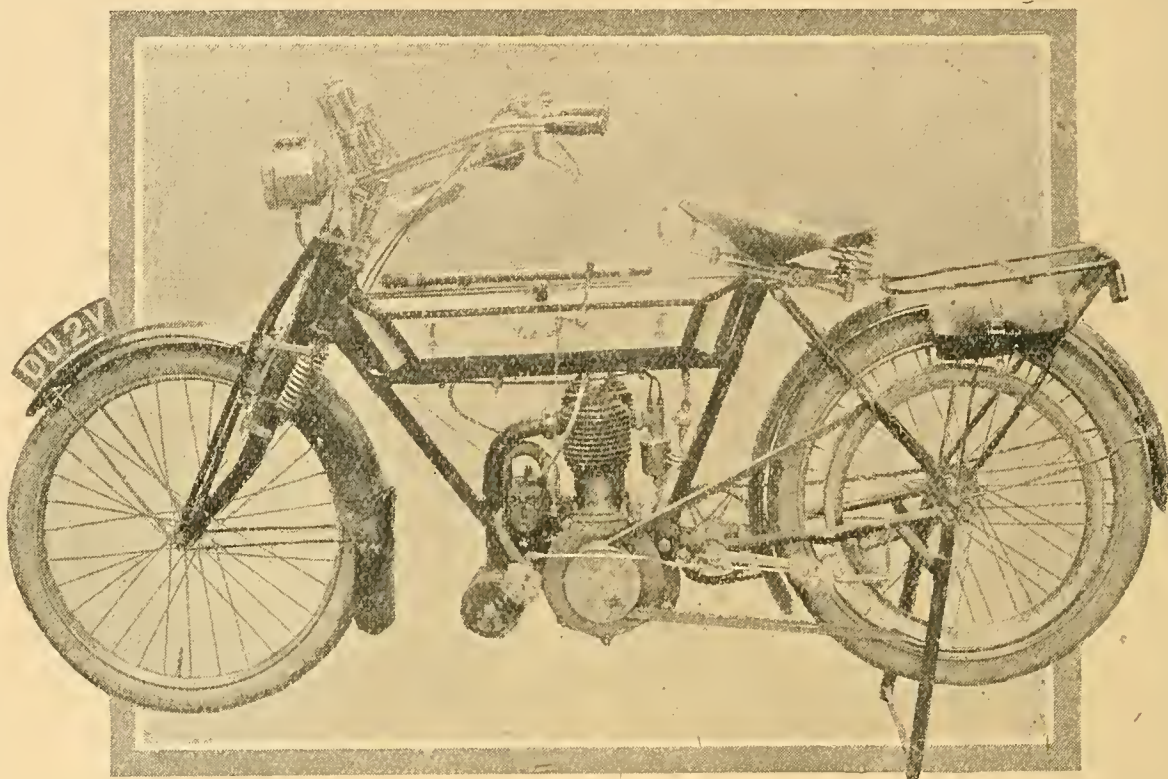
THE 3½ h.p. EXCELSIOR MOTOR BICYCLE.

AS already announced in *The Motor Cycle*, the firm of Bayliss, Thomas, and Co., Coventry, has recently revived the manufacture of the Excelsior motor bicycle. The management of the concern very kindly placed at our disposal a few weeks ago a brand new machine which had never been ridden except for a test ride to see that everything was in order. This we commenced riding at once, and from the first were favourably impressed with its behaviour.

The engine is 82 × 89 mm., with mechanically operated inlet valve and Bosch magneto, gear driven. The magneto is placed in a most accessible position, and during the time we rode the machine we did not notice any noise arising from the magneto driving pinions, which are enclosed in an oiltight case forming part of the crank case of the engine. The frame is low, well built, and highly finished, tanks being in duplicate—that is to say, they are fitted one on each side of the top tube, and so constructed that they entirely enclose the tube and present a very neat appearance. One petrol tank is connected to the other by means of a branch pipe, and it is possible to run on both or one tank as desired. In the case of a somewhat absent-minded rider it is advisable for him to run on the large tank, and provided both are full when he starts he will have the smaller one to fall back on if the larger one becomes empty when there are no petrol stores in the vicinity.

The spring fork is the well-known Druid, and there is no question of doubt that this renders the machine most comfortable to ride on rough roads. The wheels are the standard size 26in. × 2¼in., and, of course, any tyre can be supplied to order. Those fitted to the machine we rode were Dunlops, and they gave no trouble in the course of about 500 miles. The front brake and exhaust valve lifter levers and rods are splendidly designed and work beautifully. No

feature of the machine is better than these. The sparking plug is fitted over the inlet valve cap, and the paraffin compression tap over the exhaust valve. The engine is particularly well balanced, and at high speeds one cannot detect any undue vibration, while it will run almost as slowly as it is possible for the

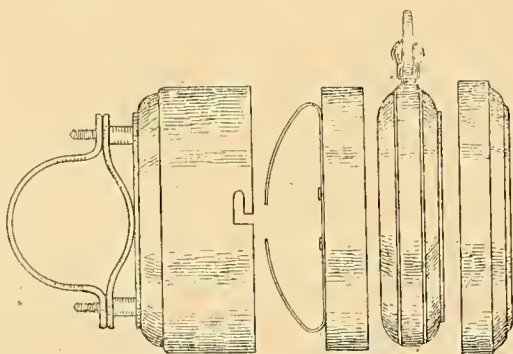


The 1909 pattern 3½ h.p. Excelsior, with 82 × 89 mm. engine, Bosch magneto, Druid spring forks, Lycett saddle, and Brown and Barlow handle-bar controlled carburettor.

machine to be balanced with a gear of about 4½ to 1. The carburettor is a Brown and Barlow with handle-bar control. Any description or remarks with regard to this well-known device would be superfluous, as practically every motor cyclist knows its capabilities. It will suffice to say that, with the aid of the handle-bar levers, the machine can be regulated to run at widely varying speeds, and with a fairly heavyweight rider in the saddle—13 to 14 stones—it will climb main road hills at high speed. To those motor cyclists who are on the look out for a reliable mount at a moderate figure we can recommend the 1909 pattern Excelsior, which is manufactured and sold by Bayliss, Thomas, and Co., Coventry. It possesses all the essential details of a modern single-gear motor cycle.

HANDLE-BAR WATCHES.

MOST motor cyclists carry a watch on the handle-bar, especially when on tour, for it is surprising how the time slips away when riding along with no fixed object, simply admiring the scenery. Some watches, however, will not stand the vibration of a motor cycle for long. On the other hand, it is hardly wise to use an expensive watch. Therefore there is an opening for a strong, serviceable watch, which must



be non-magnetic. The "Wunda" watch and holder recently submitted to us is a marvel of cheapness. The watch keeps good time, and the nickel-plated case has been well thought out. It will be seen from the illustration that a spring is fitted to absorb some of the vibration, and another good point is the secret fastening used. It is sold by Bransom, Kent, and Co., Ltd., 40, Great Eastern Street, E.C.

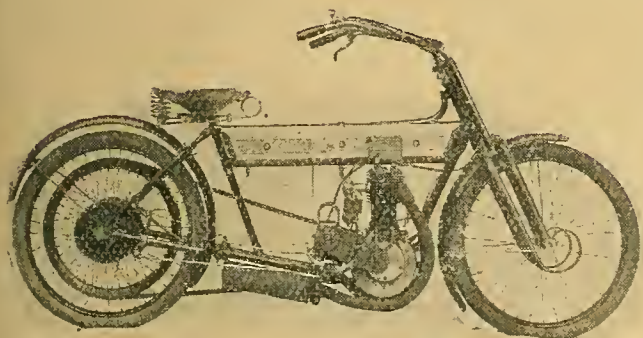
Messrs. J. C. Lyell and Co., Ltd., 55, Victoria Street, Westminster, S.W., have submitted to us a new pattern Clair silencer. The cut-out fitted is variable, and by its use almost perfect silence or any degree of noise can be obtained. The silencer for a 3½ h.p. engine is rather large, but it will keenly interest readers who would like to make their motor cycles silent.

The ROC

commonly designated "the car on two wheels," has been silently and surely proving its utility during the 1909 season. In the recent six days' trials three machines fitted with the ROC live axle clutch and two speed gear completed the distance without loss of marks. The performances of these machines were specially conspicuous at the official hill climb observations. ❀ ❀ ❀ ❀ ❀ ❀ ❀ ❀ ❀

ROC and Economy.

At the Ayr and District Motor Club's Trial, a twin ROC came out first on formula, and also ran the greatest distance to the gallon, viz., 85 3 miles. ❀ ❀ ❀ ❀ ❀



Booklets describing—(1). ROC Military Models.

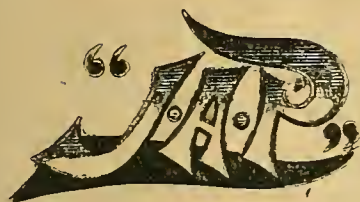
4 h.p., Single Cylinder.

5-6 h.p. Twin Cylinder.

(2). ROC Conversion Sets.

Will be posted to anyone on receipt of a postcard.

**A. W. WALL, LTD., Roc Motor Cycle Works,
Aston Rd. and Dartmouth St., BIRMINGHAM.**



MOTORS.

A.C.U. Six Days' Trial. 6 J.A.P.'s won Gold Medals.

T. H. Tessier on 7 h.p. BAT-J.A.P. W. H. Bashall on 7 h.p. BAT-J.A.P. H. H. Bowen on 7 h.p. BAT-J.A.P. A. D. Draper on 3½ h.p. MATCHLESS J.A.P. A. Weatherilt on 3½ h.p. ZENITH-GRADUA-J.A.P. F. W. Barnes on 3½ h.p. ZENITH-GRADUA-J.A.P. Mr. T. H. Tessier on 7 h.p. BAT-J.A.P. winning the silver cup.

"The Motor Cycle" says—"The behaviour of BAT-J.A.P. machines on all hills throughout the trial has been remarkable."

B.M.C.R.C., July 14th. H. H. Bowen on BAT-J.A.P., 4 h.p., side valve engine, BROKE THE RECORD for single cylinder machines up to 500 cc. 65 miles per hour.

All Comers Handicap. J.A.P. 1st. H. H. Bowen on BAT-J.A.P. T. T. Handicap. J.A.P. 1st. Speed in both, 62½ m.p.h.

Bradford M.C.C. Hill Climb. W. H. Bashall on BAT-J.A.P. machine made fastest time, winning the silver goblet.

N.W.L.M.C.C. Hill Climb. J.A.P. 1st in twin cylinder class. G. Rowden on BAT-J.A.P.

Send for free illustrated catalogue of J.A.P. Motors, Patent Carburetter, Automatic Lubricator, etc.,

JOHN A. PRESTWICH & Co., 1, Lansdowne Road,
Tottenham, LONDON, N.

Telegrams: "PRESTWICH," TOTTENHAM.

Telephone: 1822 TOTTENHAM.

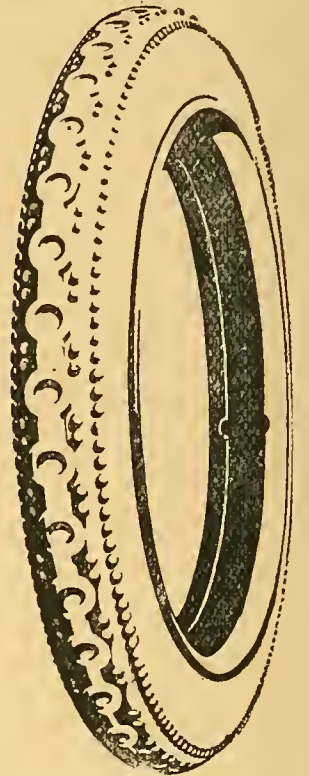
**"ALL
RUBBER."**



**THE BEST INSURANCE
AGAINST SIDE SLIPS.**

FIT

**KEMPSHALL
GOLD MEDAL
TYRES.**



"ALWAYS GRIP."

"NEVER SLIP."

Highest honours were recently gained at the Antwerp and St. Petersburg Exhibitions, Kempshall Tyres being awarded a GOLD MEDAL at each exhibition.

Motorists should keep a look-out for the NEW KEMPSHALL DETACHABLE RIM.

THE KEMPSHALL TYRE CO. (OF EUROPE) LTD.

1, Trafalgar Buildings, Nor humberland Avenue, London, W.C.

Telephone—No. 244 Gerrard (two lines). Telegrams—"Studless, London."

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**"ALL
BRITISH."**

UNPRECEDENTED SUCCESS OF



MOTORINE

In the A.C.U. Six Days' Trial.



EVERY Gold Medal Winner, but one, used Motorine,
EVERY Silver Medal Winner, but two, used Motorine.
BOTH Winners of Certificates used Motorine.
EVERY Winner of a Special Award used Motorine.

In brief, Motorine was used by all but three of the competitors who finished in this severe trial

THE JUDGES COMPLETE REPORT ON THE TRIALS IS BEING REPRINTED IN FULL, AND A COPY WILL BE SENT POST FREE TO ALL INTERESTED, ON APPLICATION TO:

PRICE'S PATENT CANDLE CO., LTD., BATTERSEA, LONDON, S.W.

ROM *All-British* Tyres.

LATEST WINS.

A.C.U. 6 DAYS.

MISS M. HIND'S CUP

won by Mr. T. H. Tessier on a Bat machine, using ROM Tyres.

MR. A. J. WILSON'S CUP

won by Mr. W. W. Douglas on a Douglas machine using ROM Tyres.

Also **9 GOLD MEDALS and
4 SILVER MEDALS**

won on ROM Tyres.

LONDON—PLYMOUTH.

SPECIAL GOLD MEDAL

won by Mr. H. A. Cooper on a Rex machine using ROM Tyres.

BRADFORD M.C.C. TEAM TRIAL.

4 GOLD MEDALS

on ROM Tyres.

HERTS COUNTY HILL CLIMB.

FASTEST IN EVERY CLASS

on ROM Tyres.

BROOKLANDS—ALL COMERS' HANDICAP.

1st, 2nd, 4th, and 5th

on ROM Tyres.

T.T. HANDICAP.

1st and 3rd

on ROM Tyres.

Also **3 NEW RECORDS CREATED.**

LEEDS—LONDON AND BACK.

SILVER SHIELD

won by Mr. T. Bullus on a P. & M. machine using ROM Tyres.

Also **GOLD MEDAL.**

BRADFORD M.C.C. HILL CLIMB.

SILVER CUP

won by Mr. W. H. Bashall on a Bat machine using ROM Tyres.

FASTEST TIME OF THE DAY

made by Mr. W. H. Bashall on a Bat machine using ROM Tyres.

FASTEST TIME FOR SINGLES

made by Mr. O. C. Godfrey on a Rex machine using ROM Tyres.

Illustrated Catalogue of ROM Tyres sent free on application.

Rom Tyre & Rubber Co., Ltd.,

31, Brooke Street, Holborn, London, E.C.

Telegrams—"Romdom, London." Telephone—1513, Holborn.

Manchester—H. Reed & Co., 306, Deansgate. Edinburgh—N.S.U. Scottish Agency, 167, Morrison Street. Preston—Lancashire Motor Co., Ltd., County Garage (opposite Central Station). Birmingham—Thos. Clayton & Son, Ltd., 125-6, New Street. Leeds—A. J. Greenwood & Co., 39, Guildford Street. N.E. London—Godfrey & Applebee, 165a, Hoe Street, Walthamstow. Lincoln—W. J. Binks & Co., St. Bendick's Square.



MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, 3 lines. Name and address must be counted.

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-
In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. Ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should be distinctly under what heading and in what column the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going there to view.

The following showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

MR. HART DAVIES

used our

FAMOUS . . . SEARCHLIGHT

when so handsomely breaking
the

John-o'-Groat's Record.

He chose the **BEST LAMP**—full of **EFFICIENCY** and devoid of **FADS**.

It was not a special lamp—in fact we did not know what lamp Mr. Hart Davies was using until after Record was beaten.

A NEW MODEL R E X obtainable only through the PREMIER MOTOR CO., LTD., BIRMINGHAM.

This SPECIAL model has all the improvements and refinements of the 1909 REX, IN ADDITION TO WHICH there are included a NEW DISC FREE ENGINE CLUTCH (pedal starting), J.A.P. AUTOMATIC LUBRICATION. It carries a SPECIAL GUARANTEE, viz., all mechanical parts are guaranteed for 5,000 MILES running. Any part failing or proving defective in material or workmanship during that distance will be IMMEDIATELY SUPPLIED FREE from OUR STOCK.

PRICE, COMPLETELY EQUIPPED, 40 GNS.

DELIVERY, first orders within 7 DAYS.
Demonstration model is now on view at our works.

N.B.—This SPECIAL MODEL CAN ONLY be obtained from the PREMIER MOTOR CO.

ALL OUR GOODS ARE SENT ON APPROVAL

Premier Motor Co. Ltd.,

Aston Road, BIRMINGHAM

Telephone 4310.

Telegrams: "Primus, B'ham"

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle." When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be forwarded for replies. Only the number will appear on the advertisement. Replies should be addressed, 2d. c/o "The Motor Cycle," Coventry"; or if "London" is added to the address, then to the number given, "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," other parties are advised of this receipt upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Messrs. Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard this as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to one by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

24 h.p. Hobart, good order, new tyres; must be sold.—Young, Cafe, Leazes Park, Newcastle.

1908 Roc, two speeds, free, handle-bar control, Whittle, and spares; £26 cash, no offers.—S. Arms, Greatham, Durham.

FOR Sale, 3 h.p. White and Poppe Engine, to tank, No. 6 Chater-Lea fittings, 26in. w. French grey, new except engine; £27.—Below.

24 h.p. Ariel, Fleet engine, two-speed and free, N. 26in. wheels, enamelling and plate good; 10s.—Below.

31 h.p. Brown, 82 by 90 engine; trial; £14.—Below.

31 h.p. N.S.U., magneto, 26in. wheels, newly overhauled and plated; £25.—Below.

ANY Reasonable Trial on any above.—J. Potts, Whistle Cycle and Motor Depot, Main St.

5-7 h.p. Twin, Peugeot engine, Nala two-speed, tyres, footboards, perfect condition, £26; gomery sidecar for same, £3; approval; deposit, 10s. Rothbury, Northumberland.

MOTOR Cycle, 3 h.p., Chater-Lea No. 6, 1 clutch, spring forks, B.B. H. control, Cl. Dreadnought tyres, in perfect going order; must be going abroad.—Brown, 10, Jervis St., Hebburn-on-Tyne.

SECTION II.

York and Lancashire.

DOUGLAS, Lincoln Elk, and Norton motor cycle in stock.—Gourlay, Falkfield.

21 h.p. Peugeot, very low, 26in. wheels; cheap, well, Bamford, near Rochdale.

21 h.p. 1908 Rex Featherweight, magneto, extra order; £16 10s.—Seville, Oulton, Leeds.

CROSS for Triumphs in Rotherham; standard in stock, £48.—Cross, Agent, Rotherham.

1908 5 h.p. Vindec, Peugeot, Bosch, racing in stock.—Cross, Triumph Agent, Rotherham.

1909 2 h.p. N.S.U. Lightweight, new; £43; allow price exchange.—Dall, Barrow-in-Furness.

ROC, 4 h.p., Amac, magneto, free engine, none in stock.—White, Pool Works, Burgess St., Sheffield.

1908 Rex, 3 h.p., new Shamrock-Gloria belt, 1 bar control; £27 10s.—40, Great Moor St., London.

£14.—3 h.p. Rex, Palmer cord tyres, tubes, lamp, accessories, splendid goer.—6, Ecclehall Rd., Halifax.

TRIUMPH, late 1907, H.B. control, good condition, ridden 4,000 miles; £24 10s.—Kerr, Market Street, Halifax.

MUST Sell Immediately.—New 1909 3 h.p. Rex, spares, complete; £29.—Pilkington, Marble Street, Southport.

MOTOR BICYCLES FOR SALE

p. 1908 Peugeot and sidecar, good condition, 24in. tyres, £29, any trial; 24 or 31h.p. part exchange pre-Hamilton, 5, Wellington Hill, Horfield, Bristol.

p. Peugeot, specially built, extra low, and in new condition, 24 by 2½ Palmer cords, Bosch magneto, slides, Brooks B150 saddle, polished brass tank, enamelled yellow chrome; cost owner over cash offers invited.—H. Ward, 8, Gloucester Place, W.

SECTION VIII.

ford, Essex, Middlesex, Surrey, Kent, Sussex.

p. Excelsior, low; £26.—Berry, 125, Canal Rd., Mile End.

p. Twin Iris, spray; nearest £12.—53, Fort Rd., Bermondsey.

p. M.M.C., in good condition; £10.—Leach, 52, Replingham Rd., Southfields.

24h.p., good condition.—Seen at 37, Knight's Hill, West Norwood. £11 10s.

You Want Bargains in second-hand motor cycles you can get them at Wauchope's.

p. White and Poppe, Chater-Lea, nearly new; £14.—Lyons, 11, Avenue Rd., Goldhawk Rd.

p. Rex, good running order, adjustable pulley; £9 10s.—H., 15, Radlix Rd., Leyton, E.

p. Lightweight, Peugeot engine; must sell, £6 10s., offers.—86, New King's Rd., Fulham.

p. Zeniths on show at Sherwell's, 46, York St., Westminster, with or without Gradua gears.

15s.—34h.p. Minerva, Mabon clutch, little used; bargain.—Thompson, 11, Brecknock Rd., N.W.

Lurquin, height 30in., footboards, studded tyres, new condition; £30.—6, Whitechapel Rd., E.

ICE.—24h.p. Singer, magneto ignition, handle-bar control; £4 15s., bargain.—283, Clapham Rd., S.W.

p. Rex, powerful machine, fast, take sidecar; sacrifice £13.—31, Portland Rd., Notting Hill, W.

15s. (Must Sell).—2h.p. Minerva, just enamelled, wants adjusting.—518, Kingsland Rd., Dalston.

NTON.—34h.p. Quadrant, spring forks, most excellent condition, quite equal to any 1909 model;

NTON.—3h.p. Quadrant, spring forks, fine machine, low, thoroughly reliable; exceptional bar-£10 10s.

NTON.—Clearance of good sound reliable machines at 28 each. Stand expert examination. Clyde, H.B. control, 24h.p. light Chater-Lea-Scout, Kerry, fine machine. Secure one of these genuine is at once. Do not delay.

NTON.—Bradburys and Moto-Reves from stock; trials; easy payments.—619, Lea Bridge Rd., Leyton.

7 34h.p. Peugeot, magneto, J.A.P. carburetter, low built; £27 10s.—Sands, High Rd., South Wood-

MPSTEAD Bargains on page 45; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678,

J.A.P., Chater-Lea, fast, powerful, R.O.M., Wata-rata, spring forks; £25.—Chilton, High St., Wat-

N Alcyon, Truffauts, Clinchers, no tank, excel-lent machine; £16.—39, Hillfield Park, Muswell

Bradbury, splendid condition, long bars; a bar-ain, £9.—Sproul, 355, High St., Stratford Bridge,

MPSTEAD.—79h.p. Peugeot, magneto and spring forks, two-speed gear; £25.—5, Heath St., Hamp-

MPSTEAD.—5h.p. Vindec Special, magneto and spring forks, two-speed gear, all accessories; £28.—Heath St., Hampstead.

MPSTEAD.—Motosacoché, good condition, late model, all accessories; bargain, £16.—Rey, 5, St., Hampstead.

MPSTEAD for F.N.'s, 1909 models from stock; high price allowed for your old mounts.—Below.

7, Hampstead, sole London and district agent for Lincoln Elks, all models in stock; exchanges.—

MPSTEAD.—Great Bargains; look to page No. 5; all machines guaranteed; exchanges speci-Bev, 5, Heath St.

MPSTEAD.—4-cyl. F.N., 4h.p., new condition; £28, with all accessories; bargain.—5, Heath St.

MPSTEAD.—1908 4h.p. J.A.P., Chater-Lea spring forks, magneto, all accessories, very low; £25,

MPSTEAD.—1909 Moto-Reve, spring forks and magneto, all accessories; great bargain, £28, as Below.

MPSTEAD.—Minerva, 34h.p., splendid condition, spring forks, all accessories, 1907 model; £13.—5, Heath St.

p. F.N., new condition, just overhauled, new tyres; £12; climb anything.—34, Trossachs Rd., E.

ch.

DEAL WITH

MAUDES' MOTOR MART,

ENGLAND'S LARGEST DEALERS,

HALIFAX and LONDON.

3 h.p. ROVER, low built, handle-bar control, long bars, smartly enamelled cream. In splendid condition.....	£15
1909 BRADBURY, magneto ignition, spring forks, practically new, not done 200 miles; a bargain.....	£38
1908 BRADBURY, latest Bradbury spring forks, only done 500 miles, will climb anything; "a beauty".....	£25
MINERVA, 4½ h.p., 1907 model, Longuemare, 2½in. Continental tyres, spring forks....	£23
MINERVA, 3½ h.p., vertical engine, 26in. wheels, spring forks.....	£16
REX, 3½ h.p., 1906 model, spring forks, spray, good order throughout.....	£15
ALCYON, 4½ h.p., twin, Minerva, spring forks, very good condition.....	£17
REX, twin-cylinder, 5 h.p., spray, low built, spring forks.....	£17
QUADRANT, 3 h.p., spray, spring forks, good tyres.....	£10
KERRY, 5 h.p., low, 26in. wheels, coil and accumulator ignition.....	£18
MOTO-REVE, 2-h.p., 1908 model, twin-cylinder, spring forks, perfect order....	£25
HUMBER, 2 h.p., spring forks, spray carburetter.....	£9
RIP, 3½ h.p., Peugeot engine, spring frame, Long spray carburetter, footrests, low built	£18
RILEY, 3½ h.p., 26in. wheels, spray, trembler, good tyres, low built, long bars.....	£14

60/- deposit secures under-mentioned, balance 5/- weekly—

QUADRANT, 2 h.p., spray.....	£8
SINGER, 2 h.p., magneto.....	£6
BARTER, 2½ h.p., geared pulley.....	£6
PHENIX, 2½ h.p., J.A.P. engine.....	£10
LLOYD'S, 2 h.p., vertical.....	£8
WERNER, 2 h.p., 26in. wheels.....	£6
MINERVA, 1½ h.p., coil and accumulator.....	£5
EXCELSIOR, 2½ h.p., spray.....	£8

TRICARS.

REXETTE Tricar, 8-h.p., two speeds and reverse, open frame, water cooled, perfect

We carry an exceedingly large stock of new and second-hand motor cycle accessories at London. Prices lowest.

90/- Beautiful Forecar Attachment, 26in. wheels, Dunlop tyres. 90/-

£15 Screw-cutting Lathe, 6½in. centres, 6ft. bed, back geared, compound rest, 22 change wheels, overhead reverse motion. £15

£6 Forecarriage, PHENIX, practically new, 1909 model, not ridden above fifty miles. £6

SPECIAL BARGAINS.

Combined Tube and Belt Carriers.....	7/6
F.R.S. Lamp, brand new, bargain.....	£1
Mudguards, 4in., well finished (per pair).....	3/6
Mudguards, 3in., well finished (per pair).....	2/11
Trinote Horns, best quality plating.....	7/3
Treble Twist Horns, very noisy.....	6/6
Hella Searchlights, best plating, separate generators, divided glasses.....	16/9
Long Handle-bars, best quality.....pair	5/6
Rex pattern ditto, dropped ends.....	6/6

We have special facilities for the repairing of magnetos at London. Best work. Moderate charges.

CLINCHER TYRES.

31/6 FOR 25/

Genuine { 26 x 2½in. } Clincher studded Covers. { 26 x 2in. }

Maker's price, 31/6. Our price 25/- All brand new 1909 goods, and in no way faulty or perished. APPROVAL.

Tubes with valves, Red quality, 5/8; Grey, 6/- Large Stock CONTINENTAL TYRES.

Good Allowances on Old Covers.

High-class Motor Cycles Wanted for Cash.

NOTE THE ADDRESSES:

behind the Powell St., Victoria Hall, HALIFAX.

Telephones: 433 day. 904 night.

Telegrams: "Petrol, Halifax."

Also at 136, Great Portland Street (off Oxford Street, LONDON, W.

Telephone 552 Mayfair.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD Bargains on page 45; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678, P.O.

31h.p. Rex, just been done up, very smart and reliable, footboards, handle-bar control; £16 10s.—Below.

3h.p. Rex, enamelled cream, low and fast, take sidecar, new non-skid back, handle-bar control; £12, or offer.—139, Balaam St., Plaistow, E.

KERRY, 24h.p., condition perfect; £9, or near; on view.—Meager Bros., 58, Shepherd's Bush Rd., London

24h.p. Minerva, Dunlops, Riches tubes, all accessories; bargain, £11.—Patterson, St. Albans Rd., Watford.

31h.p. Roc Pattern, Chater-Lea motor bicycle, light, low built; £8.—Dymchurch, Mellison Rd., Tooting.

24h.p. Brown, complete, and in excellent condition, lamp, bag, horn; £10.—128, High Rd., S. Tottenham.

31h.p. Excelsior, 26in. wheels, low built, Longuemare, very powerful; £10.—128, High Rd., S. Tottenham.

31h.p. Twin Peugeot, spring forks, magneto, Palmer tyres, all in excellent condition; £20.—128, High Rd., South Tottenham.

24h.p. Phoenix, two speeds, magneto, handle starting, a real gem, suit doctor; £18.—128, High Rd., S. Tottenham.

21h.p. J.A.P., low built, £10 10s.; 14h.p. Minerva, long bars, very good condition, £5; 34h.p. M.M.C., vertical, girder forks, £6; 24h.p. Precision engine machine, £5; first cash takes.—128, High Rd., S. Tottenham.

21h.p. J.A.P., Chater-Lea, low, very fast; £8 10s.; seen after seven.—Wood, 249, Rotherhithe New Rd., S.E.

31h.p. 4-cyl. F.N. Motor Cycle; £16 10s.; a worthy investment for cash.—Wauchope's, 9, Shoe Lane, London.

3h.p. Kerry, free engine, girders, low; £15, or take lightweight and cash.—Motorist, 15, Sidney Rd., Homerton.

41h.p. Givaudan, twin, spring forks, splendid condition; £15.—Taylor, High Rd., Wealdstone, Middlesex.

HUMBER, 24h.p., perfect going order; £6 10s., a genuine bargain, worth double.—T. Clair, Clapham Rd., S.W.

£27 10s.—7h.p. 1908 Matchless, all accessories, perfect order.—Write, Cumming, 8, Culford Gardens, London, S.W.

Do Not Miss This!—34h.p. 1907 Rex, in first-class condition; £11.—R. Nye, 83, Drewstead Rd., Streatham.

31h.p. C.I.E., low frame, magneto ignition; £12 10s., first cheque.—Wauchope's, 9, Shoe Lane, Fleet St., London.

31h.p. Rex, accumulator, spring forks, good order throughout; £13 10s.—Martyn, 21, Woodstock Rd., Croydon.

3h.p. N.S.U., magneto, low built, 26in. tyres, perfect condition; £18; approval.—Eagles and Co., High St., Acton, W.

STANDARD Triumph, June 10th, 1909, also new F.R.S. lamp, etc.; £44.—Clarke, 169, Ewell Rd., Surbiton, S.W.

21h.p. J.A.P., thorough running order and condition; £9, bargain.—Address, L. Atkins, 50, Newland Rd., Worthing.

£5 or offer.—Laurin-Klement Motor Bicycle, magneto ignition, going order.—Page, 162, Acre Lane, Brixton.

£12.—Triumph motor cycle, in splendid condition; seen by appointment.—Write, G.S., 63, Stepney Green, Mile End.

TRIUMPH, 34h.p., magneto, Mabon clutch, all accessories, guaranteed perfect; £30.—Evans, 46, High St., Hampstead.

TRIUMPH, from works fortnight ago, ridden 60 miles; £45.—Platt, 10, Milton Mansions, Shackleton Lane, N.E.

31h.p. Crownfield-Givaudan and sidecar, in perfect condition; £12.—39, Bishop's Rd., Cambridge Heath, London.

31h.p. Vindec Special, magneto, Continental Model de Course tyres, Gloria belt, perfect condition; £15.—Matthew Lang.

24h.p. Calvert, low, comfortable position, reliable; £6 10s.—Matthew Lang, 290, Ewell Rd., Tolworth, Surbiton.

21h.p. Motor Cycle, good running order; £6, or nearest offer.—Barton, 2, Porten Rd., Blythe Rd., Kensington.

31h.p. Fafnir, Chater-Lea, low built, nearly new; bargain, 14 guineas.—Simpson, 6, Battersea Rise, Clapham Common.

24h.p. Clyde, magneto, Longuemare, good condition; £10; after 7.—Poole, Killowen, Holden Rd., Woodside Park, N.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD Bargains on page 45; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678.

h.p. Heavy Twin J.A.P., No. 6 Chater frame, Palmer cords, and sidecar, nearly new; bargain, £36.—129, High St., Croydon.

1 h.p. Buchet, spring forks, Voltco, everything perfect. £8 10s.; 2 h.p. Fafnir, bargain, £4.—8, Norton Rd., Acton.

3 h.p. Minerva, in splendid condition; examination invited; new Goodrich and accessories; £14.—74, Lombard Rd., Ilford.

PEUGEOT, 5-h.p., Chater-Lea No. 6 frame and fittings, 2 1/2 in. tyres, new condition; £24.—47, Camden Grove, Peckham.

h.p. N.S.U., late model, accumulator ignition, low built, guaranteed; £13 10s.; approval.—Eagles and Co., High St., Acton.

3 h.p. Kerry, Chater-Lea, F.N. carburetter, long bars; 4 very cheap, £5, lowest.—Beach, 11a, Fortess Rd., British Town, N.W.

ANGLIAN, 2 1/2 h.p. De Dion, two-speed Anglian gear, latest design, like new; £26.—30, Colebrooke Row, Kingston, London, N.

MOTOSACOCHE, new condition, spring forks, horn, carrier, toolbag, perfect; £24.—Mac, 190, High St., Stoke Newington.

1 h.p. Werner, twin-cyl., accumulator, Michelines, 2 searchlight lamp, good running order; £15.—20, Essex Rd., Brixton.

1 h.p. Triumph, all necessary spares, tyres, and belt, 2 very good, mechanical condition guaranteed; 5.—Vallance, Lewes.

h.p. Motor Cycle, in new condition; selling through illness; can be seen any time; £16.—Randall, Edge Rd., Uxbridge.

1 h.p. Rex, low built, Longuemare carburetter, 26 in. 2 new Continental tyres; £10 10s.; approval.—Eagles and Co., Acton.

BARGAIN.—3 h.p. Kerry, spring fork, handle-bar control, footrests, very powerful, etc.; £8.—H. C. Hine, Thorold Rd., Ilford.

VINDEC, 5 h.p., twin, magneto, Truffault forks, Mabon clutch; what cash offers?—29, Montford Place, Kennington, S.E.

1 h.p. N.S.U., new last December, magneto, spring 2 forks, 1 in. belt, 26 in. tyres; £23 10s.; approval. Eagles and Co., Acton.

1 h.p. Triumph, 1907, with new piston and cylinder, 2 very fast; any trial.—L. Hudson, Jesmond, Argton Rd., Eastbourne.

h.p. Humber, new back tyre, perfect running guaranteed; £10 cash, or nearest offer.—E.H.W., 60, Whitley Rd., Eastbourne.

ABSOLUTELY Like New.—3 h.p. Long Low Rex, powerful, splendid climber; sacrifice £10; after 21, Claremont Sq., N.

ROVER, 3 1/2 h.p., free engine, B. and B. carburetter, splendid hill-climber; £15.—A.B., "Barcroft," Essex Rd., New Barnet.

WHITTLE'S—4 Cyl. F.N., late model, magneto, spring forks, fast, reliable, absolutely new condition; great bargain, £25.

WHITTLE'S—Fairly 2 1/2 h.p. Lightweight, twin, as new; extra cheap; to clear, £10 10s.—Whittle's Motor Exchange, Earlsfield.

3 h.p. Noble, enamelled French grey, very low and 4 smart machine; any reasonable cash offer.—549, Seven Sisters Rd., Tottenham.

MOTOSACOCHE, magneto, Druid spring forks, all improvements as new; 25 guineas.—Dr. Rowse, Frogmore House, Watford.

LIGHTWEIGHT Peugeot, 2 1/2 h.p. Whitley engine, long handle-bars, and low position; £8 10s.—22, Avenue, Bruce Grove, N.

1 h.p. Kerry, Palmers, just overhauled, Longuemare, 2 climb Gudham, spares; £15.—Vallins, 60, Nuttall Rd., Peckham. After 5.

3 h.p. Motor Cycle, Minerva, Palmer tyres, Eadie fittings, splendid condition; £13 10s.—Moore, 44, Kenniker Gardens, East Ham.

3 h.p. Peugeot, Chater-Lea fittings, Palmer tyres, 26 wheels, nearly new; £10 10s.—26, Church Crescent, South Hackney, N.E.

1 h.p. Quadrant, magneto, 3 1/2 h.p. Quadrant, forecar; 2 offers; exchange Triumph, Vindec two-speed.—King George St., Greenwich.

h.p. Vindec, magneto, good condition, fast, powerful; any trial, £24; sidecar to fit, £3; seen any time.—Morrow, 83, Rye Lane, Peckham.

1 h.p. Motosacoché, nice light machine, good running order; £16 10s., lowest cash price.—Wauchope's, Shoe Lane, Fleet St., London, E.C.

6 h.p. Twin Rex, handle-bar control, adjustable pulley, splendid order; bargain, £15; room wanted.—Combes, 737, High Rd., Tottenham.

3 h.p. M.M.C., Chater-Lea frame, spring forks, perfect; £12; photo.—Full particulars, 8, Westview Gardens, Maybank Rd., Woodford.

1-CYL. F.N., magneto, new Palmer tyre, just been overhauled, guaranteed perfect must sell; £25.—Tacey, 16, Campbell Rd., W. Croydon.

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liberally quoted and CASH OFFERS considered on any machine.

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16 h.p. Remo £185 0	4 1/2 Bradbury.. £29 10
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8-10 Ford .. 39 10	5 Humber .. 33 0
6 1/2 Humberette 39 10	5 1/2 Rexette .. 29 10

All ready to drive away, and excellent value.

60 REXES IN STOCK.

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1909 4 h.p. N.S.U. de Luxe, a beauty, NEW	£48 0
1909 two-speed HUMBER, new	39 0
1909 3 1/2 h.p. REX Tourist, second-hand....	(offers)
1909 T.T. TRIUMPH	40 0
1908 T.T. TRIUMPH, nearly as new	34 0
1908 3 1/2 h.p. Magneto REX DE LUXE	29 10
1908 3 1/2 h.p. Tourist REX (new).....	29 0
1908 REX, 3.6 h.p. R.A.C. rating	17 10
1908 3 1/2 h.p. Magneto REX Racer, 24 in. wheels, special hill-climber	26 0
3 1/2 h.p. two-speed PHILON & MOORE....	22 0
1908 3 1/2 h.p. Magneto MINERVA	22 0
1908 3 1/2 h.p. 2-speed Magneto FAFNIR....	28 10
3 h.p. BRADBURY, low, 26 in. wheels ..	13 10
1906 3 1/2 h.p. REX, spring forks, M.O.V....	15 10
3 h.p. SINGER, belt drive, H.T. magneto..	19 10
3 h.p. ZEDEL, 26 in. wheels, fine mount....	14 10
3 h.p. CLYDE, magneto, long bars	15 0
3 1/2 h.p. ARIEL, spray, 26 in. wheels	14 0
3 1/2 h.p. EXCELSIOR, H.B. control, torpedo ..	9 10
3 1/2 h.p. REX, handle-bar control, Amac ..	11 10
2 1/2 h.p. ARIEL, low machine	12 0
2 1/2 h.p. M.M.C., vertical, spray, good.....	8 15
2 1/2 h.p. BUCHET, long bars, low seat	5 15
2 1/2 h.p. LLOYDS, vertical, spray	6 10
2 h.p. MINERVA, spray, goes well	6 10
2 h.p. MINERVA, torpedo tanks, low	6 10
2 1/2 h.p. ARIEL, 26 in. wheels, fine mount..	9 0
2 h.p. Magneto SIMMS	5 10
1 1/2 h.p. THOMAS, Phelon and Moore spray	4 19

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1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer cords	32 10
5 1/2 h.p. 2-speed REX DE LUXE	32 10
5 1/2 h.p. REX DE LUXE, Roc clutch	27 10
1909 Twin N.S.U., two speeds, NEW	60 15
6 h.p. Twin REX and Forecar	22 10
5 1/2 h.p. Twin REX, new tyres, black finish..	17 17
5 h.p. Twin ZENITH, spring frame	16 0
6 h.p. Twin REX and Sidecar	20 0
4 1/2 h.p. 4-cyl. F.N., magneto.....	28 10
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Five 5 1/2 h.p. Twin Rexes, spring forks, long bars, low frames, aluminium finish blue lines, 26 in. wheels. £17 17s. Grand sidecar machines.

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Amac Carburetters. Liberal exchange.

EASY PAYMENTS.

5/- weekly and reasonable deposit secures any of these machines. All tested and ready for the road:

h.p.	h.p.
3 Lloyd's £13 10	3 Quadrant.. £10 0
3 Clyde 15 0	4 Coronet .. 15 0
4 Antoine .. 13 10	2 1/2 M.M.C. .. 9 5
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3 1/2 Rex 10 0	1 1/2 Thomas .. 7 0
3 Brown 12 10	2 1/2 Humber .. 8 10
4 Atelier 13 10	3 Bradbury.. 10 10

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NEW CLINCHER TYRES, all sizes, 17/6
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Foreign order terms: 25 per cent. deposit, balance against bills of lading. Packed, F.O.R. Halifax.

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Tel. Perfection. 16, Westgate, Halifax.

MOTOR BICYCLES FOR SALE

2 1/2 h.p. Brown Motor Cycle, engine, carburetter, 1 saddle and saddle, all new, long handle-bars; take 1—Talbert, 46, Surrey Sq., Old Kent Rd.

£6 10s.—2 1/2 h.p. Humber, chain drive, long bars, saddle, Dunlops, perfect order, very fast powerful.—Brown, 4, Broadway, Mortlake.

6 h.p. Zedel, magneto, in tank, Chater frame, M.D., covers, tyres, everything good, and in thorough order; £25.—17, Tamworth Park, Mitcham.

3 1/2 h.p. Minerva, spring forks, B. and B., H.B. 3 1/2 trol, splendid condition; photo; best offer. N. Mattingley, 71, Burghley Rd., Hornsey.

A RECORD Breaker.—16-20 h.p. Bat-Jap Motor cycle, capable of very high speeds, splendid condition.—Particulars, Bashall, Ockham, Surrey.

3 1/2 h.p. Twin Griffon, perfect condition, magneto accumulator ignition, spring forks, non-skid tyres.—Jeutsh, 84, Delancy St., Camden Town, N.W.

ZENETTE, Gradua gear, magneto ignition, 1 splendid condition, most reliable; £35; better later model.—Exshaw, Pyrford Lodge, Woking.

3 1/2 h.p. Quadrant, Mabon clutch, spring forks, tric headlight, as new, £20; flexible sidecar, lot £23.—Brown, 66, Grand Parade, Haringay.

2 h.p. Minerva Bike, £8; 2 1/2 h.p. ditto, £10; Millforecar, fit any bike, £3 10s.; 5 in. centre lath new, £4.—36, Stroud Green Rd., Finsbury Park.

TWIN-CYL. Minerva, 4 1/2 h.p., 2 1/2 in. tyres, Mich non-skid behind, excellent condition, low price, £22, or offer.—Jackson, Motorist, Worcester Park.

EAGLES and Co., N.S.U. Agency, High St., Acton, have a few brand new 1908 N.S.U.'s at very prices; exchanges entertained; deferred payments.

SELLING, a bargain, £5 10s.—Reliable 2 h.p. Minerva Motor Cycle, Chater-Lea, in splendid condition, and licensed.—18, Napoleon Rd., Twickenham.

3 1/2 h.p. Triumph, 1908 model, well kept, handle-bar control, magneto, etc.; £32 10s.; splendidly complete.—Wauchope's, 9, Shoe Lane, Fleet St., London.

EXCELSIOR, 3 1/2 h.p., perfect condition, long handle-bars, footboards, Swan back saddle pin; offers.—Apply, A.D.W., 94, Nightingale Lane, S.V.

TRIUMPH 1909 Models in stock; good allowance second-hand.—Harvey and Co., 47, South Lamb Rd., Vauxhall Station, S.W. Telephone, 3134 Ham.

2 1/2 h.p. Royal Enfield, B. and B. carburetter, Wata belt, Brooks non-skid back, condition guaranteed £12.—Eastern Garage, 418, Romford Rd., Forest Gate.

4 h.p. J.A.P., Chater-Lea, only three months old, quite like new, Bosch magneto, handle-bar control, Druid spring forks, footboards, new non-skids and lamp, horn, spares; £32.—Eastern Garage, 418, Romford Rd., Forest Gate.

2 1/2 h.p. Minerva, in very fine condition, handle-bar control, Millennium stand, carrier; £12.—Eastern Garage, 418, Romford Rd., Forest Gate.

3 1/2 h.p. Rex (1907), in really good condition, spring forks, Palmer cords, nearly new, lamp, horn; £15.—Eastern Garage, 418, Romford Rd., Forest Gate.

3 h.p. Hobart, Chater-Lea, magneto, Amac carburetter, handle-bar controlled, torpedo tank, footboards, low, only three months old; £23.—Eastern Garage, Romford Rd., Forest Gate.

4 1/2 h.p. Minerva Twin (October, 1908), spring forks, magneto, Amac handle-bar controlled carburetter, stand, carrier, spare petrol tank, tools, spares, light, horn; £28.—Eastern Garage, 418, Romford Rd., Forest Gate.

1908 Rex, 3 1/2 h.p. T.T. engine, exceptionally powerful, magneto, spring forks, handle-bar control, refinements, headlight, horn, spares; £25.—Eastern Garage, 418, Romford Rd., Forest Gate.

2 1/2 h.p. Noble, spring forks, Longuemare carburetter, Palmer cords, accessories; £10.—Eastern Garage, 418, Romford Rd., Forest Gate.

3 1/2 h.p. Peugeot, Chater No. 6 frame and spring forks, 2 1/2 in. tyres, foot brake, band brake, Brooks padded, everything the best, built late 1908; £22.—Eastern Garage, 418, Romford Rd., Forest Gate.

TRIUMPH, 1908, a perfect machine, and quite new, fully equipped; £34.—Eastern Garage, Romford Rd., Forest Gate.

THE Eastern Garage Co., 418 etc., Romford Rd., Forest Gate, have a large selection of second-hand machines, all of which have been thoroughly overhauled and tuned up ready for touring; give us a call. Phone, 10, Stratford. T.A.: Egaraco, London.

F.N. 1 1/2 h.p. Lightweight, magneto, spring forks, handle-bar control, recently overhauled, with 1 horn, and spares; £12.—F.B., 53, College St., Islington, N.

3 1/2 h.p. Triumph, magneto, 1909, head clip, new 3 1/2 Hammer lamp, horn, new cords, spare tube trial; £29, or offer.—69, Sandy Hill Rd., Plumstead, Kent.

5 h.p. Vindec, Bosch magneto, guaranteed, two-speed free engine, Millford non-skid sidecar, perfect running order; £37 10s.—O'Donnell, "Apollo," Paddington St., W.

3 1/2 h.p. Fafnir, overhead tappets, No. 6, Contin unpunctured Bates band, fast, easy starter, splendid condition; £15, or close offer.—37, Bonfield Lewisham.

MOTOR BICYCLES FOR SALE.

Humber, splendid condition, new cover on back, s new on front, long handle-bars, low seat, good order; £9.—Court, 29, Mortimer St., Herne Bay.

7s.—Quadrant, 2½ h.p., Longuemare, good tyres, in perfect order (or exchange). Telephone, Central.—Marshall, 170, Pentonville Rd., King's N.

p. Globe, Bat spring forks, low saddle, long bars, non-skid, Snarpe's silencer, two belts, all bearings re-bushed, trembler; £11.—Rouard, 29, Church St.

SPLENDID 3h.p. Clyde Motor Cycle, in perfect condition; any expert examination; magneto ignition, bars; bargain, £12 10s.—Sheppard, 101, Kingsway, W.C.

SELSIOR, 3½ h.p., 1909, new June, done 500, perfect tyres, unpunctured, new Poikey lamp; £35, r; buying twin.—Deacon, 53, Gwendyr Rd., West London.

p. Motor Cycle, long bars, low seat, spring fork, stand, and accessories, as new; cost over £40, r £15, or offers; wanted, lightweight.—Gannon, W.C.

8 Triumph, rubber studded tyres, rubber belts, with Autoclipse lamp, and two new Veritas covers; or near offer.—14, Dalgarno Gardens, North Ken., W.

p. N.S.U. Lightweight Twin, 1909, ridden 300 miles, Bosch magneto, mechanical inlet valves, forks, guaranteed as new; £33 10s.—Eagles and Co., N.S.U.

TER-LEA-FAFNIR, 3½ h.p., magneto, new Michels, spring forks, Whittle belt, thumb control, bars, good condition; £18.—11, Delacourt Rd., W.C.

Sarolea Twin, excellent condition, new Palmer tyre, two new accumulators and plain coil, three bars and spares; trial; bargain, £18.—Wilcox, Bookbureau.

—3½ h.p. Clarendon, long handle-bars, low position, footboards, fast, good condition, recently overhauled; by appointment.—Francies, 7, Paulton Sq., S.W.

p. Quadrant for sale, Simms-Bosch magneto, new last October; a honest bargain to anyone want first-class machine, £25, or offers.—35, Athelstan Margate.

p. White and Poppe, low Chater-Lea frame, Amac carburetter, fine condition, with accessories; sac £14 10s., or nearest offer.—172a, Earlsfield Rd., E.C. 4, S.W.

p. Rex, spring forks, low, long bars, footboards, thorough running order; only wants seeing; inspection invited; £12.—V., 68, Greevale Rd., Hall, S.E.

p. Brown, 1907, splendid condition, climb anything, just overhauled, what offers? also 2h.p., fast running, £7, or offer; bargains.—94, Church Villersden.

N.S.U., twin, brand new, Bosch magneto, 26in. wheels, lin. belt, 1908 specification; £38; r; exchanges entertained.—Eagles and Co., N.S.U., Acton.

p. Rex, 1906, good condition, nearly new coil, accumulator, Clincher back tyre, and Dermatine spring seat-pillar, easy starter; £10.—Hansford, W.C.

p. N.S.U., brand new, magneto, lin. belt, 26in. wheels, 1908 specification; £30; approval; exchanges entertained.—Eagles and Co., High St., Acton. 556 Chiswick.

p. 1907-8 Quadrant, spring forks, adjustable pulley, Clincher studded, low frame, excellent condition; £16 10s., with sidecar, £19 15s.—84, Roden Rd., Clapham.

9 Triumph Motor Bicycles; delivery from stock; also a good selection of second-hand motors.—Wiley and Motor Co., 110, Wilton Rd., Victoria Park, London, S.W.

DOWN, 2½ h.p., long, low, easy starter, footboards, Longuemare, new Dunlops, in excellent order and condition; no offers under £12.—Payne, Railway Cottages, Middlesex.

7 3½ h.p. Quadrant (Birmingham), absolutely equal to new; £22, or near offer; wanted, castor wheel, exchange push bicycle and cash.—H., 6, St. Agnes, Kennington, S.E.

p. Twin Minerva, new last June, fitted with all the latest appliances, winner of club hill-climbs, condition as good as new.—Brown and Son, 16 Burne St., Brighton.

p. Minerva, 1907, smart appearance, with spares, £12. 2½ h.p. De Dion, Chater frame, 1908, Ad-pulley, spares, as new, £15.—Worland, 58, Rath St., Canning Town.

TENHAM.—Moto-Reve, 1908, excellent condition, £20; also 4h.p. Roc, magneto, free engine, no-speed, £22.—Matthew's Cycle Stores, 96, West Rd. Phone, 1722.

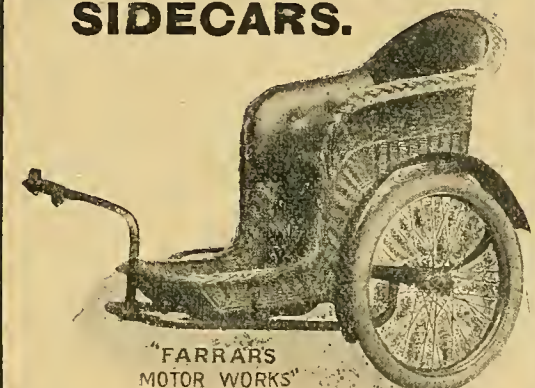
p. 4h.p., perfect condition, Palmer cords, Manning attachment, spares; owner obliged give up riding; payment by letter to C.S., St. John's Cottage, Southd., Hampstead Heath.

p. 1909, 5-6h.p., not scratched or soiled, delivered 15th May this year, splendid machine, not done 500 miles, including new Dunlop spare cover.—Apply, W. Bright Rd., Southfields.

£3 DOWN secures any of these. Balance 5/- per week.

2½ h.p. Singer, mag.	£8	1 2½ h.p. Stevens	£7
3½ h.p. Rex	£10	1 2½ h.p. R. and P.	£9
3½ h.p. Dux	£10	1 3 h.p. Clarendon	£10
2 h.p. Rex	£6	1 3½ h.p. Chater-Lea	£10
3 h.p. Noble, M.O.V.	£8	1 2½ h.p. King	£9
2½ h.p. Whiteley	£9	1 3½ h.p. King	£9

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Each £4 17 6 Each.

Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

3 h.p. N.S.U., Bosch Magneto	£16 0
5 h.p. REXETTE, two speeds	£22 0
5½ h.p. REXETTE, two speeds	£25 0
3½ h.p. 1907 REX, Rom tyre	£16 16
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£35 0
3½ h.p. BROWN, M.O.V., fine goer	£13 0
4 h.p. ANTOINE, M.O.V., fine goer	£12 0
5-6 h.p. ROVER Tricar, splendid goer	£19 0
3½ h.p. BROWN, magneto, 26in. wheels	£19 0
1908 N.S.U. Lightweight, magneto	£23 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£26 0
1908 Magneto REX, single cylinder	£19 0
3½ h.p. 1906 REX, M.O.V., spring forks	£15 15
REX DE LUXE, magneto, clutch	£27 10
5½ h.p. TWIN REX, a beauty	£17 17
3½ h.p. REX, M.O.V., spray	£12 12
6 h.p. TWIN REX and Sidecar	£22 10
6 h.p. REX DE LUXE and Sidecar	£32 10

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £19 19s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. Grips like the proverbial seaside landlady 33% cheaper than any other high-class belt. 3in., 9d. 4in., 1/1. 5in., 1/3. 6in., 1/6 per foot. Delivery from stock. No waiting.

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3½ h.p. AUTO-MOTOR	£2 5 0
2 h.p. QUADRANT	£1 10 0
2½ h.p. GEM	£1 10 0

SPECIAL BARGAINS.

1909 Amac or B. and B. Carburetter, H.B. control	each 27/-
3½ h.p. Quadrant engine sets	37/6
Rigid Sidecar, extra good condition	£3 15
Osborne four-speed gear	£1 15
Osborne Free Engine Clutch	15/-
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6
1909 Bosch magnetos, DA2, brand new	£4 0
Low frame with Roc clutch	£3 10
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All sizes, 17/6 each. Genuine 1909 26 x 2in. and 26 x 2½in. Clincher Rubber Studded Covers. All brand new, 25/- each. Tubes with valves, all sizes 5/6 post free, no waiting.

High-class Machines Wanted. Cash Waiting.

E. FARRAR,
Albion Works, Square Rd., HALIFAX.

Telephone Nos.: Day, 970; Night, 10Y.

MOTOR BICYCLES FOR SALE.

4 h.p. Twin N.S.U., two speeds, Bosch magneto, Price's stands, lin. belt, Autoclipse lamp, ideal sidecar machine, in perfect order throughout, not a wreck; £23 —93, Hessel Rd., West Ealing.

TRIUMPH Motor Cycle, ball bearing engine, accumulator ignition, Palmer cord and Clinchers, most reliable machine; bargain, £15 10s.—J. Chapman, 47, Highbridge St., Waltham Abbey.

3½ h.p. Vindec, magneto, N.A.B., separate generator 32 lamp, horn spares, excellent condition; open to expert examination; £15 10s.—Seen, Smith and Francis Surbiton Rd., Kingston; Surrey.

6 h.p. N.S.U., two-speed, magneto, N.S.U. sidecar to match, extra fast, powerful, lamp, spares, splendid combination; £35.—Frank, Woodbine Cottage, Cambridge Rd., Ashford, Middlesex.

3½ h.p. Kerry Motor Bicycle, perfect order, dirt cheap, £10 10s.; 4h.p. Xcelior tricar, new tyres, perfect order, £15; 2h.p. Minerva, £5 10s.—Phillips and Walters, 86, South End, Croydon.

QUADRANT, 3½ h.p., spring forks, practically brand new condition throughout, grand touring machine, spares; genuine bargain; only wants seeing; £17.—29, Montford Place, Kennington, S.E.

SPLENDID Opportunity for anyone seeking a good lightweight. Almost new Motosacoe, in fine order; exceptional bargain, £23 cash; write or call. —C., 12a, Station Rd., West Croydon.

LIGHTWEIGHT F.N., had very little wear, magneto, spring forks, all accessories, and spares, grand goer, £20; also Motosacoe, in good order, £16 —24, Woodford Rd., Forest Gate, E.

3½ h.p. Brown, magneto, two-speed gear, suitable for sidecar, £24; 3h.p. Triumph, magneto, Palmer tyres, just been thoroughly overhauled, engine as new, £27 10s.—Jeffery, High St., Guildford.

4-5h.p. Laurin-Klement, twin, B.B. carburetter, H.B. control, spring forks, magneto recently overhauled, in perfect running order; also rigid Chater-Lea sidecar; £28 10s.—32, Catford Hill, Catford, Kent.

3½ h.p. Aster, Chater-Lea frame, trembler coil, Longuemare carburetter, long handle-bars, very low seat, all in grand condition, only wants seeing; best offer over £15.—J. Moors, 42, High St., Dover.

3½ h.p. De Dion, Roc clutch, and two-speed gear, 32 spring forks, Chater-Lea fittings, handle-bar control, very low built; must sell; £20, sacrifice.—17, Kenmore Rd., Mare St., Hackney, London.

MINERVA Motor Cycle and Chater-Lea sidecar (brand new, and this year's make), low position, No. 6 frame; £15 15s.; wanted, Sunbeam push cycle.—J. Sallows, 23, Lillington St., Belgravia, S.W.

3h.p. Singer, belt drive, Simms-Bosch H.T. magneto, handle-bar control, Brooks anti-vibratory saddle (B100), bag, spares, tools, lamp, in perfect condition, and ready for the road; bargain, £18.—Priestley, Ramsgate.

BAT-JAP, 7h.p., condition good, Dunlops, four butt tubes, adjustable and ordinary pulleys, three belts, Hella lamp, spare inlet, complete, and exhaust pump and automatic oilers; £30.—167, Forest Rd., Walthamstow.

3½ h.p. Fafnir, perfect condition, trembler, two accumulators, two lamps, pedals and footrests, adjustable pulley, carrier, Price's stand, two toolbags, spares; £12.—Hobbs, 33, Mornington Crescent, London, N.W.

ONLY £16 10s. for my 3½ h.p. Minerva, spring forks, Amac handle-bar controlled carburetter, Clincher stud, Rideasy saddle, good hill-climber, fast, and reliable; letters, appointment. —Gurney, 20, Campbell Rd., Brighton.

5-6h.p. Rex de Luxe, magneto, clutch, four months light use, unused eleven months through illness why selling, almost as new, guarantee; £24; offers above; cost £52 10s., receipt.—Treehurst, South Farm Rd., Worthing.

MAUDES' Motor Mart have six only brand new guaranteed 3h.p. N.S.U.'s, with magneto ignition, to offer; makers' price £37, our's £25 5s. nett, cash only; only six left.—To be seen on the road at 136, Great Portland St., W.

5½ h.p. N.S.U., with two-speed, late 1907, £20, no offers entertained; N.S.U. lightweight, 1908, magneto, weight 84 lbs., guaranteed, £15, no offers; twin Werner, new coil and accumulator, lamp, horn, £10, offers.—Gotto, Portslade.

TRIUMPH, 3½ h.p., late 1907, magneto, 1909 handle-bar control carburetter, spring forks, Palmer tyres, cord back, Mabon clutch, absolutely perfect throughout; only ridden 1,000 miles; carefully kept; £28.—294, Kennington Park Rd., S.E.

3h.p. Kelecom, low frame, Ukantes stands, footboards, enamelling and plating perfect, £12 12s.; 3½ h.p. Kosmos, splendid condition, £14; good allowance for old machine: 1909 Triumphs, Moto-Reves.—Godfree's, 124, Romford Rd., Stratford, E.

MOTO-REVE, 1909, as new, faultless, low built, ridden 300 miles, spring forks, adjustable pulley, handle-bar control, trip cyclometer, Lucas lamp, new, lot of sundries; cost with extras over £46, bill shown; take £35.—Emery, 35, Beethoven St., Queen's Park, London.

5½ h.p. 1908 N.S.U. and coach-built sidecar, magneto, 32 spring forks, two-speed gear, and free engine, in excellent running order, 2½in. tyres throughout, nice taking appearance, and a magnificent example; £35 the complete turnout.—Wanchope's, 9, Shoe Lane, Fleet St., London.

MOTOR BICYCLES FOR SALE.

BARGAIN.—3½ h.p. White and Poppe, Chater frame, spring forks, pedals, new rubber studded back, 100, new condition, £16; also Liberty sidecar, £4; can be seen any time.—176, St. George St., London, E.

1 h.p. M.M.O., Chater No. 6 frame, no pedals, spring 2 brass-edged footboards, comfortable and reliable machine, perfect condition; £16 10s., no offers; sidecar same, £3 10s.—R.F.S., 5, Tarver Rd., Waltham, S.E.

1 h.p. Quadrant, surface carburettor, built for advertiser, 1905, with latest spring forks, two accumulators, new rubber belt, Clincher tyres, Brooks saddle, 100, spares, and tools; seen and tried by appointment; £10s.—2,874, The Motor Cycle Offices, Coventry.

MR LEACOCK, 121, Beaufort St., S.W., wishes to sell his 5 h.p. Vindec Special (1908), two-speed car, handle-bar control, Michelin studded back tyre, fitted tubes, lamp, horn, etc., enamelled grey, Truffault spring forks, perfect condition; £45.—Garaged at auchope's.

PRACTICALLY NEW 3 h.p. N.S.U., magneto, 24 Peter-Unions, 26in. wheels, all tools, lamp, horn, etc., enamelling and plating not scratched, fine running order, guaranteed not done 150 miles; selling, ill-health; £4 10s., all complete, great bargain.—Benn, 105, Bolver St., W.

1 h.p. Triumph throughout, just been thoroughly overhauled, replated and enamelled, new tyres, Michelin front, Clincher rubber studded back, new lamp, generator, and horn, stand, carrier, toolbag and tools.—Seen at 7, Park Hill Rd., Croydon. Trial by appointment any evening, except Thursdays, after 6.15.

1 h.p. Vindec Special, Truffault forks, Clincher studded tyre front wheel, Michelin steel studded rear, fitted with stand, carrier, toolbag, and spares, Stanley-Dermagne belt, adjustable pulley, cane upholstered sidecar fitted, Palmer tyre on wheel, extra wide mudguard fitted; £10, bargain.—Pond, 349, West End Lane, Hampstead, London.

ZENITH Motors, Ltd.—Clearance bargains. New Zenette, Gradua gear, 1908; new Zenette, Mahon clutch, 1908; new Zenette, free engine, 1908; new shop-fitted Zenette tricar, with three speed gear, 6 h.p. J.A.P. engine; also 1908 Triumph, fitted with Gradua gear. Particulars and prices on application, 1, Church St., Leybridge.

6 h.p. Twin Peugeot, No. 6 Chater frame, latest Chater stand, carrier, footrests, foot brake (pedals fitted), and thumb-slice control, guaranteed genuine, new tyres, Palmer cord and Michelin, H. Longuemare, n. Dermatine, Advance pulley, Brooks saddle, two accumulators, enamelling and plating perfect, fine machine; 25 guineas, or near.—27, Montford Place, Kensington, S.E.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1 h.p. Tuckville, twin-cyl., air-cooled; £15, or exchange cinematograph.—Mockridge, George St., Bridgwater.

MOTO-REVE, latest model, splendid condition; £26; owner getting 2-seater.—Lillicrap, 7, Carlisle Av., Plymouth.

1 h.p. Peugeot, Dunlops, low position, Watawata 2 belt, sound condition; £9.—40, St. Michael's v., Yeovil.

QUADRANT, 1909, 3½ h.p., perfect, unscratched, Palmers, Riches, Brown-Barlow carburettor; £36.—Thorne, Brunswick, Tiverton.

3 h.p. Brown, spring forks, 26in. Palmers, lamp, horn, toolbag, Dermatine, two spares, long, low, powerful; £10.—E. G. Reeves, Clevedon.

MINERVA, 3½ h.p. engine (De Dion), new Palmer cords, belt, etc., spring forks, splendid condition; bargain, £13 15s.—Varcoe, West End, St. Austell, Cornwall.

1 h.p. 4-Cyl. F.N., 1908 improvements, footboards, recently overhauled, new magneto (cost £6 10s.), 100 miles gallon, good tyres, spare tube, valves, etc.; £27; reason for sale.—Moore, Elmside, Sherborne.

REX, 3 h.p., everything in good condition, £8 15s.; Excelsior lightweight, 1½ h.p. Minerva, good condition, £6 15s.; Victoria ditto, 1½ h.p. Fafnir, engine alone worth more, 65s.; offers, exchange.—Edwards, Corporation St., Taunton.

SECTION X.

Scotland.

GLASGOW.—Templeton Bros., 535, Sauchiehall St., carry a large stock of second-hand machines; low prices.

GLASGOW.—Roc (two-speed), 9 h.p. Bat, 3½ h.p. N.S.U., lightweight Rex, etc., etc.—Templeton Bros.

1 h.p. Fafnir, fast, low, powerful, all spares, almost new; no time to ride.—Laurie, Kirkcowan, Wigtownshire.

1 h.p. Brown, Clincher tyres, spring pillar, splendid hill-climber, perfect condition; £10.—Emond, 7, Well St., Paisley.

1 h.p. Alert, No. 6 frame, accumulator ignition, 26 by 2 Avons, Antoine engine, Advance pulley, all 1909, less engine, saddle, spares; exchange high-grade cycle; £6, offers.—Broadfoote, Plantainside, Sanquhar.

EDINBURGH.—The permanent Scottish motor cycle show. Rex, V.S., Moto-Reve, Griffon, Norton, Zenith, Minerva. We stock all these, and can supply any other make; liberal exchange allowances.—Alexander's Motor Exchange, 110, Lothian Rd., Edinburgh.

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3½ h.p. REX, spray, vertical engine	£9 10
3 h.p. LLOYD'S, low frame, 26in. wheels ..	£13 10
3½ h.p. light, low REX, Amac h.b. control ..	£12 10
2 h.p. MINERVA, M.O.V., spray	£8 0
3½ h.p. REX, John-o'-Groat's model	£10 10
4 h.p. ANTOINE, very powerful mount ..	£16 0
3 h.p. REX, long bars	£7 15
2½ h.p. ANTOINE, trembler, long bars	£9 10
1906 3½ h.p. REX, spring forks, Long....	£15 10
3½ h.p. ROVER, M.O.V., spray, Palmers ..	£13 10
2 h.p. RALEIGH, splendid condition	£7 10
2½ h.p. BUCHET, spray, long bars	£9 10
3½ h.p. ARIEL, vertical, M.O.V.	£15 15
1906 3½ h.p. REX, spring forks	£14 10
1907 3½ h.p. N.S.U., two-speed	£21 0
1908 3½ h.p. Magneto MINERVA, spring forks	£23 10

£3 deposit and balance in weekly payments
of 5/- secures a good reliable motor
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1909 Twin ROC, two speeds	£57 15
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Twin REX DE LUXE, Roc clutch	£27 10
6 h.p. Twin ANTOINE, R.O.M.	£16 0
5½ h.p. Twin REX, spring forks	£17 17

AMAC CARBURETTORS with
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Latest racing type, 32/-
Exchanges promptly made from stock.

HIGH-CLASS SIDECARS

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bolt fastening, 2½ in. tyre, £6.

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SYRENS—"What a shriek"	0	6	11
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Minerva, spring forks, as new	1	17	6
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NEW XL'ALL spring forks	0	17	6
Swan-neck seat pillars	0	4	0
Separate Generator Headlights	0	8	6
Rex Pattern Handle-bars, heavy gauge..	0	6	6

Enamelled Mudguards, complete with stays:
3in. 2/11, 4in. 3/6 per pair.

100 GUARANTEED E.I.C. ACCUMULATORS.
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England's Best Rubber Canvas Belting, with fastener.
3in. 9d., 4in. 10d., 5in. 1/-, 6in. 1/4 per foot.

NEW CLINCHERS 17/6 || **SPECIAL—NEW 26 x 2 COVERS..** | 12/6 |
| **TUBES, 4/11 each.** 26 x 2½ .. | 13/6 |

GERALD COLLIER,
37, Park Cross Street,
(Facing Town Hall) **LEEDS.**

MOTOR BICYCLES FOR SALE.

SECTION XI.

Ireland and Isle of Man.

1909 (April) 3½ h.p. Rex, magneto, perfect; allowance for bicycle.—Little, 184, Merrion Dublin.

TRICARS FOR SALE.

BEAUTIFUL 5 h.p. Tricar, perfect; sell cheap.—Ridley Rd., Forest Gate, E.

6 h.p. Sarolea, open frame, wheel steering, two spares, £14.—13, Victoria Rd., Charlton, S.E.

RALEIGHETTE Tricar, 3½ h.p., late pattern; bargain.—Stimpson, Stratford-on-Avon.

TRICAR, in excellent condition; to be sold, a gain.—Moor View, Barton Rd., Torquay.

6 h.p. Rex Tricar, perfect condition, foot clutch; —36, Stroud Green Rd., Finsbury Park, N.

6 h.p. Twin Rex Litette, magneto; sell, or exchange motor cycle and cash.—315, Hessle Rd., Hull.

5½ h.p. Clement-Garrard, three speeds, just the 1 for serious touring.—27, Kingsbury Rd., Dalston, N.E.

REXETTE, open frame, two-speed, exceptional condition; £16; trial; write first.—Cumming, 39, Crown Rd., S.W.

4 h.p. Tricar, Kent-two-speed, handle starting, clutch, coach-built; £18.—Cooke, 45, Sankey Warrington.

6 h.p. Quadrant Carette, latest model, free engine, speeds, air-cooled; trial; £33.—Glendene, St. Rd., Leyton.

MINERVA Tricar, 3½ h.p., perfect condition, P. tyres; £15; trial given.—99, Sandringham Dalston, N.E.

GARRARD, three speeds, worm drive, coachbuilt excellent tyres; £22, bike part.—2, Boundaries sions, Balham.

6 h.p. Carette, Longuemare, new tyres, excellent; £27 10s.; 4 h.p. Rover tricar, £21.—31, L Rd., Stockwell.

10 h.p. Rexette, specially built, real beauty; 4½ Fullast particulars, Manning, 360, Green I Finsbury Park.

RUNABOUT, 3½ h.p., wheel steering, handle sta very good condition, light; £12 10s.—128, Rd., S. Tottenham.

4½ h.p. Riley, free engine, coach-built, fine cond excellent running order; exchange for £15.—128, High Rd., Tottenham.

4½ h.p. Twin Minerva, coach-built front, pan seat, Palmers; £20.—128, High Rd., Totter

£18.—Tricar, 4½ h.p., Phoenix two-speed and free engine, coach-built front, good running.—83, H head St., Southport.

MUST be Sold, 3½-4 h.p. Humber tricar, free engine, good condition; £12, or near offer; seen any ti 110, Pages Walk, S.E.

REXETTE, 6 h.p., two speeds, wheel steering, built, brass lamps; £29; open to any t. Hieatt, Witney, Oxon.

LATEST Rex Litette, 6 h.p., twin, water-cooled speeds, magneto, clutch, perfect; £39.—406, ratt Lane, Wandsworth.

TWIN Kerry, 5-6 h.p., Fitall gear, coach-built, did condition; £25, exchange motor boat.—F Gorhambury, Addlestone.

6 h.p. 2-Cyl. Tricar, Fafnir engine, wheel ste coach-built two speeds; £35, or exchange. Croydon Rd., Beckenham.

6½ h.p. Quadrant Carette, latest model, perfect condition; trial given to genuine buyer; £30.—9, Co St., New North Rd., N.E.

6 h.p. Twin Antoine, Chater-Lea, very fast, as perfect; £23; appointment by letter.—Motor Barrett, Parade, Brentwood.

REX Tricar, 6 h.p., twin, almost new, bucket back, Palmers, lamps, spares; any trial; £22 offer.—50, Crown St., Lowestoft.

TRICAR, 3½ h.p. Phoenix, thorough order; seen 27 immediate sale; going away.—J., 20, Pe Mews, South Kensington, London.

8 h.p. De Dion, like new, driven like car, perfect tyres, grand touring machine; take £50, cost double.—479, Green Lanes, Harringay.

3½ h.p. Humber Tricar, good order, fan-cooled engine, new Clincher A Won on back wheel 10s., cheap.—Oldfield, Stonewell, Lancaster.

ROVER Tricar, 4½ h.p., free engine, two speeds, cooled; £25, or exchange good motor cycle, moto preferred.—3a, Bridge St., Cambridge.

3½ h.p. Light Tricar, Kynoch engine, wicker car 32. Dunlops front, spare wheel, 50 amp. bat photo, trial; £12.—Radford, Motors, Stafford.

£25, or near offer.—Tricar, 7 h.p. Buchet, three-lamps, tools, spares, and insurance poli I.E.C., Holmlea, York Rd., Weybridge, Surrey.

8-10 h.p. Tricar, twin, water-cooled, two speeds, built, seats three, climb anything; £35; exc lower power and cash.—7, Albany St., Camberwell

THE MOTOR CYCLE

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

A Review of the Scottish Trials.

Of the Scottish Trials of 1909 are not to rank as the most exacting trials ever held for motor bicycles in Great Britain, it can only be because the distance was less than that of an A.C.U. Trial, amounting approximately to 760 miles instead of 1,000. In all other respects Mr. B. H. Davies, who described the trials for *The Motor Cycle*, agrees with us that the trial was very considerably more arduous than any other motor cycle trial, for the following reasons:

(1) Amulree Hill is far worse than any hill the A.C.U. Trials have attempted. It is very long, very steep, includes the worst kind of double corner, and on July 19th a fearful gale was blowing straight down it.

(2) The time schedule was very severe. Competitors were required to average twenty miles per hour, with only ten minutes margin, early or late, over long control sections, e.g., in the Scottish Trials over a fifty-mile section maximum time was 2h. 40m., whereas in an A.C.U. Trial it would be 3h. 8m.—a difference of nearly half an hour. This was a stiff test of all low powered machines and of any high powered machine encountering any trouble whilst in this section.

(3) The weather was very trying for practically the whole of the trial. The roads were exceedingly bad, on the second day especially. No day passed without some rain, and when it was not wet and greasy, violent headwinds usually halved the horse-power of the machines.

(4) A good many of the 760 miles were over very rough surfaces. Thirty miles especially of the Betty-

hill to Lairg road were in such a condition that many motor cyclists would have called them unrideable.

As the above description makes plain, the Edinburgh M.C.C. frankly ran these trials on a novel principle. It argues that most important reliability trials are held with the desire of getting all the riders through on a level, provided they have no really serious or constant trouble. When the amateur reads the report of such a trial he finds that the bulk of the entrants have won gold medals, and though he knows that a handful of the machines are head and shoulders above the others, yet the report does not enable him to identify these machines. The Edinburgh M.C.C. resolved to make its trial so severe that it should really differentiate good from ordinary machines, and ordinary from inferior machines. Its award list shows that it succeeded, as only two machines came through with an absolutely clean sheet, and even those lower down the list are distinguished the one from the other by the number of marks lost. The motor cycling community will welcome a trial held on this plan, although we must admit it weighs heavily upon good machines which have a lot of tyre troubles; for example, down towards the bottom of the list will be found several good machines, ridden by good riders, whose penalties were incurred by serious tyre troubles.

In studying the results published last week it should be remembered that the riders were almost exclusively amateur, and included some really excellent sportsmen, also (low be it spoken) some of the biggest duffers.

Needless to say, the run will be repeated next year on very similar lines, and we have no doubt there will be a greatly increased entry. Amateurs will be attracted from England by the sporting nature of the

Scottish roads and the grandeur of the scenery; even in Wales and Devon there is nothing to equal the moorland scenery of some of the big "straths" up North and such panoramas as the view of Dornoch Firth from the shoulder of Altramain Hill. The English industry may also be spurred into supporting the event liberally. We are told that many a Scotch enthusiast hinted to Mr. Davies that the English firms dare not send their own men to ride in a Scotch trial with the machines they send up to Scotland for sale. This, of course, is arrant rubbish. Twenty-six English trade riders would have made a better show than the twenty-six riders who went through this year, and the majority would have scraped up Amulree

even at their first attempt. The English make abstained because they are rather overweighted w open competitions, and they did not know how t first experiment would materialise. But next ye they cannot afford to ignore a trial which knocks su simple rides as London-Edinburgh into a cocked h and is more exacting than the Shrewsbury Trial. T two or three English trade riders who travelled No for the trial acknowledged quite frankly that the fi three days were more trying than anything they b experienced on English soil. Personally, we shou like to see the A.C.U. hold another End-to-end n next year, and the Scottish Trial starting from W a few days later. We shall see.

OCCASIONAL COMMENTS.

By "IXION."

Compression Improvements.

I have just received an advance proof of the judges' report in the Scottish Trials, and I notice an improvement of vital importance, which was also emphasised in the A.C.U. Trials, viz., that the modern motor cycle engine can retain its compression for long periods. Experienced riders will remember how, after we had run a new machine for a few hundred miles, its compression had usually almost disappeared, and, in spite of all our efforts, it never again touched its primeval standard. To-day a first-class motor cycle engine will often support the rider for whole minutes on the pedal after it has been run several thousand miles, even though the exhaust valves have never been ground in this distance. Owners of obsolete engines should first make sure their pistons are a good fit; then, if modern rings, modern two-piece exhaust valves, and modern compression washers are fitted, the obsolete machine will often emulate the performances of a 1909 first-rater in this respect. The improvement is largely due to experiments and uniformity in castings. Piston rings, cylinders, and valves are also not only better made, but made of more suitable materials.

The Secondary Brake.

I was much amused by the futility of the average secondary brake fitted by many riders in the A.C.U. Trials in compliance with the regulations. We are all aware that in practice most riders rely exclusively on their belt rim shoe brake, which is more than sufficient for all purposes on a machine that is properly driven. If the secondary brake gives no trouble, and sets up no friction, the rider sometimes allows it to remain on the machine as a useless but law-complying excrescence; more often, perhaps, he contemptuously removes it altogether, knowing that it can never conceivably be of any real use, and that it always contains possibilities of trouble. I heard one trade rider in the Six Days' Trials cursing his secondary brake up and down; he was obliged by the rules to carry it, it was of no use whatever, and at the moment it was rubbing and causing friction, just before one of the big hill-climbs. "I put it on," he explained, "just before the trial, because I had to; and it will go quickly into the dustbin as soon as I get to Uxbridge." I don't suppose the A.C.U. could alter the law that compels us to carry two brakes, even if it were inclined to, which it isn't; and if it could, it

would be a bad thing, as sundry machines have chain drive, and so are debarred from using the best motor cycle brake there is. In the meantime I know from experience that even the belt rim brake can occasionally go amiss, and that it is good to have an emergency brake in reserve. The thing to do, therefore, is to provide a front wheel brake or a secondary rear wheel brake, which shall not be a mockery or a sham. I often wonder why motor cycle front wheel rim brakes



A tri-car belonging to J. L. Baird, of Helensburgh, at the hairpin bend of "Rest and be Thankful," between Arrochar and Inveraray. The gradient is about 1 in 4 at this point, and the surface is very bad, being full of ruts and covered with loose stones.

are usually so worthless. I have known reliable front wheel motor cycle brakes, i.e., brakes which did not give trouble, but which gave no trouble. On my pedal cycle I have a Bowden front wheel rim brake, which is full of power, and gives no trouble. It seems to me that careful design and manufacture could soon produce a front wheel motor cycle brake which would be really efficient. We want more leverage, shoes with better frictional qualities, and rims with a proper braking surface, not to mention accessible adjustments.

The A.C.U. Trials.

I must congratulate the A.C.U. on acquiring the courage to deliberately seek out some of the worst hills it could for its Thousand Miles Trial this year.

Casual Comments.—

This is the surest method imaginable of encouraging change-speed gears, and if a similar plan is adopted next year, very few will dare to compete without the aid of variable gears. At the same time the climbing in the trials was distinctly disappointing. I secreted myself on an insignificant hill, which I have not yet mentioned in any report (Holywell Hill, between Asaph and Chester), about threequarters of a mile, averaging perhaps 1 in 13. Among other items of interest noticed on this very ordinary ascent, I saw two two-speeded machines change down on to their over gear; I saw thirty or forty men pedal pretty hard; and I saw over a dozen men fail outright, some of them on duplicates of machines which win hill-climbs every month. The facts about the hill-climbing powers of motor cycles to-day are that almost any machine will climb almost any main road hill; that when an engine is either hot or badly carbed, it will fail on quite insignificant gradients; and that only the possession of an emergency gearing can enable the motor cyclist to climb every hill he comes to with ease and certainty.

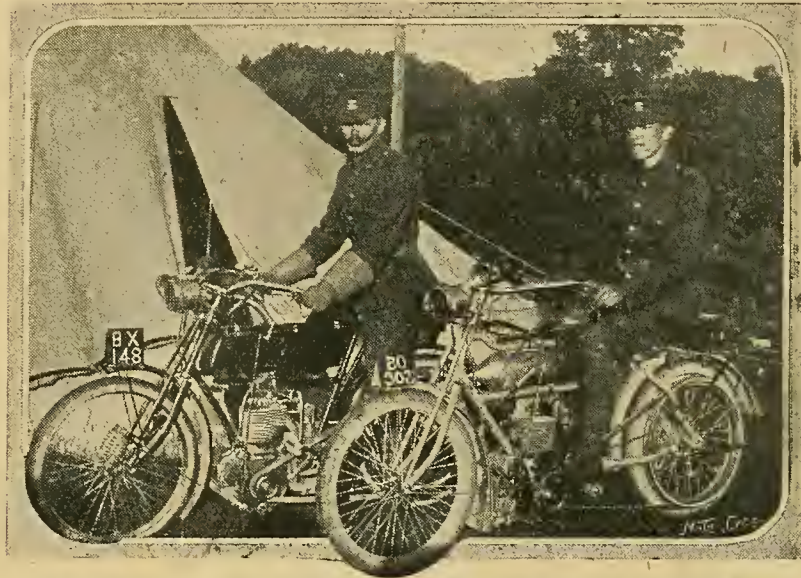
Time Margins in the A.C.U. Trials.

In the big car trials each entrant is penalised a mark for every minute spent on adjustments during running time. The nature of things renders such stern treatment of motor cycles for ever impossible, simply because they cannot be continuously observed. Let me just notice, however, how very far our trials fall below the car standard. The average daily run is 180 miles. Riders lose no marks provided they cover this in an average speed of between sixteen and twenty miles an hour. At the lower speed the 180 miles occupy eleven and a quarter hours; at the higher speed nine hours. *Ergo*, each competitor has two and a quarter hours daily at his disposal for unpenalised repairs. In addition, he has an hour before starting, and, further, many of the competitors save much on minimum time over the more open routes



The winning team in the A.C.U. Six Days' Reliability Trials. The two-speed Phelon and Moore machines scored a well deserved and popular win, the riders being W. Milnes, R. Moore, and W. Pratt.

that they snatch an average of a further two hours daily. It is, therefore, possible for a rider on a fairly fast machine to spend about thirty hours on adjustments and repairs in the course of an A.C.U. six days' trial without losing a single mark. A competitor in the Scottish Car Trials who spent this period in repairs would lose 1,800 marks. Now I am not implying that the average competitor in the A.C.U. Trials actu-



The July camp at Carmarthen. Two motor cyclists attached to the 7th Batt. Welsh Regiment (Cyclists) who rendered excellent service.

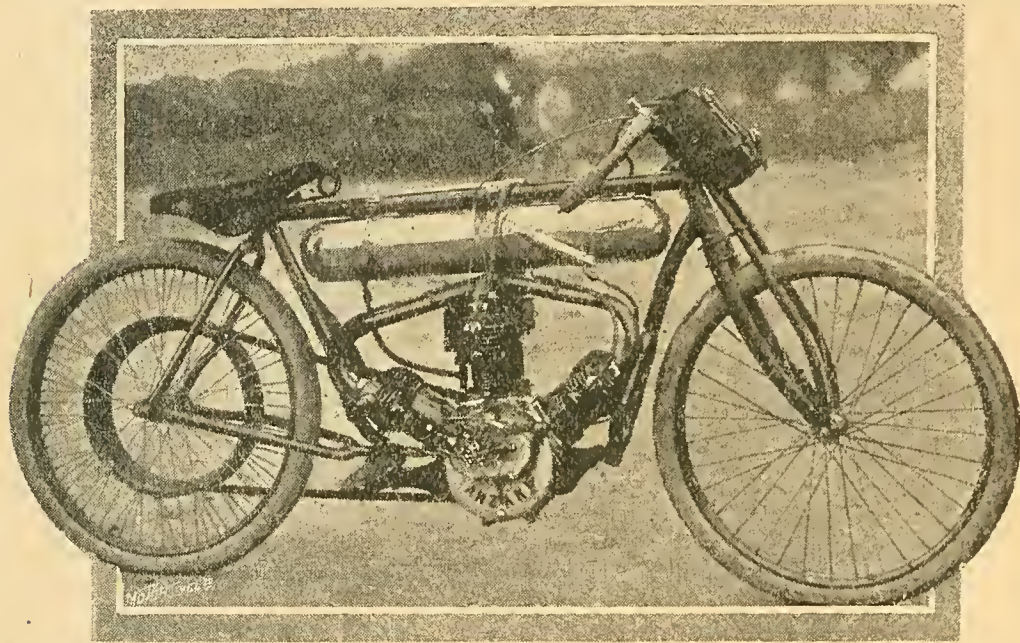
ally utilises this spare time in tinkering. As a matter of fact, the majority of the riders spent it in chatting, smoking, refreshments, or cleaning their machines; and many a rider came through this year practically without touching his machine at all. But in all A.C.U. Trials a few men gain medals whose machines are not absolutely first-class; and, in justice to the men and machines who came through without trouble, I think the conditions ought to be made much more strenuous. To this end I should suggest an increase of the minimum speed to eighteen miles an hour (instead of sixteen) and the rigid observance of the rule about being ahead of minimum time. The Edinburgh rule would do excellently, viz., that half a dozen secret checks will be instituted during the trial, each half-way through a long section, and that any competitor caught fifteen minutes ahead of minimum time should be disqualified from receiving any award except a certificate. On this scheme only the riders who get through without trouble could win medals.

Adjustable Pulleys.

I wonder how many riders utilise adjustable pulleys on my plan. I now make it a rule to carry two belts, say a 1in. and a $\frac{3}{4}$ in. I use the pulley adjustment solely for taking up belt stretch or reducing the length of the belt after a pull through. When I come to an exceptional hill I slip off the inch belt and fit the narrower one, changing again at the top of the hill. I find this is on the whole less troublesome than using one belt and an adjustable fastener, and as the narrow belt is always clean it invariably takes me up bad hills without slipping, whereas if I lower the gear for the broad belt, which is often already rather greasy, the combination of gradient, greasy belt, and small pulley often produces slip on the worst knuckle of the hill. Owners of machines at present fitted with $\frac{7}{8}$ in. belts should not exceed this size in procuring a spare, or a certain amount of grip will be lost by the belt projecting above the flanges of the pulleys.

Motor Cycle Engines on Flying Machines.

ON the 25th ult. the whole country was ringing with the news that an aeroplane had been successfully flown across the Straits of Dover from France to England. M. Blériot is to be congratulated on being the first to cross the English Channel with the aid of a flying machine. Our reason for writing this short article and publishing a few illustrations is to draw readers' attention to the fact that



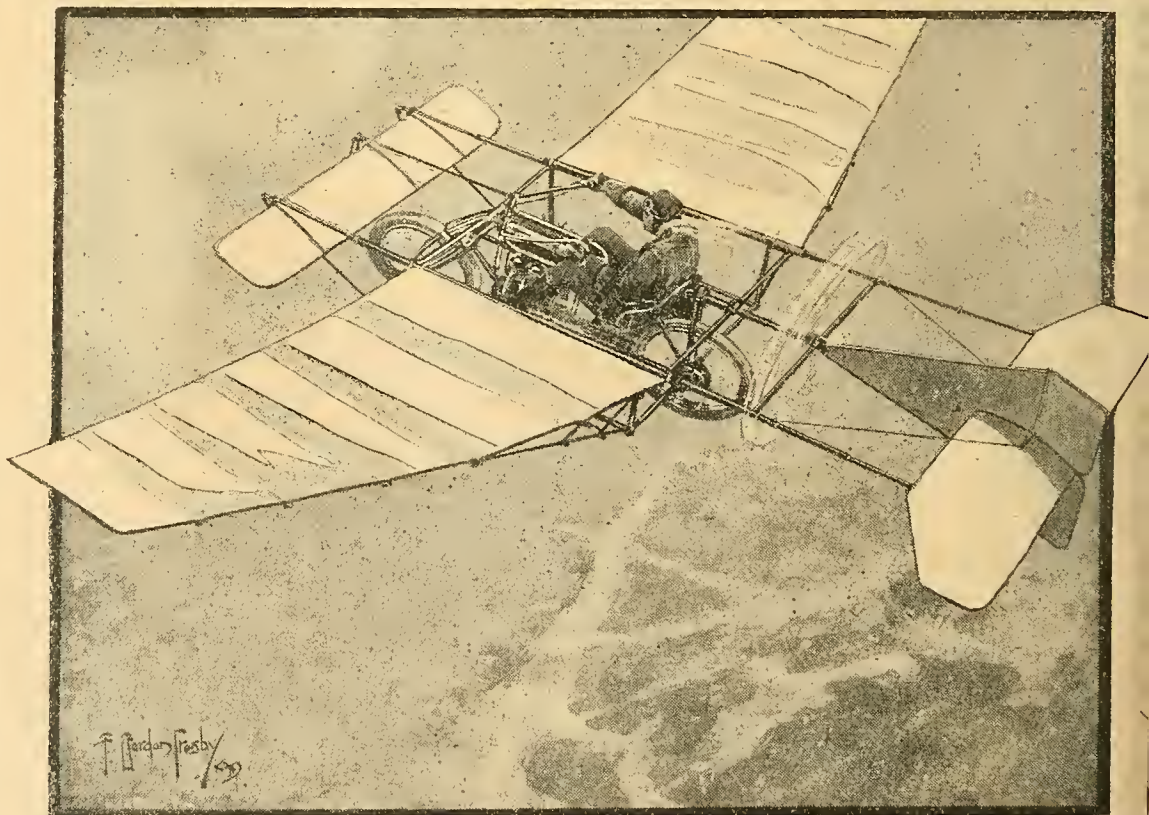
The three-cylinder V type Anzani engine (as used on Blériot's aeroplane) was first used in a small size, on motor bicycles, and appeared with great success in Continental speed events two years ago.

the motor cycle has had a good deal more to do with the perfecting of the aeroplane than a great many would suppose. First of all, the illustration on page 581 of M. Archdeacon's experimental motor cycle flying machine should be studied. As a real matter of fact this experimental machine, which was built by M. Anzani—the one-time champion motor cyclist—to M. Archdeacon's instructions, was an attempt on M. Ernest Archdeacon's part to solve the problem of the heavier than air type of flying machine, or, to be more correct, the machine was used to study the effect of the propeller at speed. It will be noticed that the propeller on this aero motocycle—which, by the way, accomplished a speed of 50 m.p.h. on the Achères Road in September of 1906—is fitted in front of the motor cycle, and in the same position as the propeller on the historic aeroplane called the "Monoplane Blériot XI," which carried its inventor from Calais to Dover last week. The same engine-maker who made the twin-cylinder engine illustrated on page 581, which was used to propel the aero motocycle, also made the engine used on the "Monoplane Blériot XI." It is a 25 h.p. air-cooled Anzani, with exhaust release ports, similar to the three-cylinder engines used on pacing motor cycles for the last two or three years. It will therefore be seen that the motor cycle has had a considerable part

to play in the perfecting of the successful monoplane. And this brings us to another illustration which was published in the Spring Number of *The Motor Cycle*. This was entitled "A Glimpse into the Future," and was the product of Mr. F. Gordon Crosby, whose drawings are more often seen in the pages of *The Autocar* than they are in *The Motor Cycle*. Accompanying the drawing was an article entitled "The Possibilities

the Motor Cycle Aeroplane," by "Motor cyclist," who said in the course of the article that, "as a humble student of the work of the flying pioneers, and also as an ardent motor cyclist, I have given considerable thought to the possibilities of a light, low-powered aeroplane. The kind of idea we all have in our minds is a motor bicycle with folding wings and a propeller." "Motor cyclist" was careful to say that, although fascinating, he was afraid the idea was far from realisation. However, "Blériot XI" seems to be a nearer approach to his idea than anything which has yet flown, and although far-fetched and even looked upon at the time by those who wrote and published it as far from realisation, there may be more in the idea than was expected. It is, of course, impossible to controvert the laws of nature, and experts on the subject tell us that certain details in the construction of these machines render folding

wings or planes hardly practicable. The idea of a motor cyclist starting along a road, getting up speed and then extending the machine's wings or plane, throwing over a clutch to disconnect the engine from the road wheel and start the propeller, is very difficult to attain, and not what is really needed to start an aeroplane. However, we have shown enough to prove that the motor cycle has had more than a supernumerary part to play in the production of Blériot's aeroplane.

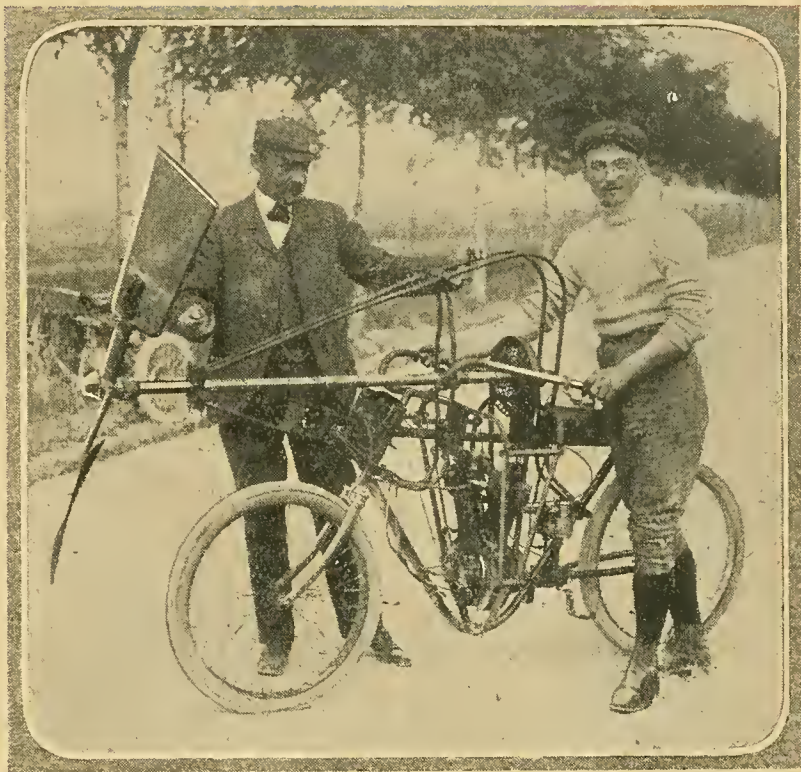


This drawing entitled "A Glimpse into the Future," appeared in the last Spring Number of "The Motor Cycle," and the dream has been rendered much nearer realisation by M. Blériot's cross-Channel flight.

MotorCycle Engines on Flying Machines.—

Side by side with the perfecting of planes and their lifting power will come the development and improvement of the petrol engine until some day in the future it may be possible to attain the ideal put forth by "Motair-cyclist." Most of the earliest flying machines, and even many of those now being experimented with, are fitted with very much more powerful engines than the three-cylinder 25 h.p. Anzani engine. As the first flight across the Channel was accomplished with the aid of one of the smallest aeroplanes yet constructed, it is reasonable to suppose that in course of time weight and horse-power will be further reduced. Will it then be possible to attach a flying device to a motor cycle and use road wheels or planes and propeller at will? Time alone can show, but the idea is certainly not wildly impossible, as Channel flight itself was proved to be an impossibility not long since.

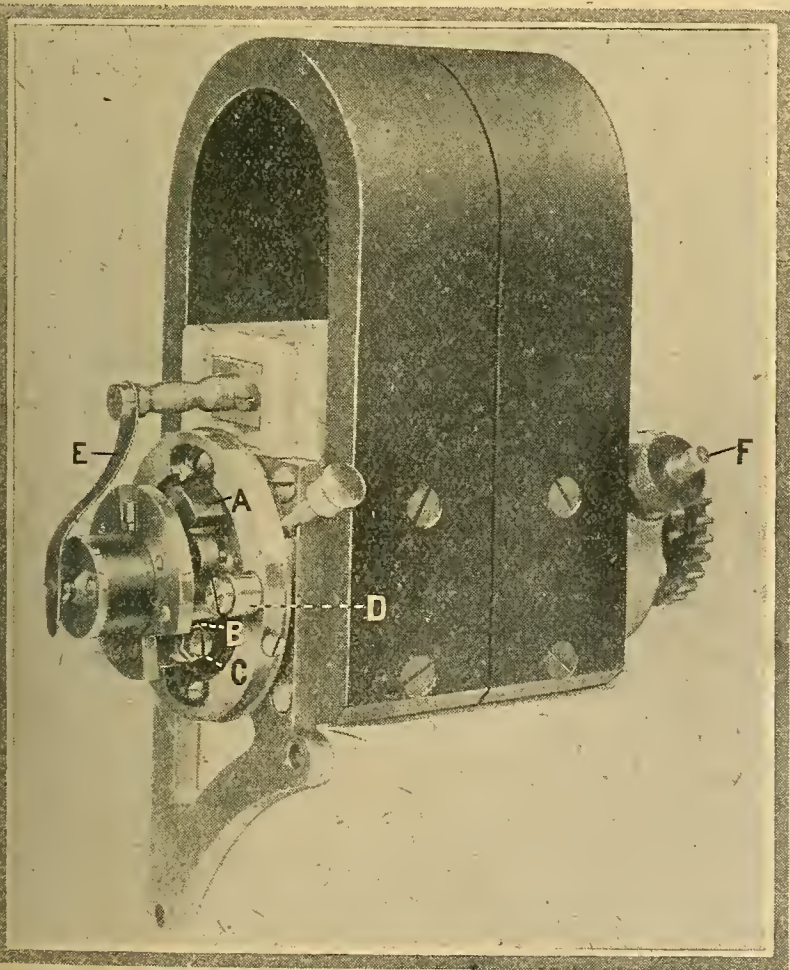
Patriotic Britons will doubtless experience a feeling of disappointment that the honour of first crossing the Channel has been lost to their country, but it is satisfactory to note that at least one British invention had to be requisitioned to enable M. Blériot to accomplish his feat. The Bowden wire mechanism, in fact, played a vital part in the control of "Blériot XI.," its flexibility and lightness rendering it peculiarly suitable.



Anzani (the maker of M. Blériot's engine) is here seen carrying out experiments in 1906 with an aero motorcycle on behalf of M. Archdeacon. A speed of 50 m.p.h. was attained with the machine shown.

THE NEW MOTO-REVE MAGNETO.

IN accordance with a suggestion made in *The Motor Cycle* a little time ago, the Moto-Rêve Company has altered and improved its magneto in detail, fixing the contact breaker externally, and thereby following the lines adopted by well-known magneto manufacturers. The accompanying illustration shows how this has been

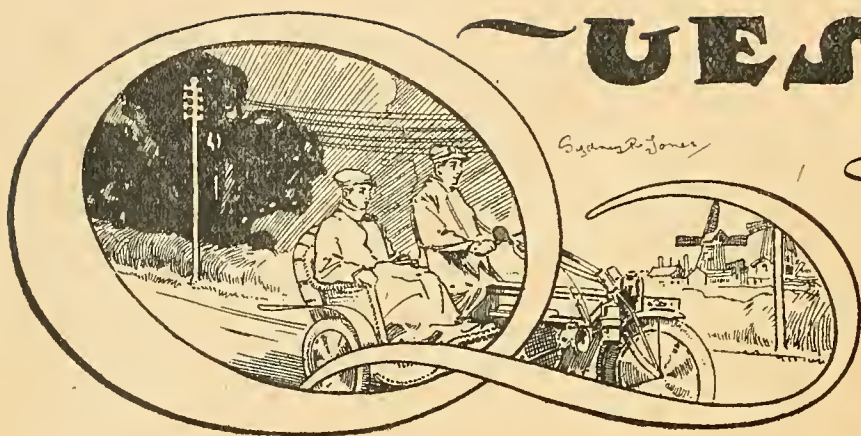


A. Fibre cam. D. Steel roller. B. Rocking arm or bell crank.
C. Platinum screw on bell crank and lock nut. E. Spring holding cover and condenser connection. F. H.T. terminal.

carried out. By reference to it it will be seen that the fibre cam A attached to the bell crank B carrying the platinum screw C makes contact with the steel roller D, thus causing the points to separate. Both platinum points have been made adjustable, and the whole magneto has in general been made more accessible. If any fault existed on a Moto-Rêve it was the inaccessibility of the magneto contact breaker points, and champions of this most excellent little machine will welcome the improved type of magneto, as on a twin-cylinder machine it is even more important to keep the contact points in perfect order than it is on singles. The finish and workmanship are excellent, and leave nothing to be desired.



R. Goldberg (4 h.p. 1909 Twin N.S.U.), winner of the Johannesburg Motor Cycling Club's Hill-climb, Consumption Test, and Reliability Trial, which took place on June 27th and 28th. He obtained highest possible marks in each event, and was the only one of the twelve competitors to do so.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Coil Connections.

?

My motor cycle is a 1904 pattern Quadrant, and is at present fitted with a trembler coil, and I wish to try a plain coil instead. The one I have is a Nilmelior, with the usual four terminals—three at one end marked P, M, C, and one at the other end marked B. Will you please tell me how to connect wires?—T. H.

The coil should be connected up as follows: P = accumulator, M = frame, C = contact-breaker, B = sparking plug.

Licences. Paraffin as a Fuel.

?

(1.) What is the amount of the licence for a tricar, or a two-wheeled sidecar (such as the Lowen type)? (2.) Is there any workable method yet invented of using paraffin instead of petrol for motor cycles?—G. S.

(1.) The Inland Revenue licence for a tricar weighing under 3 cwt. is 15s.; for a two-wheeled sidecar, which with two wheels to the motor bicycle makes four wheels, £2 2s. Some county councils will register a two-wheeled sidecar as a trailer for 15s. (2.) From time to time there have been several paraffin carburettors on the market for motor cycles, but these have disappeared, as it has been found that paraffin causes excessive sooting of the engine and valves.

Contact Breakers and Speed. Wear of Bearings.

?

(1.) Kindly tell me if, when using a trembler coil, a greater speed is obtainable with make and break contact breaker or with a wipe contact. At present on my machine I have make and break, but thought of fitting wipe contact. Also on the former is it advisable to have the points far apart or close together? (2.) My engine has a knock, which is noticeable when wheeling it along, but, if driven with ordinary care, is never noticed while running, even on hills. Will you kindly say if it will do it any harm to run it for, say, a month or so before I rebush it?—W. H.

(1.) The highest speed and the best efficiency can be obtained from a non-trembler coil and make and break contact breaker. If you fit a wipe contact breaker you will lose in efficiency to an enormous extent, although starting may be rendered slightly easier. It is the best plan to have the points adjusted as lightly as possible in each case, as this saves the platinum from wear and pitting. If you adjust the contact

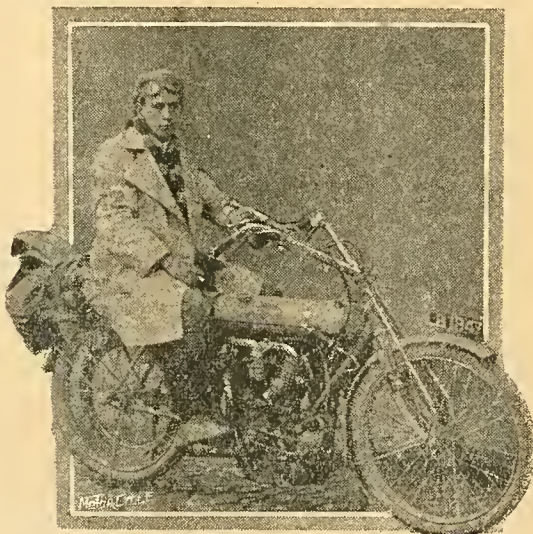
screw with the engine running on the stand you cannot get far wrong. (2.) The knock you refer to is most probably due to wear of the engine bearings, or you may be deceived by the clatter of the valves or the click of the cams. If there is a distinct knocking noise the bearings must be worn, but it is not absolutely necessary to have them rebushed at once.

Misfiring at High Speeds.

?

I have a 3½ h.p. Rex (accumulator) which is in perfect condition, and will carry me up every reasonable hill splendidly; in fact, it goes up hill better than on the flat. When going up an incline the engine works with perfectly even strokes, but as soon as I start going on flat or down hill and get up a good speed, the machine seems to be going too fast for the engine, as it were, and it misfires badly. I have to keep switching off, and then it starts all right again until speed gets up. The ignition is correct, and, as far as I know, everything is in perfect working order with the exception of the above.—S. N.

The trouble may be due to the carburettor, which does not admit enough



Campbell MacGregor, hon. sec. of the Edinburgh M.C.C. He competed in the Scottish Five Days' Reliability Trials from Edinburgh to John-o'-Groat's and back, gaining a silver medal with his 5 h.p. 1909 Matchless.

air at high speeds. Probably a larger choke tube would cure the trouble. Another likely cause of the misfiring is the mal-adjustment of the contact breaker points. Hints on how to adjust the contact points have many times been given in these columns, but we may remind you to adjust them

with the engine running on the stand and let them bear together as lightly as possible. If your machine has a trembler coil, this may also be incorrectly adjusted, and the above remarks will apply in this case.

Engine Refuses to Start.

?

I have a last year's 3½ h.p. motor bicycle, but cannot get it to work. I have had the plug out, and find it sparks all right, but the engine does not fire. I have also dismantled carburette (Amac, worked by levers on tank) but there is no stoppage, and petrol flows freely. What I do get is a very sharp "chug" or puff in the carburetter, sounding almost like an explosion in the silencer. I have tried it with air inlets open, also with extra air inlets closed, and with White's economiser fitted to reduce air supply, but all I get is the sharp puff in the carburetter. Can you tell me what is wrong?—B. J.

First of all, we should recommend you to check the timing of the spark and also of the valves, as it looks very much as if something had gone wrong in this part of the machine. Before you do this, however, it would be a well to notice whether the inlet valve opens and closes properly.

Attention to a Magneto.

My Bosch magneto has given perfect satisfaction for nearly 2,000 miles, but am I neglecting it by merely oiling it every 100 to 150 miles? I am careful to keep the contact-breaker cover clean, but wonder if I have better trim the contact points or have anything done to the magneto or can I leave it alone with confidence that it will work well for much longer mileage?—PEEPING TOM

So long as your machine starts easily, accelerates quickly, and attains a high speed, there cannot be anything wrong with the magneto, but it would be advisable to remove the contact-breaker cover and remove all the surplus oil and dirt with a rag or toothbrush soaked in petrol. If the contact points are quite black and pitted, trim them with a fine jeweller's file, or one of those sold for the purpose. The oil reservoirs should be swilled out with paraffin from time to time. There are screws underneath the reservoirs to allow the paraffin to drain away. It is also a good plan to remove the carbon brush occasionally, and rub the end of the pencil which bears on the slip ring with fine glass paper.

Licences.

How many carriage licences shall I require? Up to a few weeks ago I have had a tri-car, now I have purchased a motor bicycle, and am keeping them both. I intend to make use of both as the fancy takes me. Sometimes one and then the other. Shall I require another carriage licence?—H. L.

You will require a separate carriage licence for each of your machines. The price is 15s. each.

Care of Accumulators and Rubber Belts.

(1.) Will you kindly let me know the best way to empty and store accumulators? I want to put them away for about twelve months. (2.) Also should rubber and canvas belts be dressed with anything?—S. C.

We should recommend you to discharge the accumulator through a test plug, empty out the acid, and then fill the cells with plain water. (2.) Rubber belts require no dressing, but for long life they should be kept free from petrol or oil, and should always be fitted to run in one direction.

Speedometers.

I have been trying to get a speedometer from 0 to about 40 mm., hand travelling two-thirds round the face, maximum hand odometer and trip, but can hear of nothing such as I want except a Stewart car size, and this the makers refuse to adapt to 26in. wheels. Can you tell me of any likely to suit me? I have heard of the Klein speedometer, but cannot find any address of a factor or maker. Do you know it?—J.H.

The speedometer mentioned is the model, made under Klein's patent, obtainable from Messrs. Markt and Co., of 6, City Road, E.C. The same people sell the Jones, which would, I believe, do what you require. There is also the Cowey, which we have proved from practical experience to be a reliable article, but it has no trip order or maximum hand. It is made by the Cowey Eng. Co., 1, Albermarle Street, Piccadilly, W.

Cleaning Leather Belts.

I ride a Rex tri-car with belt transmission, two-speed gear and Roc clutch, and although I find the Watawata belt most efficient it sometimes commences to slip when roads are wet. This, I find, is caused by small particles of grit becoming imbedded in the leather. Can you suggest a remedy?—J.P., 1909.

The best plan is to procure one of the special belt cleaners called the Warren, which consists of a V-shaped metal plate lined with file card. The file card acts as a splendid cleaner, and if the plate is nailed or otherwise secured to a strong wooden handle, and the cleaner carefully applied to the underside of the top line of the belt while it is running on free engine the effect is magical. Be careful to see that the file card is so fitted to the handle that the nap of the file card runs the same way as the belt, otherwise the handle

may be jerked out of the operator's grasp. A good plan is to let the handle bear against a fixed portion of the frame. The belt should be dressed occasionally with Collan oil.

Measuring a Gradient.

Is there any simple means by which one can calculate the gradient of a hill? or can any simple instrument be attached to a motor cycle that would indicate it? Even an approximation would be most interesting, but one hears the wildest (at all events the most widely differing) estimates of hills in one's own locality.—CE 891.

The simplest way of calculating the gradient of a hill is to use a light plank of wood, a spirit level, a few bricks, and a foot rule. Get the plank level on the hill by means of the level, propping it up with bricks, measure the height of the extreme end and the distance, then you will easily calculate how many feet it rises one foot. We know of no reliable gradometer which can be fitted to a motor cycle.

Altering the Gear Ratio.

I have an old 2½ h.p. Humber motor bicycle, chain drive, 28in. wheels, and free engine. I have lowered frame, and am thinking of fitting 24in. or 26in. wheels. Would this alter gear? and what gear should you advise for this district (Doncaster), which is fairly flat? I weigh 12 stones. The number of teeth on wheels are as follows: On engine shaft 17, large chain wheel on bracket 46, small chain wheel (17 teeth), chain wheel on back hub 38. Please inform me what number of teeth would be most suitable on back hub for my weight with 24in. or 26in. wheels?—B.E.

If you fit smaller wheels to your motor bicycle you will lower the gear. If the engine is in good order and the compression good, a gear of 5½ to 1 should be quite low enough. At present it is

slightly lower than 6 to 1. By fitting 26in. wheels you would reduce the gear to 6.4 to 1. We should not advise you to fit smaller wheels than 26in. diameter on account of increased vibration and difficulty of obtaining such small tyres. If you find after fitting 26in. wheels that a 6.4 to 1 gear is too low—which is certain to be the case—you could fit a new sprocket on the engine-shaft with 18 teeth in place of the present one with 17 teeth..

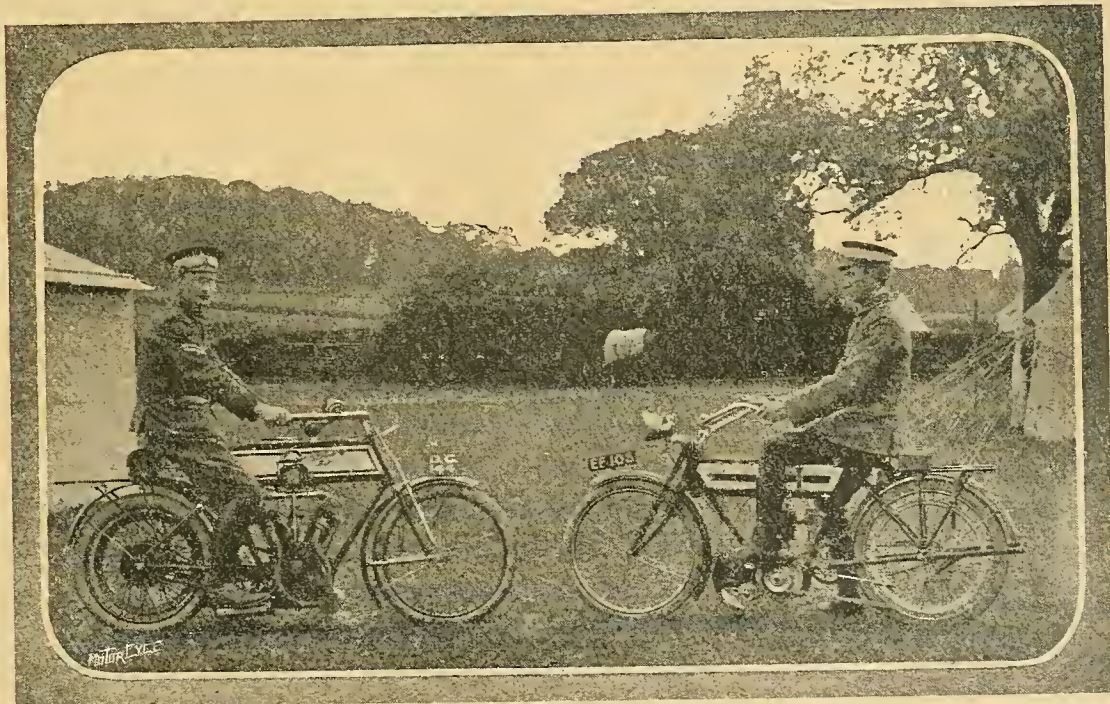
READERS' REPLIES.**Engine Failures on Hills.**

In reply to "W.H.," whose 2½ h.p. inclined Minerva engine fails on hills. I used to own a similar engine which failed me on a certain hill under similar conditions to those mentioned by "W.H." I put the trouble down to overheating, till I ultimately discovered that it was due to lack of petrol. The frame of my machine being high, and the wheelbase short, it was impossible to reach down to flood the carburettor while running. I therefore had a tiny hole drilled in the top of the needle, and a thread from that point to the top bar of the frame enabled me to keep the carburettor on the flooding point, and thus easily surmount the portion of the hill which had previously seemed too steep for the engine. Let me add that I had every satisfaction from the engine in question, and now regret having parted with it.—Ex XS 4.

If "F.J.M." will send his full name and address and stamped envelope, a reply will be sent to his query.

The 1d. Edition of "The Autocar."

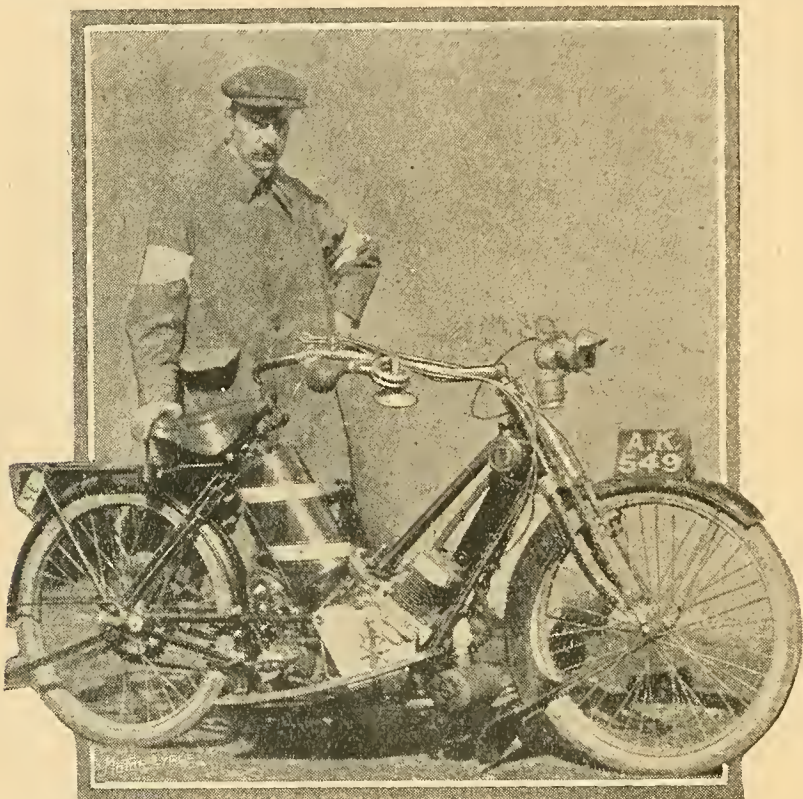
Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.



Motor cyclists attached to the D Squadron of the Yorkshire Hussars Yeomanry—Stanley L. Gjerston (7-9 h.p. Bat) and John H. Dale (1909 Triumph), both active members of the Middlesbrough and District M.C.C. The camp is at Helmsley. The adjutant, Captain Walker, referred to the motor cyclists as the most useful men in camp.

A.C.U. Quarterly Trials.

THE third quarterly trials for motor cycles during 1909 held by the Auto Cycle Union took place on Wednesday last. The weather at the start was not promising, but for the most part it was good, the sun bursting forth at intervals. The course was the usual one, starting from the Chequers Hotel,



Eric S. Myers (Twin-cylinder Two-stroke Scott) who made a non-stop run.

Uxbridge, and continuing *via* Dashwood, Wheatley, and Islip, to Banbury, returning to Uxbridge *via* Bicester, Amersham, and Beaconsfield. The competitors were timed on Dashwood and Rectory Hills, Amersham, as in the past, but the times made are not officially communicated to the press; in fact, no competitor now receives any more marks for speeds in

excess of twenty miles an hour, but an average speed of sixteen miles an hour must be maintained on the timed ascents. The competitors were despatched from the Chequers Hotel, Uxbridge, at 9.30 a.m., and encountered a strong headwind all the way to Banbury. This was particularly noticeable on Dashwood, and greatly impeded the riders in their ascent of the somewhat formidable gradient.

Everybody was pleased to see A. G. Reynolds aboard again after his accident during the Six Days' Trial. He was busy at the start taking notes of the machines.

Lunch was partaken at Banbury, and the assembly of riders and machines made an imposing sight in the yard of the Red Lion Hotel.

On the return journey A. G. Fenn (6-7 h.p. B) retired owing to tyre trouble. He made a valiant attempt to complete the trial on a totally deflated tyre but found it impossible, and eventually, owing to the shock jarring spokes loose, the rear wheel collapsed and he was forced to abandon the trial. This was particularly bad luck, as Fenn was well in the running for the special cup. H. Berwick, jun. (3½ h.p. Excelsior), retired near Berkhamstead, owing to broken ball race on engine-shaft.

The following made non-stop runs, subject to official confirmation at the next committee meeting of the A.C.U.

- R. D. T. Wood (3½ h.p. Triumph).
- J. L. Norton (3½ h.p. Norton).
- A. Brown (3½ h.p. Midget Bicar).
- G. E. Stanley (3½ h.p. Premier).
- A. H. Haden (3½ h.p. New Comet).
- E. A. Colliver (3½ h.p. Triumph).
- F. C. Wood (4 h.p. N.S.U.).
- Douglas Steeves (2½ h.p. N.S.U.).
- A. T. Stanton (3½ h.p. Bradbury).
- W. Pratt (3½ h.p. Phelon-Moore).
- H. Bevir (3 h.p. L.M.C.).
- H. D. Teage (3¾ h.p. Premier).



The start from the Chequers Hotel, Uxbridge, last Wednesday morning.

Quarterly Trials.—

W. Walker (3½ h.p. Premier).
 Underhill (3½ h.p. L.M.C.)
 W. Bischoff (5-6 h.p. F.N.)
 Seyfried (3½ h.p. Triumph).
 Mc Myers (3½ h.p. Scott).
 W. Newsome (3½ h.p. Triumph).
 Marshall (3½ h.p. Triumph).
 G. Potts (3½ h.p. Triumph).
 Burr (6 h.p. Southey).
 Weller (5-6 h.p. A.C. tricar).
 Seymour (5-6 h.p. A.C. tricar).
 Portwine (5-6 h.p. A.C. tricar).
 C. Griersbach (3½ h.p. Triumph).
 Seven competitors made one stop.

W. Bischoff carried a passenger on the carrier of 5-6 h.p. four-cylinder F.N., as did also C. H. Rees on the Advance. The former completed trial without a stop, but the latter evidently suffered at least one stop, as his name is not among those making a non-stop run. R. G. Bell (4 h.p. T.T. U.) stopped on Rectory Hill; cause unknown. F. Applebee (5 h.p. Rex) suffered a sooted sparking near High Wycombe, and S. Kempson Jones (5 h.p. L.M.C.) stopped on Dashwood; belt slipping.

The judges were J. W. Brooker, H. G. Cove, and G. Reynolds.



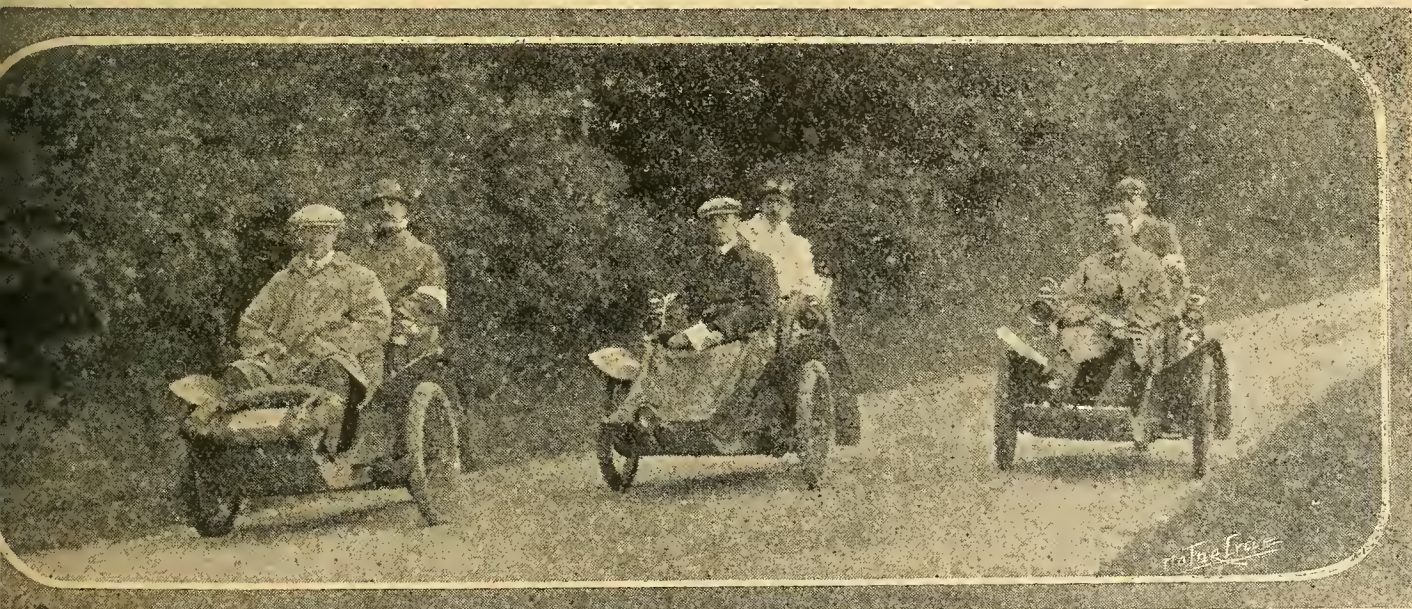
W. Hewitt, jun., ascending Rectory Hill, Amersham, on his 3½ h.p. Excelsior

MILITARY MOTOR CYCLING.

A CIRCULAR letter was issued on Wednesday last from the War Office to all Territorial Force County Associations. The gist of the circular is that it has been determined to widen the scope of the existing Territorial organisations by the formation of a reserve which shall include all able-bodied men of suitable age who have shown themselves prepared to take part in the land defence of the country. The scheme, of course, embraces practically all classes, but the reserve force will consist of three classes, styled respectively the Territorial Force Reserve, the Technical Reserve, and the Veteran Reserve. The second is the one in which will be included both autocarists and motor cyclists. That portion of the circular which deals with the Technical Reserve reads as follows:

“The Technical Reserve will consist of individuals who, though they may have never served in any of the military forces of the Crown, would yet be able, in a time of national emergency, owing to special aptitudes, to render valuable service of an auxiliary character in connection with the national forces. For instance, members of the medical and veterinary professions, civil engineers, and especially electrical engineers, railway and telegraph *personnel*, the owners of motor cars, motor cycles, balloons, aeroplanes, etc., and many others can, if duly registered and organised for the purpose of national defence, render service of the greatest value.”

It appears that the organisations which control the pastimes under the head of the Technical Reserve will take a prominent position in the formation of the Force.

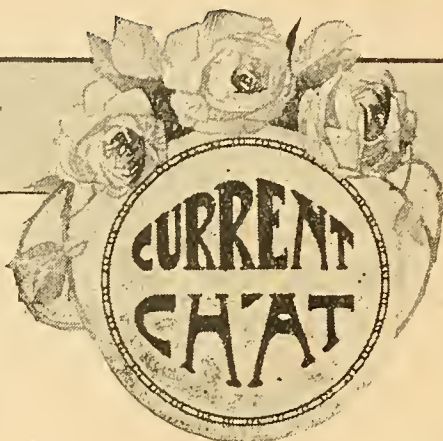


The three Auto-Carrier Tricars at the top of Dashwood. All made non-stop runs, which we believe establishes a record for passenger motor cycles.

Time to
light lamps

Special Features

Aug. 4 .. 8.43 p.m.
 „ 7 .. 8.37 „
 „ 11 .. 8.30 „



THIRD QUARTERLY TRIALS.
 LONDON-LAND'S END AND BACK
 BROOKLANDS RACING

Fully Illustrated.

Police Traps.

Cromer-Holt road, about two miles out of Cromer; on the Cromer-Aylsham road, also near Cromer, and at Overstrand, on the Cromer-Mundesley road.

A Wise Decision.

As a result of the recent track disaster at Berlin, reported in our last issue, the German authorities have prohibited motor pacing of cycle racers for the time being.

Kindness Unrewarded.

The rider of a $3\frac{1}{2}$ h.p. N.S.U. who borrowed an accumulator at Whetstone on the 4th ult. is asked to return it to Mr. F. F. Smith, 80, Hewitt Avenue, Noel Park, Wood Green, without delay. The N.S.U. registration number is known. Mr. Smith's address was handed to the borrower together with the accumulator, and that is why he is unable to account for the delay in returning it.

A Fresh Speed Limit.

An inspector giving evidence in a police court case a few days ago at Bedworth, Warwickshire, where a motor cyclist was summoned for driving to the danger of the public in Bedworth Market Square, stated that it was his intention to summon every motorist who exceeded six miles an hour at that point. Motor cyclists should note this statement, as their only course in future appears to be to dismount and walk through the Market Square. Those who are acquainted with the town of Bedworth will not consider it a particular hardship to avoid the place altogether unless important business necessitates a visit.

Standard Machines in Competition.

The Coventry and Warwickshire M.C. has drawn up regulations for its open hill-climb on the 21st inst. which should settle the question of standard machines in competition. There are two classes—I. for full touring machines, II. for all other machines. A committee of scrutineers will examine every machine in Class I. both before and after the competition, and check over its specification with the regulations defining a full touring machine. Moreover, the cylinder will have to be removed if the scrutineers decide. This should encourage amateur riders to compete, for all will stand an equal chance (which cannot be said of most competitions in the past), and we congratulate the Coventry Club committee on their earnest endeavours to make the hill-climb of a really sporting nature.

A Reliability Trial in New South Wales.

The Motor Cycle Club of New South Wales held a reliability trial on June 7th, covering a distance of eighty-four miles, a considerable part of which was over mountainous country. There were thirteen competitors; an L.M.C. machine ridden by Roy Hughes securing the prize for the most meritorious performance.

Wake up, England!

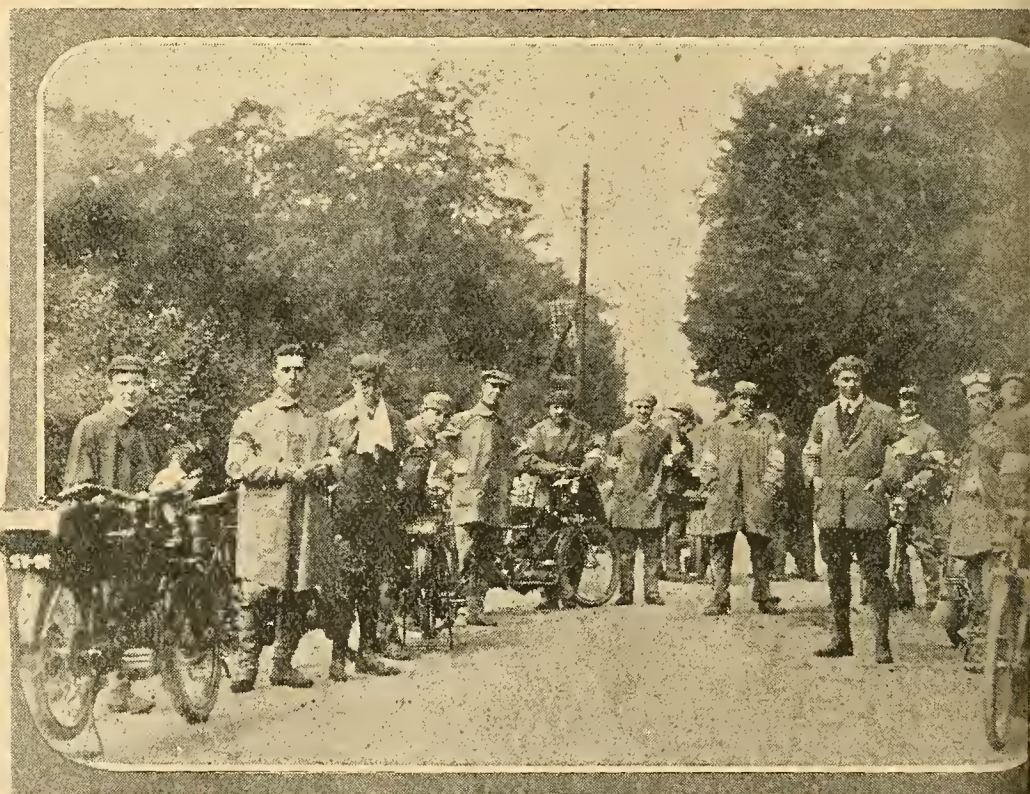
In British military operations during the past two or three years, motor cyclists have rendered excellent work in despatch carrying from outlying troops, and many times the commanding officers have spoken in the highest terms of praise of the work performed by motor cycle despatch riders. Many foreign countries long ago recognised the utility of motor cycle despatch carriers, and have for some years employed squadrons of motor cyclists in military manoeuvres. At last it is announced that the War Office will accept the services of a "limited" number of motor cyclists at the cavalry manoeuvres near Oxford in September, but even at this late stage it is explained that the move is regarded as "purely experimental," as the authorities are anxious to test the usefulness of the motor cycle for military purposes. However, we have no doubt about the success of the experiment.

Quarterly Trials Notes.

P. W. Bischoff, who competed the Auto Cycle Union's third Quarterly Trial of 1909, on Wednesday carried an extra passenger seat, the luggage carrier of his four-cylinder F.N. Notwithstanding the weight, the F.N. succeeded in doing both Dashwood and Rectory Amersham, which is something test of hill-climbing.

The End-to-end Record.

As we hinted in the inscription under I. B. Hart-Davies's photo on page 574 last week, another attempt was made a few days ago to beat Land's End to John-o'-Groat's cycle record, but owing to a fall the ride came to an abrupt finish. The sixty miles had been covered. The rider was the rider who started on the attempt. This time he took good care to have his Rex machine and luggage sealed by *The Motor Cycle*, but was not with him, for he started pouring rain, and the treacherous face was the cause of the fall. However, he is not giving up altogether, and in a day or two will make another attempt, when we are to again see the pleasure of sealing his bicycle, which, we are told, is to be a standard pattern $3\frac{1}{4}$ h.p. single cylinder machine as used on his last



A.C.U. Quarterly Trials last Wednesday. Competitors halt at the top of Dashwood.

Club News.—

North West London M.C.C.

The date of the inter-club competition with the St. Albans and District M.C.C. has been altered to September 11th. This competition will consist of a 50-60 miles reliability team trial on the lines of the M.C.C. team trial for the Motor Cycle cup at Daventry, with a speed-judging and low riding contest added. If a suitable course can be found hill-climb will also be included.

Coventry and Warwickshire M.C.

With reference to the open hill-climb on the 21st inst., it has been decided to restrict the single-cylinder machines in Class I. (for full touring machines) to 500 c.c. and the twin-cylinder machines to 750 c.c., these being the limit sizes in the forthcoming Tourist Trophy Race. Higher-powered machines can be entered in Class II., which is for Tourist Trophy and special racing machines. The regulations and entry forms are now ready and can be obtained on application to Mr. W. F. Grew, 19, Hertford Street, Coventry.

Huddersfield and District A.C.C.

A reliability trial was held on the 25th ult. to North-Elerton and back, a distance of 116 miles. Owing to incessant rain only six started, but all got through. A. Liveredge (3½ h.p. Minerva) won the president's silver cup and club gold medal, and W. W. Gabbott (3½ h.p. Triumph) the club silver medal. Other competitors were R. Heaton (3½ h.p. Cat), J. P. Crosland (3½ h.p. Raleighette tricar), and L. Dyson (3½ h.p. Bradbury). The checking arrangements were in the hands of W. A. Lockwood.

Bristol Bicycle and M.C.

The above club carried out a penalty run on the 24th ult., the route being from Bristol to Cirencester and back, a distance of about seventy-two miles. The weather was not that could be desired. There were eleven entries, and the following made non-stop runs: Eli Clark (2¾ h.p. Douglas), T. R. Mereweather (2¾ h.p. Douglas), F. Bevan (½ h.p. two-speed Rex and sidecar), and E. J. Prosser (½ h.p. two-speed Phoenix Trim). All the competitors completed the journey very near to schedule time. The committee will make their awards shortly.

Bradford M.C.C.

The following competitions have been decided upon: August 9th.—A reliability competition, 150 miles, open to all members who have never won a gold medal for reliability. Route: Bradford, Harrogate, Ripley, Ripon (30m. top), Richmond (2h., dinner), Boroughbridge, Wetherby, Pool, finish White Cross, Menston. Medals, gold, silver, and bronze.

August 22nd.—150 miles passenger trials, open to any passenger vehicle. Trophy, the Phelon and Moore Cup. Medals, gold, silver, and bronze. Course: Shoulder of Mutton, Charlestown, Harrogate, Boroughbridge, Topcliffe, Leeming Bar, Boroughbridge, Wetherby, Harewood, finish Shoulder of Mutton. Speed, eighteen miles per hour.

Speed trials for three gold medals are arranged to be run in conjunction with the Leeds M.C.C. flying kilometre. The date will be announced later.

Surrey M.C.C.

On July 21st the above club held a reliability run to Arundel and back, and what would have otherwise been a good run was somewhat marred by a dog, which ran into a competitor's machine and caused a nasty fall. As several stopped to render this rider assistance and did not check their times the majority agreed to compete again. One competitor was driving an A.C. tricar, and the injured man was taken on board. Despite the somewhat hilly road, and extra weight, the tricar came in to time within half a minute.

Sutton Coldfield A.C.

Owing to unforeseen circumstances the hon. secretary of the above club has found it necessary to relinquish some part of his duties, as he finds it impossible to spare the necessary time required for both the general work and the organisation of competitions. The committee would therefore be glad if in future all matters relating to trials and competitions, etc., be sent to Howard Smith, the Dingle, Four Oaks, who has been elected to the position of trials hon. sec. The annual hill-climb will take place on August 14th (Saturday), at Coalport, near Ironbridge.

Essex M.C.

The next event of importance is the twenty-four hours' ride from Woodford to York and back on Friday and Saturday, August 27th and 28th. Entry forms and full particulars are about to be issued, and Mr. Harold Fuller, of Wynndale Road, Woodford, the hon. secretary, will be pleased to give intending competitors any information about the run. This was a very popular event last year, and a large entry is expected. A silver cup is offered, to be won outright by the rider adhering closest to schedule time throughout. In addition, gold medals will be awarded to all those who complete the journey in schedule time, and silver ones to those who complete the distance in twenty-four hours.

Lincolnshire M.C.C.

There was not quite such a good entry for the Palmer Cup Reliability Trial on July 24th as the members of the club had been led to expect, but there was a very interesting competition, which was quite successful. The start was at Wragby, a town about eleven miles from Lincoln, and the course, of a little over thirty-eight miles, was a circular one, through Horncastle and Louth, over the worst part of the Wolds, and had to be traversed three times. There was a gale blowing against the riders for two-thirds of the triangular course. A schedule time was set of 3m. 10s. per mile, with a slight margin either way, and secret checks were used. On one or two occasions competitors let themselves go, and this proved the undoing of several who had been riding very consistently. One of the worst hills was Cawkwell, which is very severe, having a gradient in one place of one in five and a half, but all the machines mounted well. R. S. Osborne (3½ h.p. Osborne, variable gear) got up very well, and managed to do second best performance, the winner being — James (4½ h.p. twin Minerva). Other competitors who rode well were — Turner (lightweight Lincoln Elk) and A. Nissler (four-cylinder F.N.). Mr. Rackham attended on behalf of Mr. E. J. Mitchell, the donor of the cup, and lent very valuable assistance in conducting the trial.



Competitors in the Twelve Hours' Reliability Trial, organised by the Middlesbrough and District M.C.C., for the Giers Cup and club medals. (See last week's Club News, page 569.)

The Future of Motor Cycling.

By B. H. DAVIES.

I HAVE come in for some keen criticism on account of my article on "The Motor Bicycle of the Future," printed in the Spring Number of *The Motor Cycle*. Various kind friends have called me insincere and dishonest for finding fault with the machines of to-day, which they see me riding far and wide in my own person with such evident gratification and convenience. Let me, therefore, explain why I cannot regard the machines of to-day as representing finality. For myself, I am more than satisfied with them on mechanical grounds. I find no difficulty in starting them, even uphill; I find the expense of running them is ridiculously microscopic; I find them thoroughly reliable; I find myself able to climb any hill on them with tolerable ease and certainty. Yet I regard them as very far from ideal.

The Riders of the Past.

Motor cycling is young as yet, and its appeal up to date has been made to a very limited class of men. An extremely large percentage of riders or interested nibblers are young, dashing, athletic, vigorous, and possess something of a mechanical bent. For ten years or so riders of this class have demonstrated the efficiency, the reliability, and the economy of motor bicycles to a somewhat incredulous public. The public is now becoming convinced.

Riders of the Present.

The bulk of the riders of to-day are still young, dashing, athletic, vigorous, and mechanically-minded. But amongst them there remains a strong leaven of us old stagers, who are growing into middle age, who have got wives and probably babies at home, who are beginning to push something of an embryo corporation in front of us, and who have lost a portion of our old dash and agility and daring. We now leave to others the thrilling dash round the bend of a fearsome hill, with the wall of the tyre where the tread should be, and the left or right ear tipped over sideways till it nearly fouls the bumps on the road. We are not quite so powerful at heaving a machine off its mark as we used to be, not quite so graceful in vaulting into the saddle as the impatient engine gathers impetus and way. We do not dive in between a couple of carts or two suspicious bullocks half-way up a steep hill with the old verve and aplomb. We are liable to streaks of lumbago across the small of the back after 200 miles in the saddle, to touches of cramp in the fingers and wrists after they have gripped a steel bar for a day and a night. We want machines even more docile than the present handle-lever-controlled tourist mounts; we want a less gymnastic mode of starting; we want the engine to start us up a grade, instead of our having to start it; we want to be able to potter up the long curly ascent when the roads are slimy, strewn with traffic, and so forth; we want absolute, not comparative, freedom from vibration; and we want a lot of other things we dare not ask for yet.

Riders of the Future.

Every year the ranks of the old crocks are reinforced by a host of business men who face their novitiate in middle age. Thousands of men are compelled to take many long and solitary journeys on either business or

pleasure, and they all hate the railroads. Railway travelling is dull, expensive, and unhealthy. Motor cycling is interesting, healthy, exhilarating, and cheap. Each succeeding year will see an increased influx of motor cycling novices who are neither brave nor strong nor young. They will feel the disabilities of the present standard ultra-efficient $3\frac{1}{2}$ h.p. tourist mount far more keenly than we old stagers, who welcome it so heartily as a vast improvement on the machines we have used in former years. If these middle-aged novices are to be kept true to the faith, if the influence of such riders is to be not only maintained but augmented, the motor cycle, in some of its forms at any rate, will have to be modified and improved to suit them. The young athlete will always be satisfied with the efficient $3\frac{1}{2}$ h.p. and 5 h.p. of 1909, if nothing better is offered him. But he is in a minority. If the sporting and industrial sides of motor cycling are to advance with equal strides, the great mass of middle-aged sobersides will have to be considered. An methinks the present state of three movements—the lightweight movement, the variable gear movement, and the two-stroke engine movement—are full of promise.



A good load. Mr. J. McDougal (hon. treasurer of the Hull A.C.C.) and family on their 6 h.p. Twin Sarclea and sidecar, fitted with Mabon clutch. The total weight of driver and passengers is thirty stones, yet the clutch is able to start the machine from rest on a fair gradient.

for the paterfamilias type of rider, and possibly even for the materfamilias type of rider. The clubs and the industry must form their own judgment. But a rider of some experience, who stands midway between the two parties in respect of age and physical vigour, I think the manufacturers of motor cycles will miss a great opportunity if they do not immediately concentrate themselves upon the interests of the more steady going riders and potential riders whom I have tried to describe. We don't all want to dash uphill at forty miles an hour; so long as we can climb all hills comfortably at a fair speed we shall be satisfied.



LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Chain Transmission

[4167.]—Among the interesting facts shown by the 1,000 miles trials was the wonderful condition at the finish, so far as the drive was concerned, of the machines fitted with chain transmission. Surely the time has come for the bulk of motor cycle manufacturers to abandon the unsatisfactory belt drive and fit a chain or shaft drive. If motor cycling is to remain popular recruits must come from the great pedal riding community and others wavering on the brink. The otherwise nearly perfect motor cycle will fail to attract large numbers until, like a car, it has an almost perfect transmission. Riders and possible converts await it.

WAITING.

Engine Speed and Vibration.

[4168.]—In reply to letter 4131 *re* above, my own experience is the exact antithesis, in that as the r.p.m. decrease the engine vibration appears to increase, and this on a modern machine. This also appears to be borne out by the following: I was recently afforded the opportunity of trying a high-powered single-cylinder racing machine, and found that to attempt to go at anything like slow speed resulted in the most abominable jerking and vibration at every pulsation of engine. Now I presume that if the machine had been geared considerably lower the vibration would have been greatly reduced, if not altogether eliminated, even at very slow speed.

ALEX. J. MCGAW.

Probably the compression was abnormally high also.—Ed.]

Lubrication.

[4169.]—In your issue of the 21st ult., under the heading "Notes on the Six Days' Trials," there is a paragraph in which Mr. A. T. Stanton's retirement is put down to the fact that he was supplied with "varnish" instead of lubricating oil, and the concoction he received was poured into his tank from a Vacuum tin.

We have at considerable expense adopted the system of sealing our cans and of calling public attention to the fact that when Vacuum oil is purchased in tins, the purchaser should take particular notice that the tin is sealed with a lead seal bearing our monogram and trade-mark, and on the side of the can we print in large type "Refuse this can if the seal is broken." There is therefore no excuse if motorists buy their oil in unsealed cans, and we strongly deprecate this practice.

There must, of course, be many thousands of our empty cans lying about in garages or elsewhere, and the probability that many of these cans are refilled with inferior oils.

We have prosecuted in some cases of this kind, and intend to continue to do so wherever we find anyone making fraudulent use of our packages, but if all motorists would destroy our cans when empty and refuse to buy an unsealed can, there would be no further trouble in this direction. The remedy is therefore with the motorist.

We hope you will consider this matter of sufficient public interest to give it publicity in your editorial columns.

VACUUM OIL CO., LTD.

Peck's End-to-end Record.

[4170.]—In reply to Mr. Edmund G. Burton on this topic, I am still awaiting the committee of enquiry upon my ride, suggested by Messrs. Brunton and Field, which will be heartily welcomed by me; but after they have verified my performance mile by mile they must publish in *The Motor Cycle* such verification.

For Mr. Burton's special edification, I will state once more that I rode one machine from start to finish, but whether he accepts my word and that of the committee, which I hope by this time has formed some shape, does not matter—I should advise him to closely examine the photographs of my start and my arrival.

T. PECK.

Heavyweight Riders.

[4171.]—I feel I must not be left out in the cold in this list, as I am one of the minority, weighing 18 stones 3 lbs. plus riding extras. My mount is and has been my very trusty Triumph 1906 pattern 3 h.p., and which now has carried me over 14,000 miles. Recently overhauled, it had up to May 31st cost me just 7s. 8d. for an up-to-date spring and bridge for the front forks. This is a fact, excepting, of course, tyres and belts. The former are the original Clincher with a Bates on the front and a Shamrock studded on the back. The inner tubes (Clincher) are also the original.

I have never had to walk home, never had a belt fastener "draw," and cannot speak too highly of the courtesy and splendid treatment received from the Triumph Co., in which I have no interest; neither am I connected with the trade.

WILSON PROSSER, F.C., Chairman W.D.M.C.

P.S.—Even my spares are as purchased. Original valve springs and plug still in use. The Stanley hook cannot be beaten.

Standard Machines in Competition.

[4172.]—As much ado has been made lately in regard to standard machine classification in hill-climbs with special reference to the Sutton Bank event, it is pleasing to note that the air has been cleared by this discussion, and at last we are favoured by a truly enjoyable and correctly classified sporting hill-climb.

With perfect weather and a wind blowing briskly up the course, the Bradford Motor Cycle Club open hill-climb up "The Steep," Denholme, was one of the best ever witnessed. It speaks volumes for the well-nigh perfect engines of the Rex and Triumph in the racing class that they should make exactly the same time up the hill, and that the tie was settled by another run up the hill with a difference of only a fraction of a second between them, the hill being three-quarters of a mile long and the steepest gradient 1 in 6.

A murmur of admiration arose when the Scott purred up the hill, perhaps not as fast as some others, but there are not a few of us who are content to ascend mountains in a matter of fact businesslike manner, which would be exceedingly difficult to classify in an open hill-climb, except, perhaps, under petrol consumption and silence.

H. W. TURNER.

[4173.]—In the letter published a week or two ago I notice Mr. W. E. Holmes says that the Rex Co. state that

their Speed King model "is not a touring mount." On referring to the Rex Co.'s letter [4114], I find that they say absolutely nothing of the sort.

As a matter of fact, I have just examined the Speed King Rex after its successful run through the Six Days' Trials. In my opinion it is one of the most beautiful little touring machines imaginable, being fitted with 2½ in. tyres, steel mudguards, a large Lycett saddle, and long handle-bars, giving a most comfortable touring position. Its weight is about 145 lbs., and this machine having come through the trials so well proves its ample strength.

Surely cutting down unnecessary weight is as important as getting the best out of an engine, and any attempt to reduce weight, as in the case of the Rex Speed King and the T.T. Triumph, is most praiseworthy, and should be given every encouragement.

With regard to Mr. Holmes's last paragraph, surely this is not intended to be taken seriously. Light machines (such as the Speed King Rex) have been used by several makers for some years, and their wins in hill-climbs have always been recognised. As the Rex Co. state in their letter, Sutton Bank was the first occasion upon which they entered a mount of reduced weight, and their wins are every bit as genuine as, for instance, those at Newnham last year.

W. A. JACOBS.

[4174.]—From letter 4145, Mr. Holmes seems to be of opinion that Godfrey's was the only machine that was not standard in the Sutton Bank hill-climb. He no doubt is unaware that any competitor could have protested before the hill-climb was over, and the fact that no one did so seems to point to the fact that others feared exposure, too. Anyhow, the Speed King passed the judges, and it is not in accordance with custom in most branches of sport for a prize to be returned after a final decision has been given. I do not ride a Rex myself, and have no interest at all in the firm, but I do object to the unsporting spirit which cannot admit defeat. It was the same thing after the 1907 Tourist Trophy Race, when champions of the second machine voiced their complaints against the winner.

Why should the winner alone be singled out for disqualification? He beat all the others, most of them at their own game. I presume Mr. Holmes wants Godfrey to resign his prize to Marshall, who was riding a type of machine not listed in the Triumph catalogue. The catalogue in my possession, at any rate, has details of everything in the standard machines, but not a trace of the T.T. model, and I think I am right in saying that not every T.T. is a counterpart of those sold to privileged amateurs. At any rate, improvements to be brought out in the future in these machines are "tested" not merely privately, but in competitions for standard machines. Even the 85 by 88 mm. engine is not kept secret until it is embodied in a standard machine.

FAIR PLAY.

Hill Climbing.

[4175.]—Having read an account in *The Motor Cycle* under the above heading of two change-speed geared machines climbing Bow Brickhill Hill, near Fenny Stratford, three members of the Northants M.C.C. rode there on their single-cylinder geared machines to attempt an ascent. C. T. Underwood made a clean ascent (first attempt) of both sides of this hill, after a practically non-stop run from Northampton (two minor stops being made). S. E. Temple and H. F. Andrews, who were less successful, kindly acted as marshals at the corner.

According to a Brickhill motor cyclist, this constitutes a record for single-cylinder, single-geared machines. The machine which climbed the hill was a standard "bought-over-the-counter" Triumph, with the exception of a protected device of the rider's own design, which takes the form of a variable carburetter jet which is shortly to be placed on the market. A brief description may interest readers.

No alteration is necessary. It is simply screwed into the carburetter in place of the single jet, and the operating lever projects a convenient distance to enable it to be moved while the machine is in motion. The device consists of two jet tubes side by side, the orifices of which are of different sizes—one large for big hills, and one small for level roads and ordinary hills. The movement of levers shuts the supply off one tube and opens the other at the same time. It is very simple, and there is nothing to get out of order. This device has been in use a considerable time, is very satis-

factory, and will probably meet the requirements of a number of motor cyclists.

I may add that the machine was fitted with a Grose steel studded back tyre, which I find very satisfactory, having had nine months' hard wear without a puncture. From the performance mentioned, readers will judge how little this tyre slows the machine, the gear used being 4½ to 1.

C. T. UNDERWOOD.

Controlling a Motor Bicycle from the Sidecar Seat.

[4176.]—I think the enclosed photograph will interest the lady readers of your excellent paper, especially those who like motor cycling, but who don't like riding the cycle made for ladies.

The photograph is of Miss Edith Lance driving a 6 h.p. N.S.U. from a rigid sidecar. The steering is extremely easy, and the great advantage it possesses is that it is im-



material what coloured dress the lady wears, as she is quite free from dirt in the sidecar, and there is no fear of skidding, whereas riding the cycle itself dirties a light coloured dress in wet weather, and the machine is liable to skid.

Of course, it is not necessary to have such a high-powered engine, but Miss Lance often takes a passenger, who of course has to sit on the saddle. Her brother also drives a similar cycle from the sidecar, and the pair are objects of much comment in Herefordshire.

L. P. MANNING.

A Dissertation on Design.

[4177.]—I was pleased to find Mr. Davies calling the attention of your readers to the necessity for the multiple jet carburetter. I mentioned it some time ago in your correspondence columns, but without exciting much response. "Ixion" advanced the time-worn argument that since the modern motor bicycle will run from six to forty miles per hour nothing further is required. But I think pilot jets are unsatisfactory and clumsy makeshifts, that cost more to adjust and keep in order than they are worth.

Another point I advocated was some means of varying the compression from the saddle, particularly desirable now that high compression engines are increasing in number. One would be able to run more slowly up hill and in traffic and it is well known that lowering the compression makes the engine quieter, which is what we want in crowded streets. The compression may easily be lowered by inserting extra or thicker washers beneath the valve caps. Perhaps some of our clever accessory makers could work out the idea.

"Ixion's" plea for spark control from the handle-bar is well worth attention. The modern high compression machine is very apt to knock on the slightest provocation. Curious enough I wrote recently to the Bowden people for the very fitment he mentions, but they could not supply it.

I cannot, however, support the writer in asking for gear transmission. Apparently, its one advantage would be to enable us to "mud plug" in comfort (is it possible to have any real comfort in such circumstances?) Now, I take it he writes for the mass of motor cyclists and not the faddist.

and I would ask what proportion do serious or continuous hard riding in winter such as cannot be managed fairly satisfactorily by fitting a larger belt? The motor cycle, like the open car, is a fair weather machine for most of us, and he would be just as profitably engaged in devising a Cape cart hood or other method of enabling the rider to face the elements. His anxiety reminds me of a similar state into which the enthusiastic photographer sometimes gets when he loads up his camera with cumbersome and costly devices with which he may go months and not find the necessity of using. Of course, special work requires special cameras, and there such devices become rational, and so with motor cycles. If I had to mud plug throughout the winter willy-nilly I should prefer to keep two machines rather than handicap one machine with a transmission that is not, in my opinion, suitable for general riding. Such a necessity does not face the vast majority of riders, however. Consider a few of the objections to gear transmission. Many readers will be able to add to the list: (a) All the stresses on the frame must be greater, necessitating greater weight (why should the De Luxe machine be a heavy monster?); (b) no simple gear changing unless further weight and complication; (c) difficulty of dismounting back wheel; (d) helplessness if a breakage occurs (not very infrequent); (e) noise; (f) high engine position, or else universal joint.

One other addition would be a luxury, viz., a clutch with pedal starting. Handle-starting is an abomination to all car drivers. Why have it on a motor cycle when starting from the saddle can be so easily arranged with the existing pedal gear? How often in a pretty district one stops the machine, with feet resting on the ground, to view the scenery? With handle starting, one must get off, fish out the handle, bend down and coffee grind, or else put up with the roar of a free-running engine. With pedal starting how much nicer! Similarly in stopping to ask questions, converse, etc. But a certain section preach that as handle starting is universal on cars it is the thing for motor bicycles; forgetting all the time the many efforts designers have made to abolish the handle for some method of starting from the seat.

A query. Could any reader tell me what he has found best in the goggle line? I hate riding continuously with goggles, but want something that can be put in position quickly with one hand when meeting or overtaking other traffic. H. M.

Sunday Competitions.

[4178.]—Let us examine "Anti-Humbug's" letter in the issue of July 21st, and your paragraph of June 16th. The A.C.U. has no rule prohibiting clubs or individuals holding competitions on the Sabbath, and the committee, in its wisdom, simply made a statement that it did not approve of Sunday competitions—that is all. This is exactly the position that the N.C.U. took up with push-cycles twenty years ago with respect to road racing. Of course, the N.C.U. never interfered with clubs, and road racing flourishes all over the country. (Take, for instance, the Bath Road Hundred this August Bank Holiday, with *eighty-five* entries!) There is no need for the A.C.U. to "speak right out and forbid them," as is suggested. The A.C.U. has done its duty, in so far as the public are concerned, in merely appealing to clubs to refrain.

THE WANDERING WORM.

Automatic v. Mechanical Inlet Valves. Two-stroke Engines. Silencers.

[4179.]—I intended sending a few notes regarding the letter from John Okill on "Automatic v. Mechanical Inlet Valves," appearing in a recent issue. From the description it is not clear as to whether he used different inlet springs for his tests of strength, or simply used the spring of the balance as an inlet spring. By looking at the illustration, it would appear that the latter was the case, and I would beg leave to point out that this being so the action must be unsatisfactory from two causes. First, the inertia of the moving parts of the spring balance would have the result of retarding the action of the valve; and, secondly, to increase the tension of a given spring by merely compressing or extending it is very bad practice. There is a certain proportion of working load to maximum which gives the best results with a spring, and to either under or over load it will impart its action. Then again, the proportion of the spring itself greatly modifies its action. For an inlet valve it is best to have as much wire in it as possible,

so that the tension of the spring shall not appreciably vary through the opening stroke of the valve. If the wire length be short then the spring may leave its seat readily enough, but as it opens the tension of the spring will increase so rapidly that the valve will not be able to give enough opening. The design of the valve itself, and its proportion also greatly affect the result. In most cases the valve is both too small and too heavy. Where both the inlet and exhaust valves are placed side by side it is impossible to have the inlet as large as it should be. Where automatic inlet valves are to be used the best place is in the head of the cylinder. Here they can be of ample size, while the exhaust valve can be removed without having to unship the inlet pipe. I have made engines with automatic inlet valves as large as eight inches diameter which showed no low line on the indicator card, and which also showed remarkably quick closing, thereby avoiding any blow back at the inlet pipe. All things being equal, there is nothing to be gained by the use of mechanical valves. The trouble is that there has been so much bad practice in the automatic valve.

I am much pleased to see that others are taking up the two-stroke engine advocacy, and I shall look with interest



A dusky rider of a Roc. This motor bicycle is the property of Mr. F. G. Haynes, of Fort Johnston, Nyasaland, and his boy servant rides it daily, and finds no difficulty in managing it; in fact, we should say that the tubular steel footrests have quite a comforting effect to the boy's bare feet.

for "Two-Stroke's" report on his two-stroke cycle engine. I also have several two-stroke motor engines designed, but am placed so as not to be able to prosecute them just yet.

"T.H.C." [letter 4076] is wrong in supposing that the small outlet holes in the silencer must be *greater* in total area than the area of the exhaust pipe, for this reason: it must be remembered that the exhaust, in the case of a single cylinder, only takes place during about a stroke, whereas there are four strokes time in which the exhaust can escape from the body of the silencer. The great thing is to have the chamber into which the exhaust first enters the silencer from the engine large enough, so that, supposing there was no outlet, the pressure would not be above, say, two pounds on the inch. The ideal silencer should have a chamber of unlimited size for the exhaust to expand into, but this cannot be in practice.

INCANDESCENT.

SUMMARY OF OTHER CORRESPONDENCE.

Will J. M. Pooley kindly note that he omitted his full postal address from the letter sent for publication? On receipt of these particulars the letter shall have attention.

EXPERIENCES WANTED.

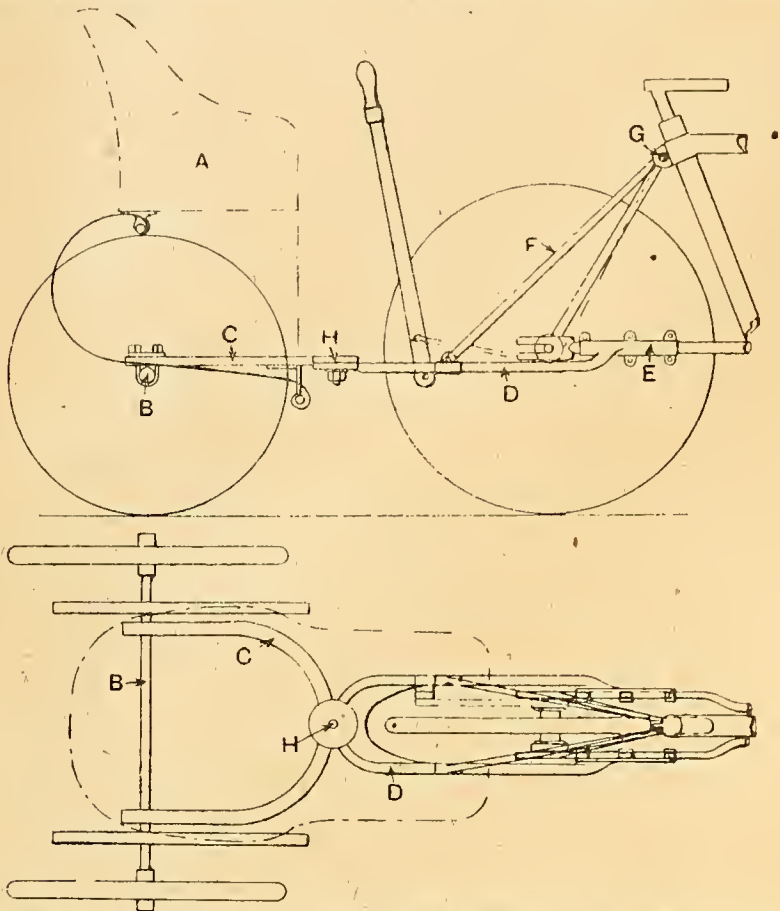
"AW 354" would like to know if there is a revenue tax on motor cycles in South Africa, and the cost of petrol per gallon.

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

A Trailing Carriage.

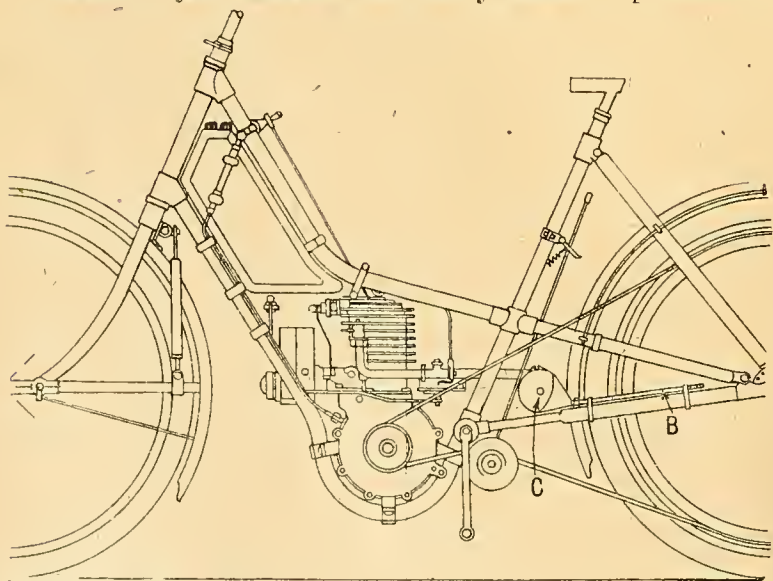
The trailing carriage A has secured to its axle B a tubular framework C. A complementary framework D is secured to the frame of the machine by clamps E, stays F running from an intermediate point to the saddle-pillar clip G. The



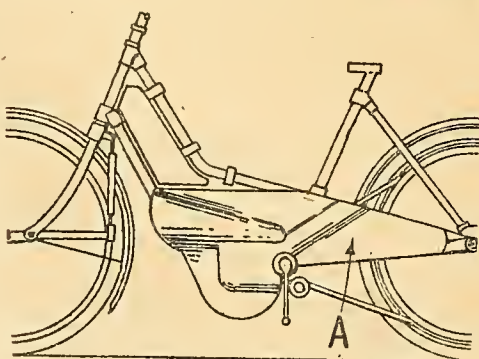
frames C and D are pivoted together at H to allow for the necessary turning movement.—A. E. Abrahamson, No. 6,321, 1908.

A Lady's Motor Bicycle.

A motor bicycle suitable for use by ladies is produced by

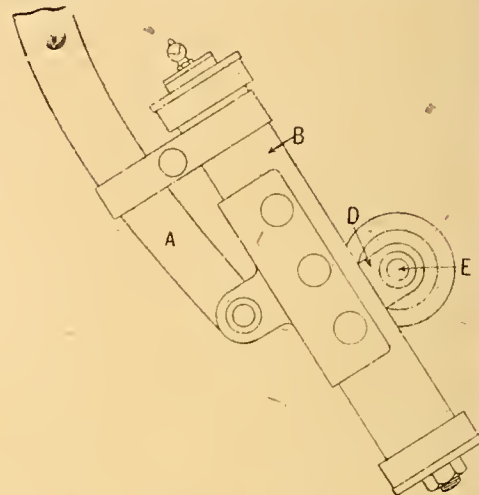
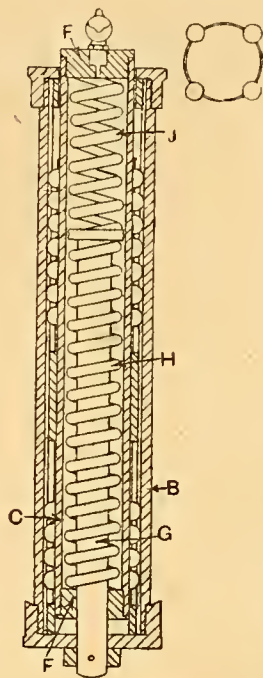


disposing the parts as shown in the drawings. The smaller figure shows the machine with protecting shields A in place. A feature lies in the pipe B, by which the exhaust gases, after passing through the silencer C, are conducted to the rear of the machine before being discharged.—A. and A. Dufaux et Cie., No. 26,254, 1908.



A Spring Mounting for Wheels.

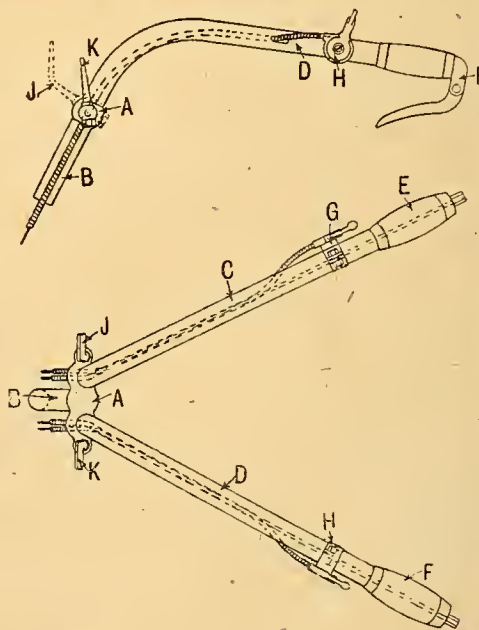
Secured to each rigid fork end A is a tubular casing B within which is adapted to slide a tube C, having a lug D, to which is attached one end of the wheel spindle E. The



tube C is closed at each end by a cap F, and into it projects a spindle G, fixed to the casing B, and around which is arranged a coil spring H, which, together with a second spring J, absorbs the vibration. Between the tube C and casing B is arranged a cradle or cage carrying anti-friction balls at regular intervals, and the casing B is, of course, slotted to permit of the sliding up and down of the lug D and tube C under vibration. This springing device can be readily attached to existing machines, but renders a front rim brake inoperative. It would, however, be suitable for a front band brake if the band was attached to lug D.—F. C. Southard, No. 27,322, 1908.

Handle-bar Control Mechanism.

The object of this invention is to provide a handle-bar for use with Bowden control mechanism in which the cables are enclosed within the bar and are not subjected to sharp bends. A lug A is provided with suitable cavities to receive the handle-bar stem B and the two parts C and D of the bar itself. The parts C and D have only gentle curves, and at their ends carry ordinary inverted lever mechanism E and F. Further Bowden control devices G and H are attached to the bars at convenient points, and the cables after passing through the bars issue through the lug A. Lamp brackets J and K are carried by the lug A and secured by nuts at their lower ends.—A. Sharp and C. Williams, No. 6,643, 1908.



NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

"THE SURVIVAL OF THE FITTEST."

A.C.U. JULY QUARTERLY TRIALS.

3 Machines entered.

3 Machines obtained Non-stops.

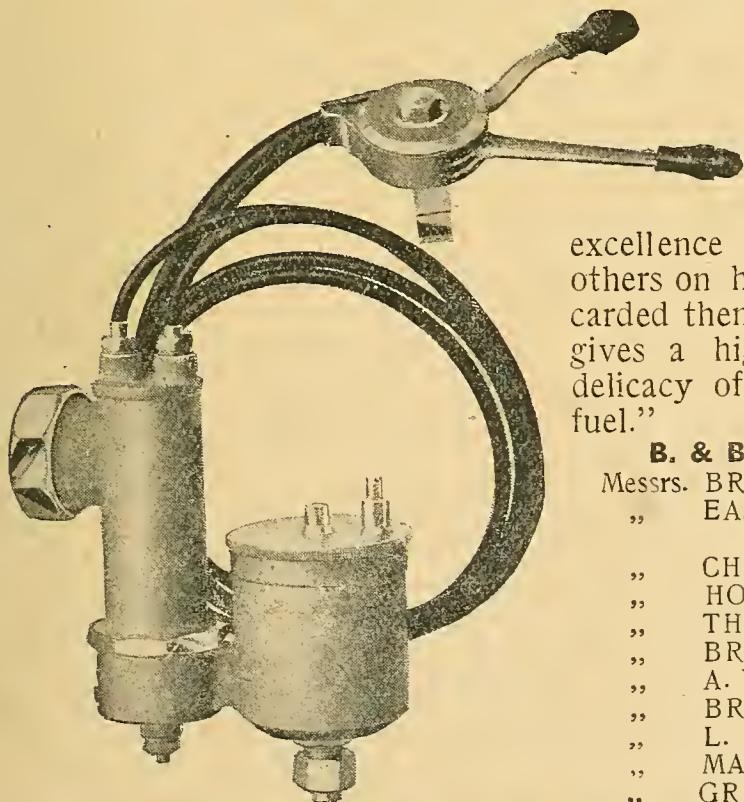
"A-C" The only Passenger
Machines to come through

IS THE TRICAR DEAD?

AUTO-CARRIERS, LTD., Martell Road, West Norwood, S.E.

THE UNSOLICITED OPINION OF AN EXPERT.

"IXION," the well-known contributor to "THE MOTOR CYCLE," writes:



BOWDEN LICENSE.

"IXION" would be much obliged if Messrs. Brown and Barlow would quote for a set of spare jets for their standard motor cycle carburetter. The ones he requires are Nos. 30-34.

He would like to take the opportunity of congratulating Messrs. Brown and Barlow on the excellence of their latest carburetter. He has tried two others on his present twin-cylinder machine, and has discarded them both in favour of a B. & B., which he finds gives a higher maximum output of h.p., far greater delicacy of gradation in control, and more economy of fuel."

B. & B. CARBURETTERS CAN BE OBTAINED FROM:

- Messrs. BROWN BROS., London.
- " EAST LONDON RUBBER CO., London, Sheffield, and Bristol.
- " CHATER LEA, Ltd., London.
- " HOBDAY BROTHERS, London.
- " THE SERVICE CO., Ltd., London.
- " BRANSOME, KENT, & CO., London.
- " A. W. GAMAGE, Ltd., London.
- " BRISTOL MOTOR ACCESSORIES CO., Bristol.
- " L. J. LONG & CO., Bristol.
- " MANCHESTER MACHINISTS CO., Manchester
- " GREAT EASTERN RUBBER CO., London, etc., etc.

Price List sent post free on application to

BROWN & BARLOW, Ltd., 16 & 17, Loveday Street, BIRMINGHAM.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, 3 lines. Name and address must be counted.

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of ten insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. Ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent by London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should be distinctly under what heading and in what column the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into divisions, as many readers like to know what machines are for sale in their immediate neighbourhood before going to see them.

In showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Leeds, Bradford, Halifax, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Essex, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Gloucester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

SECTION VIII.
Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Devon, Dorset, and Cornwall.

SECTION X.
Ireland.

SECTION XI.
Ireland and Isle of Man.

MR. HART DAVIES

used our

FAMOUS . . . SEARCHLIGHT

when so handsomely breaking
the

John-o'-Groat's Record.

He chose the **BEST LAMP**—full of **EFFICIENCY** and devoid of **FADS**.

It was not a special lamp—in fact we did not know what lamp Mr. Hart Davies was using until after Record was beaten.

A NEW MODEL

REX

obtainable only through the

PREMIER

MOTOR CO., LTD.,

BIRMINGHAM.

This SPECIAL model has all the improvements and refinements of the 1909 REX, IN ADDITION TO WHICH there are included a **NEW DISC FREE ENGINE CLUTCH** (pedal starting), **J.A.P. AUTOMATIC LUBRICATION**. It carries a **SPECIAL GUARANTEE**, viz., all mechanical parts are guaranteed for **5,000 MILES** running. Any part failing or proving defective in material or workmanship during that distance will be **IMMEDIATELY SUPPLIED FREE** from **OUR STOCK**.

PRICE, COMPLETELY EQUIPPED, 40 GNS.

DELIVERY, first orders within 7 DAYS.
Demonstration model is now on view at our works.

N.B.—This SPECIAL MODEL CAN ONLY be obtained from the PREMIER MOTOR CO.

ALL OUR GOODS ARE SENT ON APPROVAL.

Premier Motor Co. Ltd.,

Aston Road, BIRMINGHAM

Telephone 4310.

Telegrams: "Primus, B'ham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be provided for forwarding replies. Only the number will appear on the advertisement. Replies should be addressed, "The Motor Cycle, Coventry"; or if "London" is added to the address, then to the number given, "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of 1s. registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Illife & Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answers to their enquiries are requested to regard silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to one by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1908 Rex Featherweight, condition new; 2 Brown, 18 Shildon St., Darlington.

32 1/2 h.p. Magneto, low built, perfect running order; Holzapfel, North Elswick Hall, Newcastle Tyne.

SECTION II.

York and Lancashire.

DOUGLAS, Lincoln Elk, Norton, and Ariel motor cycles in stock.—Gourlay, Fallowfield.

3 h.p. Singer, magneto, belt drive, vertical engine; trial; nearest £15.—Joyce, Edith Place, Darlington.

EISEMANN L.T. Magneto, Minerva carburettor, studded non-skid, 24 by 24.—Batten, Hampden Bolton.

2 1/2 h.p. Lloyd, Longuemare, trembler coil, Watay very good tyres, stand, carrier; £11.—Evering, Pocklington.

3 1/2 h.p. 1907 Rex, in splendid order, £16; also 3 1/2 Chater-Lea frame, £12.—Frank Ellis, 101, W. Rd., Halifax.

1 3/4 h.p. F.N., magneto, excellent condition, not used; bought tricar; £20; seen by appointment Kelly, Wetherby.

1908 Phelon and Moore, and Mills and Fulford wheel sidecar, coach-built; offers.—Foster, Saints St., Bolton.

MINERVA Motor Cycle, 2 1/2 h.p., in good running order, new tyres, Advance adjustable.—Widdraper, Leyburn, Yorks.

5 h.p. Antoine, spring forks, 2 1/2 in. tyres, Rom carburettor, excellent condition; £15.—Pilkington, Marble Place, Southport.

NEW 1909 Bat, 3 1/2 h.p., used once, guaranteed perfect; cost, with extras, £50, accept £36.—Benyon, 34, Dicconson St., Wigan.

PHELON and Moore, two speeds, magneto, handle starting, H.B. control, good condition; 15s.—448, Leeds Rd., Bradford.

HUMBER, 3 1/2 h.p., two-speed gear, new May, only a few hundred miles; client buying car; £24; nearest offer.—Dean, Carnforth.

TRIUMPH, 3 h.p., reliable machine, magneto ignition, enamelling, plating, and tyres good; 20 guineas.—Dean, Carnforth.

1909 3 1/2 h.p. N.S.U., two speeds, free engine, Patent, run 200; cost 50 guineas, take £40; nearest offer.—G. W. Leader, 74, Dunning Rd., Middlesbrough.

TRIUMPH, new free engine model; immediate delivery.—Hitchings, Ltd., 74, Bold St., Liverpool (sole agents for Triumph and Douglas light weight motors).

£40.—6 h.p. N.S.U., new Easter, fully equipped, 500 miles, won two thirds Bradford M.C.C. hill-climb; inspection invited.—Clark, Cyprus, Thaxton Bradford.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1909, 5h.p. twin, standard pattern, Druid spring forks, run under 400 miles; £45, cost with extras 55, bargain.—Carwin, 27, Garstang Rd., Fulreston.

LY New 4h.p. Military Roc, handle starting, speeds, free engine, unpunctured; cost 50 accept £30; any trial here.—Milard, Saltersterfield.

Lloyds, vertical engine, spray, £6 19s. 11d.; 4h.p. Coventry Eagle, vertical engine, long bars, £5 19s. 11d.—Halifax Motor Exchange, Halifax.

9s. 11d.—1½h.p. Thomas, Phelon and Moore, spray carburetter; 3½h.p. Rex, belt drive, Amacar control, £8 19s. 11d.—Halifax Motor Exchange, Westgate, Halifax.

TRATED List of second-hand Rex motors, and list of tricycles and motor cycles on application.—Halifax Motor Exchange, Westgate, Halifax.

Minerva Motor Cycle, 3½h.p., magneto, handlebar control, Truffault suspension front forks, as new.—Marriott, c/o Daisy Cottage, The Green, Le-Fylde, Lancs.

Fafnir, new condition, complete for tour, numerous unused spares; £16; write particulars; bargain.—Motorist, c/o Connell, Knowl Coughtcliffe, Halifax.

Twin Rex de Luxe, 1909 model, two-speed, free engine, adjustable pulley, magneto, handle-bar control six weeks ago, not done 400 miles; £38.—S. Cottingham, Hull.

Triumph, late 1908, excellent condition throughout, studded tyres, all spares, H.B. controllable pulley; genuine bargain; only wants see 5.—87, Wallgate, Wigan.

Kerry, low, long handle-bars, accumulator ignition, Longuemare carburetter, thorough running Montgomery flexible sidecar, upholstered green £29, Clive Rd., Middlesbrough.

MPHS and N.S.U.'s, 1909 models, in stock; make supplied; accessories; new 1909 twin lightweight, offers; enquiries, inspection invited. Green Engineering Wks., Huddersfield.

3½h.p. Phelon and Moore, two speeds, chain drive, handle starting, new Rom tyre, handlebar, in perfect condition, £35; also sprung mach-built forecar to fit same, £5.—Crosland, 8, Rd., Huddersfield.

Sidecar anywhere.—Roc, 4h.p., fine condition, gneto, following parts new—Clincher studded, carburetter, H.B. control, Whittle belt, and Druid forks, all fitted last three weeks; bargain, £26; car.—49, Cawdor St., Stockton Heath.

LAS Lightweight, British made, twin cyls., gneto, spring forks, a revelation in comfort, starting, power, and reliability, absolutely vibration free for lists.—Hitchings, Ltd., 74, Bold St., Sole Agents for Douglas and Triumphs.

RVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, for new machines from stock at low prices; change, or gradual payments; charged accumulator hire, 1s. per week.—Cookson Bros., 511, Rd., Old Trafford.

SECTION III.

on, Denbigh, Flint, Cheshire, Derby, Shropshire, Montgomery, and oneth.

Triumph, slightly soiled, guaranteed perfect.—Marston, 26, Bridge St., Chester.

Rex, low, perfect; any trial; £16; take pedal cycle and cash.—G., Academy Art, Mill St., Can-

Minerva, spring forks, brand new Clincher front, Michelin car back; trial winner; £20.—Ilkeston.

MPH, 1908 standard, splendid machine, practically new, only run 800 miles, guaranteed per 5.—Moss, Wem.

Raleigh-Fafnir, armoured rear tyre, excellent condition, fast, powerful, tools, spares, etc.; £8 photo; trial.—Lidderdale, Weeping Cross, Stafford.

New Model, 3h.p. Radford, 76 by 80 mm. engine, Palmers, Whittle belt, adjustable pulley, triple control; £16 10s.; photo; stamp.—Radford, Stafford.

Triumph, 1909 engine, little used, condition as new. A Won tyres, searchlight lamp, spares, acc; first offer £40.—Weaver, 214, Newhampton Wolverhampton.

SECTION IV.

gham, Lincoln, Leicester, Rutland, hamptonshire and Warwickshire.

Quadrant, new end of 1906, little used; £16.—Guyver, Stratford-on-Avon.

Moto-Reve, new Easter, 1908, never any faults; 4.—Woodhouse, 67, Toothill Rd., Loughborough.

N.S.U. Lightweight, 1½h.p., magneto ignition, splendid condition; £15.—Guyver, Stratford-on-

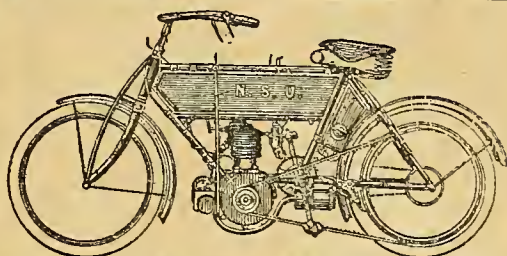
Twin Tourist Rex, magneto, as new, little used; 27 10s.—Letters, 70, Grove Lane, Handsworth, ham.

Booth's Beautiful Bargains.

£46

FOR

£32



1908 3½ h.p. N.S.U.'s.

SIX, brand new, packed in crates, as received from makers, fitted with magnetos, 26in. wheels, stand and carriers, tool boxes and tools. List price £46. Our Price £32—or near offer, or exchange.

ALL OUR MACHINES ARE TESTED.

1909 3½ h.p. HUMBER, new	£45 0
1909 3½ h.p. BRADBURY, new	£46 0
1909 3½ h.p. REX, two speeds, new	£52 10
1908 3½ h.p. REX Tourist, new	£29 10
1908 3½ h.p. N.S.U., brand new	£32 0
1908 3½ h.p. MINERVA	£17 10
1909 4 h.p. ROC, two speeds, new	£50 0
1908 3 h.p. REX, magneto	£17 10
1909 3½ h.p. BRADBURY, nearly new	£35 10
1909 4 h.p. ROC, two speeds, magneto, nearly new	£37 10
1908 2 h.p. MOTO-REVE, magneto	£25 0
1908 3½ h.p. N.S.U., magneto, nearly new	£25 0
1908 3 h.p. N.S.U., magneto, smart	£22 10
1908 3½ h.p. REX Tourist, magneto	£25 0
1907 3½ h.p. REX, magneto, 2½in. tyres	£18 10
3½ h.p. THOS. SILVER, magneto	£18 10
5 h.p. Twin ROC, Roc clutch, magneto	£29 10
5½ h.p. REX DE LUXE, magneto, Roc clutch, handle starting	£27 10
4 h.p. Twin N.S.U., magneto, two speeds	£22 10
4½ h.p. Twin MINERVA, magneto	£22 10
3½ h.p. TRIUMPH, 1908	£35 0
6 h.p. Twin ANTOINE, low built	£14 10
4 h.p. ANTOINE, M.O.V., 26in. wheels	£12 10
5 h.p. Twin REX, and Sidecar	£19 19
3½ h.p. REX, 1906, 26" wheels, spring forks	£12 12
3½ h.p. REX, 26" wheels, handle-bar control	£11 10
3 h.p. FAFNIR, 26" wheels, handle-bar control	£9 10
2½ h.p. MINERVA, M.O.V., low	£8 15
2 h.p. MINERVA, M.O.V., smart	£6 15
3½ h.p. REX, cost 50 guineas	£6 15

Send for list of other bargains—best, biggest, and cheapest stock. Cash buyers receive special quotations.

£2 10s. and a push cycle secures—

2 h.p. HUMBER.	2 h.p. PIEPER.
2 h.p. WERNER.	2 h.p. LIBERTY.

CORONET ADJUSTABLE PULLEY.

12/6



12/6

The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade.

CARBURETTERS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

ENGINES.

3½ h.p. EXCELSIOR, good order	55/-
4 h.p. ANTOINE, magneto fitted	£7 10
3½ h.p. AURORA, M.O.V. 70/-	2 MADISON.. 30/-
2½ h.p. BUCHET	55/-
2 h.p. WERNER	30/-
2½ h.p. DE DION, water-cooled head	60/-

TRICARS.

4 h.p. STEVENS, fan-cooled	£12 12
8 h.p. Twin JOWETT, open frame	£18 10
4 h.p. REX, free engine	£13 13
5 h.p. SAROLEA, twin-cylinder	£13 13

BOOTH'S MOTORIES,

CHARLES STREET, off Square Road.

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

5 to 6h.p. N.S.U., 1908, in excellent condition; genuine bargain.—Evans, 31, Hillaries Rd., Gravelly Hill, Birmingham.

1909 Triumph, spare tyre, tube, Miller mud shields, two lamps, two generators; £42.—Stevenson, 3, New St., Birmingham.

3½h.p. Rex, 1906 pattern, re-enamelled and plated, 32 powerful on hills; £15.—Particulars, Parsons, Engineers, Leamington.

£14.—3½h.p. Campion, twin Peugeot engine, smart and sound machine, in good condition.—Redmile, 42, George St., Grantham.

TRIUMPH, 2½h.p., splendid lightweight, £10; 3½h.p. Antoine, fast, low, £6; engine, B. and B. carburetter, £3 10s.—290, Harnall Lane East, Coventry.

3½h.p. Triumph, late 1908, with 1909 engine and etceteras just fitted; £35; all accessories included.—Apply, view, R. W. Evered, Church Hill, Solihull.

3½h.p. M.M.C., Coventry Eagle frame, Whittle belt, 32 spring forks, low machine, in guaranteed fine running order; £7 10s., or nearest offer.—Holly Cottage, Yardley.

1909 3½h.p. Triumph, Palmer cord back, spares, tools, lamp, generator, guaranteed perfect; any examination; £41 10s., near offer.—21, College Rd., Saltley, Birmingham.

MOTOR Cycle, 3½h.p. Stevens, B.S.A. frame, spring forks, two accumulators, long bars, spares, just overhauled, splendid order; bargain, £15.—Ordish, Avenue, Solihull.

1909 Ariel 2½h.p. Lightweight, almost new, magneto, handle-bar control, headlight, horn, every spare; cost £41, one puncture, take £30.—Seen Boul's Garage, Moseley, Birmingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

5 h.p. Twin Rex, cantilever, spring forks, 26 by 24 Palmers, perfect order; £13 13s.—3a, Bridge St., Cambridge.

3½h.p. Rover, 26 by 24 Palmers, spring forks, perfect order; £11 11s., as new.—Ellwood, Jesus Battery, Cambridge.

PHOLON-MOORE, 3½h.p., two speeds, magneto, Palmer cords, splendid condition; £25, offers.—Free, Sidgate Lane, Ipswich.

FOR Sale, Vindee, 5h.p., 1907, two speeds, excellent condition, 2½ tyres, carrier, horn, toolbags; trial by appointment: price £26 10s.—Cocks, Sturton St., Cambridge.

3½h.p. Ormonde, Longuemare carburetter, Bowden 32 handle-bar control, 26in. wheels, brand new Clincher non-skid, spring handle-bars, all accessories, too powerful for owner; exchange for lower power, cash adjustment.—Payne, St. George's, Norwich.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH, 3½h.p., new last month, perfect: no offer, £44; immediately buying car.—James, hatter, Kidderminster.

PREMIER, 1909, lamp, horn, etc., complete; cost £47 last week; delivery too late; best offer.—Box 2,894, The Motor Cycle Offices, Coventry.

1908 3½h.p. Tourist Rex, ball bearing engine, magneto, handle-bar control, exceptional condition; £25.—Ernest Cook, Foregate Press, Worcester.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

3½h.p. Quadrant, spring forks, splendid condition; £16, or near offer.—Fair, 201, Cheltenham Rd., Bristol.

5-6h.p. 4-cyl. F.N., new June, 1908, magneto, spring forks; offers invited.—L. Horwood, Mortimer, Berks.

3½h.p. Rex, very little used, £15; also Fairy lightweight, new, take £18.—Eastleigh, Cookham Rise, Berks.

F.N., 4-cyl., 4½h.p., 1908 model, perfect; any trial or examination; price £26.—Baker and Sons, Motor Wks., Reading.

3½h.p. Triumph, 1908 model, Mabon clutch, perfect condition; £38.—Baker and Sons, Motor Wks., Reading.

3½h.p. Humber, 1909 model, two-speed, not ridden 200 miles; £40.—Baker and Sons, Motor Wks., Reading.

3½h.p. Minerva, twin-cyl., excellent condition; £16.—Baker and Sons, Motor Wks., Reading.

2½h.p. Westfield, Chater-Lea frame, Palmer cord tyres, 24 1/2 in. spring forks, spring seat-pillar, in good condition; price £12.—Apply, W. O. Leach, 54, King's Rd., Reading.

KERRY, 2½h.p., grey, tank lined green, Clincher and Michelin, nearly new, just overhauled, perfect order, stand; trial; £8, or near offer.—D., 11, High St., Maidenhead.

MOTOR BICYCLES FOR SALE.

3 1/2 h.p. Fafnir, Chater-Lea, and sidecar, condition like new; offers wanted.—Dixon, 6, Longmead Av., Gloucester Rd., Bristol.

4 1/2 h.p. Stevens Engine, with clutch, silencer, and Longuemare carburetter, also sidecar.—Barradell, 33, Clarence Sq., Cheltenham.

5 h.p. Twin Kerry, 2 1/2 tyres, two accumulators, Whittle belt, Longuemare, first-class running order; bargain, £20.—Bell, 12, College Green, Bristol.

4 1/2 h.p. White-Poppe, Chater-Lea fittings, with or without Ariel sidecar; £20, or offer; gold watch taken in part payment, etc.—3, Essex St., Reading.

3 h.p. Quadrant Motor Cycle, in good running order, good hill-climber, and fast; exchange for cycle and cash, or anything useful.—Barwell, Privett, Alton, Hants.

19 08 3 1/2 h.p. Magneto Minerva, spring forks, studded tyres, B. and B. carburetter, handle-bar control, Brooks B105 saddle; £24, or nearest.—Shorland, surveyor, Tewkesbury.

1 000 Miles Only.—3 1/2 h.p. Minerva, new condition throughout, faultless, powerful machine, quite £5 spares; nearest offer £20; tried any time.—Slades, 67, Cotham Brow, Bristol.

19 09 3 1/2 h.p. Vibrationless Rex, cost, complete with all best spares, month ago, £46, splendid condition; must sell; what offers? sacrifice; trial given.—Whitehead, Kenward, Slough.

VINDEC Special. 3 1/2 h.p., magneto, Truffault spring forks, new belt, good tyres, excellent machine, first-class condition; genuine bargain, lowest £20, no offers.—H. Bacon, Shinfield, Reading.

3 1/2 h.p. R.A.C. Featherweight Magneto Rex, 1908, very smart and fast, and little used, with expensive fittings, ideal machine for beginner; 17 guineas.—J. N. Spokes, Bayworth, Foxcombe Hill, Oxford.

3 1/2 h.p. Matchless J.A.P., August, 1908, Druids, J.A.P. automatic carburetter, practically unscratched, guarantee 50 miles an hour; will ride 40 miles to intending purchaser; £32, or very near offer.—Lieut. Du Boulay, St. Peter's, Victoria Rd. N., Portsmouth.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

5 h.p. Twin Iris, spray; nearest £12.—53, Fort Rd., Bermondsey.

WERNER, in perfect condition, or useful exchange.—46, High Rd., Willesden Green.

3 h.p. Clyde, magneto ignition, in good running order; £9 15s.—Eagles and Co., High St., Acton.

2 1/2 h.p. Minerva, spring forks, perfect order; photo sent; £7 10s.—7, Stoke Newington Rd., N.

3 1/2 h.p. Rex, low, in good going order; £10.—Phipps, 8, South View, Park Lane, Waltham Cross.

OSBORNE Four-speed and free engine, shop-soiled; what offers?—Turpins, 29, Preston Rd., Brighton.

HUMBER 3 h.p. Motor Cycle, in good condition, running order; £8 10s.—28, Chatham Hill, Chatham.

2 h.p. Minerva, Chater-Lea, low, just overhauled, spares; £7 10s.—46a, Evelina Rd., Nunhead, S.E.

HAMPSTEAD Bargains on page 34; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678, P.O.

STOP!—4 h.p., magneto, spring forks, H.B. control, non-skid; cheap; must sell.—283, Clapham Rd., S.W.

3 1/2 h.p. Rover, with sidecar, free engine, new tyres; £20, or near offer.—Geary, 245, High St., Hounslow.

£ 10.—3 1/2 h.p. Excelsior, 26in. wheels, low frame, excellent condition.—23, Lyndhurst Rd., Thornton Heath.

£ 18.—Quadrant, 3 1/2 h.p., Mabon clutch, spring forks, ridden only few miles.—66, Grand Parade, Haringay.

HAMPSTEAD.—7-9 h.p. Peugeot, magneto and spring forks, two-speed gear; £25.—5, Heath St., Hampstead.

HAMPSTEAD.—5 h.p. Vindec Special, magneto and spring forks, two-speed gear, all accessories; £28.—5, Heath St., Hampstead.

HAMPSTEAD.—Motosacoche, good condition, late model, all accessories; bargain, £16.—Rey, 5, Heath St., Hampstead.

HAMPSTEAD for F.N.'s, 1909 models from stock; high price allowed for your old mounts.—Below.

REY, Hampstead, sole London and district agent for Lincoln Elks, all models in stock; exchanges.—Below.

HAMPSTEAD.—Great Bargains; look to page No. 34; all machines guaranteed; exchanges speciality.—Rey, 5, Heath St.

HAMPSTEAD.—4-cyl. F.N., 4 1/2 h.p., new condition; £28, with all accessories; bargain.—5, Heath St.

HAMPSTEAD.—1908 4 h.p. J.A.P., Chater-Lea spring forks, magneto, all accessories, very low; £25, bargain.

HAMPSTEAD.—1909 Moto-Reve, spring forks and magneto, all accessories; great bargain, £28, as new.—Below.

HAMPSTEAD.—Minerva, 3 1/2 h.p., splendid condition, spring forks, all accessories, 1907 model; £13.—Rey, 5, Heath St.

3 1/2 h.p. PHELON AND MOORE, 1908 model, magneto; two-speed gear, and free engine, in splendid running order; £2 guineas. Guaranteed. At Wauchope's.

3 h.p. Magneto TRIUMPH; very lowest £18 10s. At Wauchope's. Guaranteed.

1 1/2 h.p. Magneto MOTOSACOCHE Lightweight, 1909 model, spring forks, Rover frame; 20 guineas. First cheque secures. Guaranteed. At Wauchope's.

3 1/2 h.p. WHITE AND POPPE, magneto ignition, spring forks, Chater-Lea fittings; great bargain at 19 guineas. Guaranteed. At Wauchope's.

3 1/2 h.p. BROWN, 1908 model, two-speed gear and free engine, chain drive; 19 guineas. In first-class order. Guaranteed. At Wauchope's.

6 h.p. Twin-cylinder BROWN, four-speed gear, powerful machine; 21 guineas. Guaranteed. At Wauchope's.

4 h.p. ROC, two-speed gear and free engine, 1908 model, magneto ignition, stand, horn, etc., nice machine; 26 guineas. Guaranteed. At Wauchope's.

3 1/2 h.p. 1909 MINERVA, grey finish, magneto ignition, nearly new; 29 guineas. Guaranteed. At Wauchope's.

3 1/2 h.p. ZENITH, 1909 model, Gradua gear, magneto ignition, Druid forks; £35.

7 h.p. 1909 V.S., two-speed gear and free engine, magneto ignition, Truffault spring forks, good smart mount; £48. Guaranteed. Cost recently £66 ros. At Wauchope's.

3 1/2 h.p. TRIUMPH, 1908 model, magneto, Whittle belt drive, nice smart machine, but little used; £32 10s. Guaranteed. At Wauchope's.

5 1/2 h.p. N.S.U., two-speed gear and free engine, complete with N.S.U. coach-built sidecar; the complete combination 30 guineas.

3 1/2 h.p. 1907 TRIUMPH, several extras; £27 10s. Guaranteed. At Wauchope's.

1 1/2 h.p. 1908 Lightweight F.N., magneto, spring forks. Guaranteed. At Wauchope's.

3 h.p. BRADBURY, magneto ignition; £17 10s.

2 1/2 h.p. F.N., magneto, spring forks, sound second-hand machine; only £12 10s. Guaranteed. At Wauchope's.

3 h.p. NORTON, good serviceable mount, will justify your immediate attention; £10 10s. Guaranteed. At Wauchope's.

3 1/2 h.p. WHITE AND POPPE in Chater-Lea frame, low, smart, a truly modern production; 14 guineas. Guaranteed. At Wauchope's.

2 1/2 h.p. REX Featherweight, vertical engine, magneto ignition; £13 15s. Marvellous value.

3 1/2 h.p. C.I.E., magneto; £10 10s. This is more a gift than a sale. At Wauchope's.

1 1/2 h.p. MOTOSACOCHE, handy lightweight, a graceful and useful machine; 15 guineas.

Also dozens of other various makes other than those advertised. Inspection is cordially invited. Good sound bargains from £6 10s. Exchanges entertained.

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Telegrams: "Opifcer London."

MOTOR BICYCLES FOR SALE.

HAMPSTEAD Bargains on page 34; finest stock guaranteed.—5, Heath St., Hampstead. Tel.: 2678, P.O.

4 h.p. Stevens, spring frame, very low, round tanks, thorough order; nearest £12.—27, Merton Rd., Ilford.

2 1/2 h.p. Clyde, magneto, low, good running order; nearest.—Motorist, 218, High St., Stoke Newington, N.

MOTO-REVE Lightweight, twin, magneto, spring forks; £28, as new.—8, Barrett St., Merton Sq., W.

£5 15s.—3 1/2 h.p. Rex, Longuemare, fast, and in good condition.—A. Cowell, 16, Merton Rd., Redhill.

2 1/2 h.p. J.A.P., spray, low, and fast, wants tuning; pressure perfect; offers.—119, Gladstone Rd., Watford.

MOTO-REVE, quite new, late 1908, magneto, spring forks, footrests; £24; trial.—M.R., 48, A. Westcliff.

2 3/4 h.p. Fairy Lightweight, twin, spring forks, good condition; £7.—Somerville, 86, E. Lee, S.E.

2 3/4 h.p. F.N., new condition, just overhauled, nearly £12; climb anything.—34, Trossachs Rd., Dulwich.

3 h.p. Fafnir, Chater throughout, perfect, 22 as new; £11 11s., offer.—25, Southam Rd., Pentonville.

2 3/4 h.p. Stevens, low, footboards, copper tank; £4 exchange higher power.—H.S., 33, St. Rd., Bow, E.

3 1/2 h.p. Peugeot, Chater No. 6, new in February; or offer.—Apply after 6.30 p.m., 48, St. Rd., Hoxton.

2 1/4 h.p. Quadrant, surface, splendid condition; almost new, Richs tubes; £11 10s.—11 St. Rd., Dartford.

£5—2 1/2 h.p. Minerva, Chater-Lea, new Dunlop cover, less accumulator, brake.—23, Harbottle Rd., Brixton, S.W.

£ 12 10s.—4 1/2 h.p. Stevens motor cycle, useful and powerful, reliable.—Apply, 304, Garra Rd., Earlsfield, S.W.

9 h.p. Jap-Bat, sidecar, magneto, H.B. control, frame, as new.—Ashdown, 17, Montpelier, Kentish Town.

3 h.p. Werner, Michelins, Syntonic coil, condition exceptional; £9, bargain.—H.B., 15, N. Parade, Balham.

EASY Terms.—Any make of motor, new or second-hand, supplied on easy terms.—268, Holloway, London.

3 1/2 h.p. Fafnir, Chater-Lea, low built, nearly new, 14 guineas.—Simpson, 6, Battersea, Clapham Common.

MOTOR Cycle for sale, good going order; with licence; a bargain.—38, Herman Rd., Kent Rd., London.

J.A.P., 2 1/2 h.p., fast, good hill-climber, good condition; £7 10s.; exchange higher power, make no offer.—Ardgowan Rd., Catford.

3 1/2 h.p. Ariel, clutch, accumulators, also fore condition; £18.—Write, D. Sheppy, T. Priory, Arundel, Sussex.

ZENETTE, 3 1/2 h.p., the most comfortable to ride, chine, on view at Sherwell's, 46, York St., Minster. 2283 Victoria.

BARGAIN.—3 1/2 h.p. Berceley, latest design, perfect running order; £7 15s.—20, Wick Sq., Camberwell, S.E.

WHITTLE'S.—4-Cyl. F.N., late model, spring forks, fast, reliable, absolutely perfect; great bargain, £25.

WHITTLE'S.—Fairy 2 1/2-3 h.p. Lightweight, new; extra cheap to clear, £11 10s.—Motor Exchange, Earlsfield.

3 1/2 h.p. M.M.C., Chater, spring forks, Palmers, wata, Brooks saddle; £13.—7, Charlwood Rd., Balham.

3 1/2 h.p. Spring Frame Bat, De Dion carburetter, perfect condition throughout; £16 10s.—1, Holwood Rd., Bromley, Kent.

2 3/4 h.p. Noble, enamelled French grey, very smart machine; any reasonable cash offered.—Seven Sisters Rd., Tottenham.

2 h.p. Minerva-Eadie, perfect condition, lamp forks, good tyres; £8 10s., or £6 and pusher.—480, Garrett Lane, Earlsfield.

19 08 Bosch Magneto 2 1/2 h.p. Rex, in absolute condition; must sell; £15 5s.; and handlebar.—58, Wallwood Rd., Leytonstone.

3 1/2 h.p. Minerva, spring forks, accumulator, reliable, and in grand condition; £16, Barnes, 15, Atherton Rd., Forest Gate.

NEW 1909 Minerva, fitted spring forks, just overhauled; client cannot take delivery; will sacrifice.—Rivett, 236, High Rd., Leytonstone.

2 3/4 h.p. Zedel, Longuemare, accumulator ignition, running order and condition; £7.—Jas. Minton Green Mansions, Green Lanes, N.

TRICARS FOR SALE.

CAR, upholstered red pegamoid, two speeds, clutch, starting handle, excellent tyres, footboards, three spares, legal limit (20 stones up) with ease; must trial run given.—Motor, Guyvers, Takeley, Essex.

p. Tricar, fast, two-speed gear, free engine and clutch, new back cover, new butt-ended Michelin two acetylene lamps, machine in good condition, overhauled; £14.—Motor, Loddisswell, Thurlow Park, Wy.

ENIX Trimco, late model, 5-6h.p., magneto ignition, very nicely and fully equipped, all lamps, spares, etc., hardly been used; low price £45 for quick sale.—Catley, c/o Hurlock, 73, Den Hill, London (one minute from Camberwell Green).

Twin N.S.U. Tricar, wicker seat, B. and B. 1909 carburetter, H.B. control, engineshaft, two-speed fan, Whittle and Continental 1in. belts, spare tube, valves, plugs, etc., Duo headlights, separator, perfect, £40, or near offer; also ditto, quilt forecar, and back wheel two-speed gear, £43, or offer; appointment.—W.B., 2, Emerson Rd., Har-

8 Litette, 6-7h.p., twin, water-cooled, magneto, two speeds, coach-built, Whittle belt, adjustable brand new, Michelin tyres on all wheels, steel non-skids on back, fast and reliable, in perfect and practically unscratched, complete with lamps, tools, and spares; owner getting car; price 40 s., cost £85 last year.—A., 3, Leaside Av., Mus-

SIDECARS AND FORECARS.

ONET Sidecars, built of genuine Chater-Lea lugs, at either right or left side.—Booth's Motories.

ONET Sidecars must not be confused with the £4 19s. 11d. type; they look beautiful.—Booth's es, Halifax.

ONET Sidecars; price £5 17s. 6d.; fit firm as a cock; guaranteed free from side-slip.—Booth's es.

ONET Sidecars; £5 17s. 6d.; supplied from stock to suit any make of motor cycle.—Booth's Motories, X.

ONET Sidecars; £5 17s. 6d.; special attention is directed to the luxurious system of springing.—s Motories, Halifax.

ONET Sidecars; £5 17s. 6d.; comfortable as a motor car. Converts motor cycle into an ideal machine; superior to some £8 8s. makes.—Booth's es, Halifax.

ID Sidecar, good condition; £4, bargain.—Case, Jeweller, Woolston, Hants.

ECAR, upholstered, suit Bat or similar make, one tyre missing; £3.—Rawlins, 223, High Rd., Kil-

ECAR, Mills and Fulford, wheels 28 by 2, no tyres, first-class condition; cheap.—Birtwistle, Hart-

NTGOMERY Flexible Sidecar, in good condition, suit Rex machine; price £5.—J. Flewitt, Farn-

ECAR, wicker body, upholstered green; bargain, £3 10s.—1, Claremont Terrace, Eastwood Rd., gh, Essex.

ECAR, rigid, 26in., left, upholstered green, excellent condition; sacrifice £3.—Motorist, 32, Fitz-

ECAR, Montgomery flexible, good condition, suit Vindec; 7 guineas, or near offer.—Hinchliff, Sand-

EASY Sidecars, for narrow doors, wholesale and retail.—Middleton and Co., Manufacturers, Wat-

NTGOMERY Flexible Sidecar, left side, 26in. wheel, 2in. Dunlop tyre, new condition; £4 10s. be seen at Corbett's Garage, Sutton Coldfield.

W Sidecars for any make of motor cycle, 24in., 26in., or 28in. wheel, smart, good delivery, from approval; £4 17s. 6d.—Farrar, Square Rd., Hali-

Guinea Sidecar, this year's model, built through- out with genuine Chater-Lea fittings; £6 8s.; ntment.—137, Broomwood Rd., Clapham Common,

PERSON'S Sidecars are reliable, comfortable, elegant; entirely different to other makes; write us; our are right.—Orchard Mills, Belinda St., Hunslet,

L. EYRES, having been ordered abroad, wishes to dispose of his brand new Chater-Lea sidecar, at last month at a cost of £12; will sacrifice for s.—36, Trollop St., Battersea.

ID de Luxe Sidecars (new), enamelled and plated, luxuriously sprung, everything of the best, fit any ine, 26 by 2½ tyres; £6; cheaper quality, £4 17s. second-hand sidecars taken in exchange.—Halifax r Exchange, Westgate, Halifax.

KLEIGH Sidecars from stock. No other sidecar like them. Lowest built, therefore safest. Give at wibley wobley sidecar and have an Oakleigh, as as a rock. No sideslip. Thousands of testimonials all over the world. Better value than ever now, heavy tyres fitted. Price still the same, £5, and part brazed and built with genuine Chater-Lea es. Watt moor d'yer want.—Oakleigh Motors, 65a, Rosendale Rd., West Dulwich.

FARRAR'S ANNUAL SALE.

10% discount

to all cash buyers from all the following goods for
14 DAYS ONLY.

£3 DOWN secures any of these.
Balance 5/- per week.

2½ h.p. Singer, mag.	£8	1 2½ h.p. Stevens	£7
3½ h.p. Rex	£10	1 2½ h.p. R. and P.	£9
3½ h.p. Dux	£10	1 3 h.p. Clarendon	£10
2 h.p. Rex	£6	1 3½ h.p. Chater-Lea	£10
3 h.p. Noble, M.O.V.	£8	1 2½ h.p. King	£9
2½ h.p. Whiteley	£9	1 3½ h.p. King	£9

FARRAR'S "HALIFAX" SIDECARS.

Each **£4 17 6** Each.

Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

4 h.p. REXETTE, two speeds	£22 0
5½ h.p. REXETTE, two speeds	£25 0
3½ h.p. 1907 REX, Rom tyre	£16 18
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£35 0
3½ h.p. BROWN, M.O.V., fine goer	£13 0
4 h.p. ANTOINE, M.O.V., fine goer	£12 0
5-6 h.p. ROVER Tricar, splendid goer	£19 0
3½ h.p. BROWN, magneto, 26in. wheels	£19 0
1908 N.S.U. Lightweight, magneto	£23 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£26 0
1908 Magneto REX, single cylinder	£19 0
3½ h.p. 1906 REX, M.O.V., spring forks	£15 15
REX DE LUXE, magneto, clutch	£27 10
5½ h.p. TWIN REX a beauty	£17 17
4 h.p. REX, M.O.V., spray	£12 12
6 h.p. TWIN REX and Sidecar	£22 10
6 h.p. REX DE LUXE and Sidecar	£32 10

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. ratings), black and gold finish, Bosch magneto, £19 19s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. Grips like the proverbial seaside landlady 33% cheaper than any other high-class belt. ¾in., 9d. 1in., 1/-. 1½in., 1/3. 2in., 1/6 per foot. Delivery from stock. No waiting.

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2½ h.p. KING	£15 0
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3½ h.p. AUTO-MOTOR	£25 0
2 h.p. QUADRANT	£10 0
2½ h.p. GEM	£10 0

SPECIAL BARGAINS.

Mills-Fulford Sidecar	£4 0
Montgomery Flexible Sidecar	£4 0
Rigid Sidecar, very good	£3 15
Mabon Clutch, almost new	37/6
1909 Amac or B. and B. Carburetter, H.B. control	each 27/-
3½ h.p. Quadrant engine sets	37/6
Osborne four-speed gear	£15 15
Osborne Free Engine Clutch	15/-
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6
Low frame with Roc clutch	£3 10
1909 Premier magneto, brand new	£4 0

Send for Price List of Accessories—Pounds Saved.

CLINCHER TYRES.

All sizes, 17/6 each.
Genuine 1909 26 x 2in. and 26 x 2½in. Clincher Rubber Studed Covers. All brand new, 25/- each. Tubes with valves, all sizes 5/6 most free, no waiting.

High-class Machines Wanted. Cash Waiting.

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Albion Works, Square Rd., HALIFAX.

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SIDECARS AND FORECARS.

TAKEN in exchange for our Halifax sidecars.—See centre column. Mills-Fulford, £4; Montgomery flexible, £4; coach-built, £4; Ariel, £3 15s.—Farrar, Square Rd., Halifax.

MOTOR TRICYCLES.

WHAT Offers?—2½h.p. Singer tandem tricycle (lady-back), in good running order.—E. Tamplin, 12, King St., Twickenham.

3½h.p. Quadrant Tricycle, with compensating steering, not been 600 miles, in excellent condition, few spares; cost over £70, best offer.—A. and J. Gillingham, Dorset.

QUADCARS

6h.p. Phoenix Quadcar, magneto, two-speed, reverse; any examination; spares, wheel steering; £40.—Hallett, Chagf.r.t.

CARS FOR SALE.

PALMER.—5h.p. Auto Moto, 2-seater, single-cyl., nearly new, 650 by 65 tyres; £12.

PALMER.—6h.p. Darracq, 2-seater, wire wheels, cardan drive, smart little car; £25.

PALMER.—8h.p. Regal, tonneau, 5-seater, single-cyl., three speeds, reverse, cardan; £35.

PALMER.—10-12h.p. De Dietrich, tonneau, 2-cyl., magneto and electric ignitions, four speeds, reverse; £55.

PALMER.—12h.p. M.M.C., tonneau, 2-cyl., three speeds, reverse, 810 by 90 tyres, reliable car; £40.

PALMER.—17-21h.p. Mors brougham, 4-cyl., side entrance, pressed steel frame, magneto; £150.

PALMER.—40-50h.p. Lorraine-Dietrich, side entrance, magnificent touring car; cost over £1,000, £325.

PALMER.—16-20h.p. Prunel, side entrance, 4-cyl., direct top drive, Palmer cord tyres; £125.

PALMER.—14-16h.p. Germain, Roi des Belges, tonneau, 4-cyl., M.O.V., light, economical car; £110.

PALMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, Care hood, screen, six lamps; great value, £145.

PALMER.—1Ch.p. Panhard, 6-seated limousine, 4-cyl., Centaure engines; bargain, £100.

PALMER.—10-12h.p. Daimler delivery van, 2-cyl., very roomy, detachable body, solid tyres; £60.

PALMER.—12-16h.p. Panhard delivery van, 4-cyl., four speeds, reverse, well made body, solids; £65.

PALMER.—10-12h.p. geared Benz waggonette, 2-cyl., four speeds, artillery wheels, seats eight; £15.

PALMER.—12-16h.p. Peugeot waggonette, seats 16, 2-cyl., four speeds, reverse, Dunlop tyres; £45.

PALMER.—8h.p. genuine De Dion car, two speeds, reverse, engine under bonnet, solid tyres; £35.

PALMER.—All above cars are in running order, and expert examination is welcomed.

PALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Cars seen here any day. Thursdays and Sundays before 2. Photos and details per return; exchanges entertained; easy terms arranged.

ROVER, 6h.p., new 1907, little used, in splendid condition, Stepney. and spares; £70.—Dean, Carnforth.

EDWARDS.—Oldsmobile, 9h.p., seats five, convert to two, grand condition; £75.

EDWARDS.—Ariel, 8-10h.p., twin-cyl., Buchet, seats four, convert to two; £68; part exchange entertained.—Corporation St., Taunton.

4½h.p. Genuine De Dion, 2-seater, very reliable, spares; £20.—B. Hartley, Simpson Hill, Heywood, Lancs.

5½h.p. Humberette, two speeds, re-upholstered and painted, good condition.—17, Milnrow Rd., Rochdale.

7h.p. Car, two seats, three-speed and reverse, De Dion engine, new tyres, good condition; £30.—Waite, Burgh, Lincs.

BENZ Motor, seat three, going order, solid tyres, economical; Uxbridge; £7 10s.—2,923, The Motor Cycle Offices, 20, Tudor St., E.C.

7h.p. 2-seater Car, engine front, belt drive, two speeds and reverse, tyres 700 by 80, new condition; photo; £27.—Bathe, 295, Goldhawk Rd., London.

DAIMLER Pattern Car, 10-12h.p., four speeds, 5-seater, excellent condition; photo, particulars; £60.—62, Colvestone Crescent, Dalston, London.

6-8h.p. Humber Car, equal new; £55; expert examination; would take motor cycle, sidecar, and cash. Don't write, call and see.—Hill, Princes Rd., Buckhurst Hill.

9h.p. Riley Tricar de Luxe, magneto and accumulators, painted green, large tool box, spares, just overhauled; £75.—Further particulars, Frost, High St., Grays.

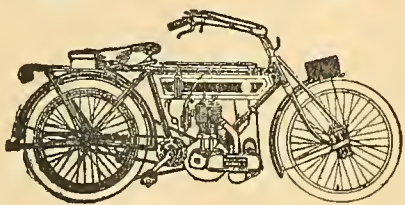
8-10h.p. Horley Car, 2-seater, White and Poppe engine, painted primrose and black, high side doors, just revarnished; £85.—Further particulars of Frost, "White Hart," Grays.

A HANDSOME 2-seater Car, in first-class condition, 7½h.p., £55; exchange considered, bicycle, sidecar, tricar.—Jackson, 23, Bolton Rd., Walkden, Manchester.

The World's Desire

(With apologies to Messrs. Andrew Lang
and Rider Haggard).

The NEW 3½ h.p.



BRADBURY,
£46.

Oh! the hour is nigh,
And the morn is bright,
When my MOTOR shall fly
Like the arrow's flight.
Let the shrill bird's cry
Waken them that sleep;
Heigh, oh! for a ride
On my BRADBURY sweet.

If you are interested we shall be pleased
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Booklet, giving useful hints as to driving
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ECLIPSE.—20-32h.p. Darracq, two ignitions, luxurion body, canopy, two screens, perfect; £165.
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ECLIPSE.—6½h.p. Swift-De Dion, 2-seater, Victoria hood, excellent condition throughout; £42 10s.
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ECLIPSE.—7h.p. Pope-Tribune, 2-seater, £32.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 1135, Putney.
O.T.A.V.—Several shop-soiled and second-hand, 5½h.p., latest pattern; prices complete from £50 to £85.—Long Acre Autocar Co., 117, Long Acre. 5011 Gerrard.
GENUINE De Dion throughout, four-wheel Runabout. 8h.p., air-cooled, 2-cyl., two-speed, live axle, bevel drive, wheel steering, slight re-assembling; £22; seen any time.—22, Catford Hill, Catford.
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IT is a fact.—Pure platinum is best for contact tips.
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TWO Dunlop Wired Covers, 26 by 2½; 5s. 6d. each.—
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TYRES.—A quantity of good second-hand motor cycle
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COVERS.—Pair brand new 810 by 90 covers, 60s.
each; also two 870 by 90 ditto, 50s. each; cost
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CLINCHER Tubes, all sizes, 4s. 11d. each; Clincher
A Won covers, all sizes, 17s. 6d. We have just
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cycle covers; any size per return; approval against cash.
—Halifax Motor Exchange, Westgate, Halifax.

NON-SKID Bands of all makes from 11s., including
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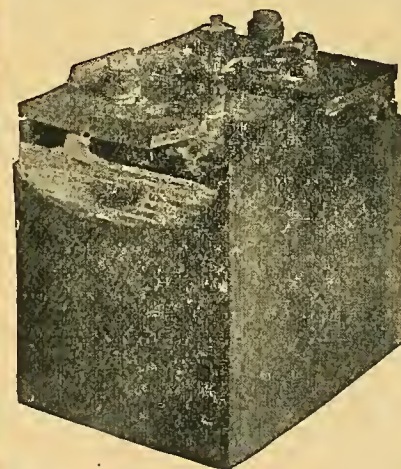
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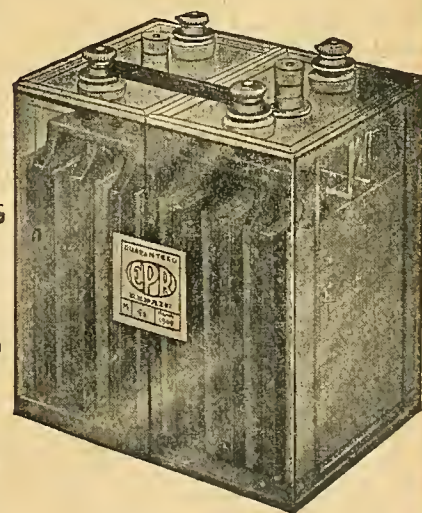


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REPAIRS of every description promptly executed at reasonable prices; quotations given; workmanship guaranteed; adjustable pulleys, no tools required, 12s. 6d.—Broughton, Waterloo Rd., Hunslet, Leeds.

TO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Wks., Bridgwater.

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BARLOCK Typewriter, for motor cycle, any condition: stamp.—68, Murray Rd., South Ealing.

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GIVE gramophone and little cash for motor cycle; stamp.—68, Murray Rd., South Ealing.

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GIVE Talking Parrot, speaks Hindustan and English, mimics and poetry, value £30, for tricar, or motor cycle, or small car.—Frank Edwards, 68, Murray Rd., South Ealing.

GIVE Motor Cycle, nearly new, for small car.—Frank Edwards, 68, Murray Rd., South Ealing.

LADY-BACK Motor Tandem, for magneto, single.—H., 5, St. Mary's Sq., Ealing.

5 h.p. Vindec Special, for tricar, or lightweight motor cycle.—Smith, 6, Church St., Cirencester.

EXCHANGE Brand new gent's green enamelled cycle, £8 8s., for modern sidecar.—Millard, Chesterfield.

CONTINENTAL Cover, new, 26 by 2, for trembler coil and accumulator.—2, Albert Hill, Bishop Auckland.

EXCHANGE new Chater-Lea Plain Coil for spring forks, 2 Whittle or Stratex.—Bott, 291, High Rd., Ilford.

2 3 h.p. Engine, M.O.V., B.S.A. make; sell, or exchange for sidecar, 28in. wheel.—Davies; Richmond Rd., Stechford.

4 1 h.p. F.N., 4-cyl., magneto, late 1908—exchange twin magneto, or sell £28.—Ben Hur, 69, Greenside Rd., Croydon.

EXCHANGE motor car, 4-seater, 6 h.p. Aster, for good motor cycle, or an aeroplane.—Rowland Cole, Cradley Heath.

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4 h.p. Antoine, with Phelon and Moore two-speed gear, Palmer cord and Clincher A Won tyres, in excellent order; £14.—Heap, below.

3 h.p. Clyde, handy machine; £10.—Heap, below.

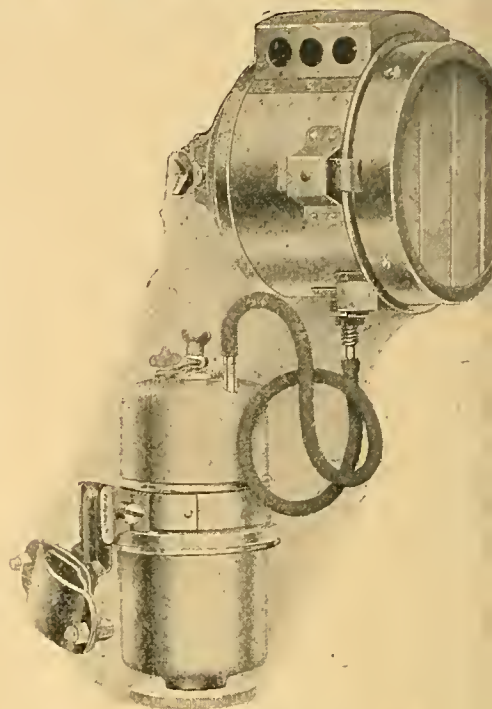
MONTGOMERY Sidecar, £4; Millford trailer, £2.—Heap, below.

CHATER-LEA Pacing Tandem Cycle.—Heap, below.

USEFUL Lathe: would accept good S.S. lathe in exchange for any of above.—Heap, Grove Garage, Ilkley, Yorkshire.

EXCHANGE excellent 3 h.p. twin Peugeot for up-to-date lightweight; full particulars; mutual approval.—A. Haward, Eldon Lodge, Hewlet Rd., Cheltenham.

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OUR TELEGRAM TO MR. IVAN B. HART-D

"Did you use our Searchlight breaking Groat's Record?"

THE REPLY—

"Yes, your lamp burned grandly, flickered all night. Hart-D

Later Mr. Hart-Davies kindly v

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vertising the same if you wish to
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It may interest you to kno
the only two lamps which did r
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country lanes from Wigan to T
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my own.

Times and times over, the lon
of light saved us on the nu
corners; and as there were five
riding in single file, it was highly
ant to have good lamps.

I have no objection to gi
testimonial where credit is due, a
I think you fully deserve.

Yours faithfully, J. B. Hart-D

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RAFFERTY'S
LAMP IS ALSO
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THE THREE
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Mr. Hart-Davies selected for his strenuous un
ing, the ONE PERFECT BRITISH SEARCHL
His selection is backed by all good judges. Here is a
testimonial received by the same post.—

"Glenallen, Northwick Park
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I have one of your splendid Searchlights (30/-
Cycle Size), but have had the misfortune to bre
mirror. If you will let me know the price of a ne
I will forward remittance. Please be as expediti
possible as I am starting for a tour around Scotlan
must have the mirror. A word about the lamp.
perfect. Have ridden my motor cycle about 6,000
lamp on all the time, and there is not the least sig
rattle anywhere. The Generator also perfect, no
minute's trouble have I had with it. In fact I wou
be without the combination.

Yours faithfully, E. LEIGH

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'CHEMICO'

Tyre Stopping.

MR. HARRY SHACKLETON,
EAST PARADE, KEIGHLEY,
writes:

"My tyre was reinforced, and the top had come away partly. I put some of the stopping on it. It is as good as vulcanizing, as it is quite firm, and holds all right. Shall certainly recommend it to my friends."

NOT A LIQUID—

but a plastic substance. Better mends in half the time, at half the cost.

Another indispensable—
THE

'G.B.' RELIANCE MOTOR CYCLE REPAIR OUTFIT

containing every requisite for the speedy repair of motor cycle tyres, including a liberal supply of the famous

RELIANCE PATCHES—

each patch faced with a layer of pure Para rubber.

PRICE 1/9 THE OUTFIT.

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LONDON—48, Great Eastern Street.
MANCHESTER—235, Deansgate.
GLASGOW—128, Renfield Street.

The Brooklands Meeting.



WHAT were described as the July and August meetings were commenced on Saturday last. Three motor cycle and five car events were on the card for Saturday, and some good sport was witnessed, although it still appears difficult for the handicapper to bring the riders together in a bunch at the finish. A strong wind was blowing under the members' bridge and along the railway straight and against the riders. This caused the highly geared machines to labour somewhat, and may possibly account for some degree for the one or two easy wins. The motor car racing will be described in *The Autocar* of Saturday next. The first race was very well contested, previous performances had been very accurately judged by F. Straight, the handicapper, although Lee-Evans's wins in the other two races were rather a surprise. A remarkable feature was the fact that the August and Senior Motor Cycle Handicaps were both won by Lee-Evans and the Indian at a speed of about 60½ miles per hour, which is really remarkable considering the difference in the distances and the handicap allowance. The machine was the one used in the Six Days' Trials, with a new piston in place of the one which seized on the last day.

The Junior Motor Cycle Handicap.

The entrant of the winner to receive 7 sovs., or a cup at option; the entrant of the second 3 sovs., or a cup at option; and the entrant of the third 2 sovs., or a cup at option. Distance, about 5½ miles.

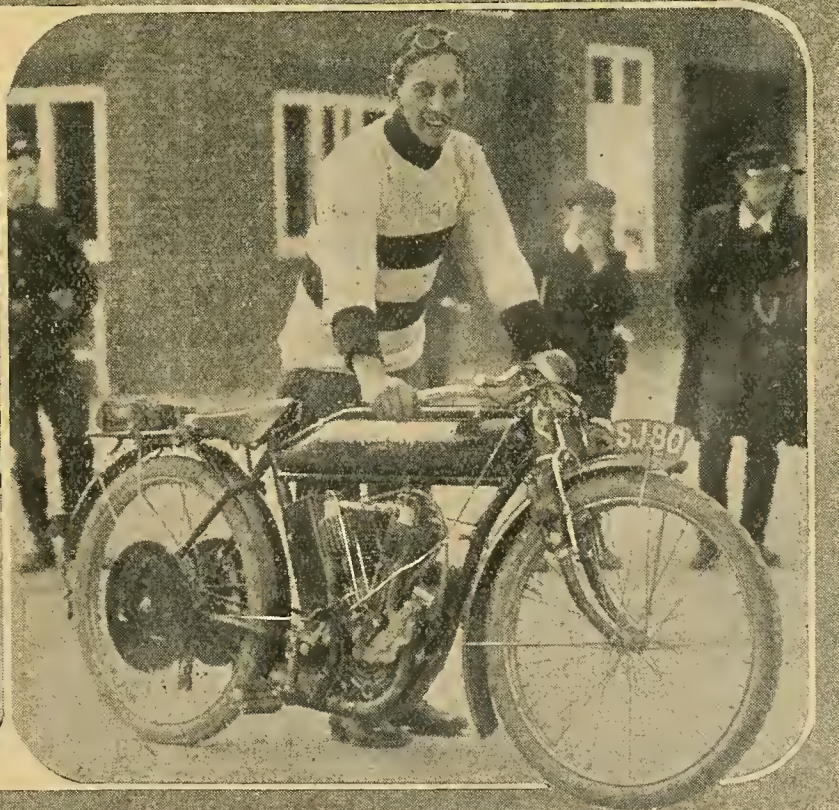
For motor bicycles, the cubic capacity of whose engines does not exceed 500 cubic centimetres.

Position.	Rider.	Machine.	No. of cylinders.	Cubic capacity.	Start.
1.	L. C. Munro (N.S.U.)	...	2	499	65s.
2.	W. W. Genn (Eland)	...	1	340	80s.
3.	J. C. Smyth (Rex)	...	1	449	40s.
4.	W. O. Bentley (Rex)	...	1	449	35s.
5.	A. R. Abbott, jun. (Triumph)	...	1	476	45s.
6.	W. H. Bashall (Zenith)	...	1	482	48s.

The following also ran: J. T. Bashall (W.H.B.), F. A. McNab (Trump-J.A.P.), D. F. Steeves (N.S.U.), E. C. W. FitzHerbert (4-cyl. F.N.), O. C. Godfrey (Rex), P. W. Bischoff (4-cyl. F.N.), A. G. Fenn (Triumph), S. F. Garret (N.L.G.), W. Dewar (Triumph), W. Pollard (Quadrant), and A. F. Rowell (M. and M.).

The winner's speed was 50 m.p.h.

This was a close race between Munro and Genn, 300 yards separated second and third, then three riders finished close together, with the remainder far in the rear. The winner's machine had Bosch magneto ignition, Shamrock-Gloria belt and Continental tyres, 26in. x 2¼in.



L. C. Munro (4 h.p. N.S.U.), who accounted for the first race at Brooklands on Saturday—the Junior Motor Cycle Handicap. Speed 50 miles per hour.

G. Lee Evans (5 h.p. Indian), who had a field day at Brooklands last week end, winning five events. It will be noticed that mudguards are fitted.

The August Motor Cycle Handicap.

The entrant of the winner to receive 7 sovs., or a cup at option; the entrant of the second 3 sovs., or a cup at option; and the entrant of the third 2 sovs., or a cup at option. Distance, about 5½ miles.

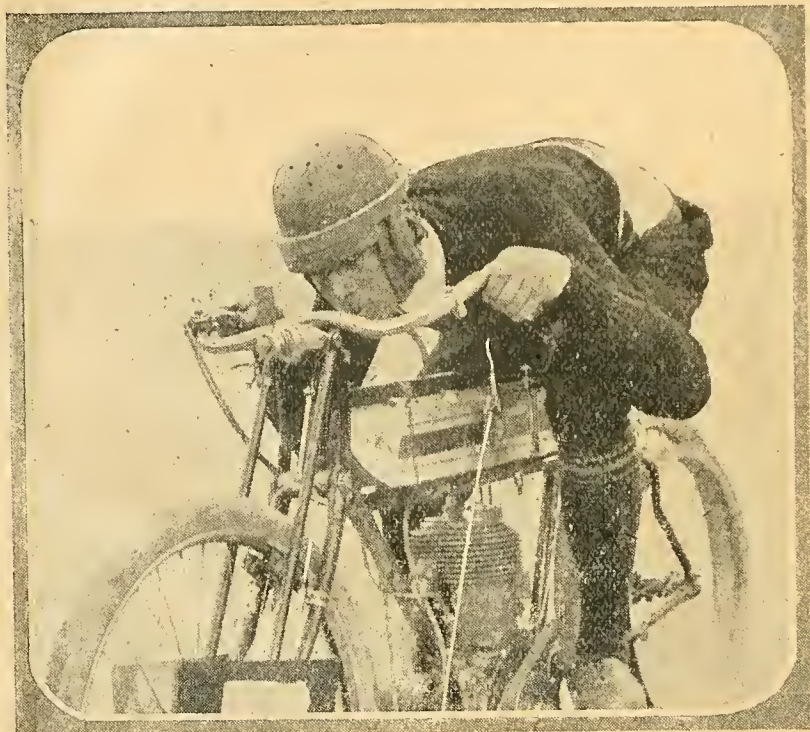
For motor bicycles, the cubic capacity of whose engines exceeds 350 cubic centimetres, but does not exceed 750 cubic centimetres.

Position.	Rider.	Machine.	No. of cylinders.	Cubic capacity.	Start.
1.	G. Lee-Evans (Indian) ...	2	...	638	... scratch
2.	A. R. Abbott, jun. (Triumph) ...	1	...	476	... 45s.
3.	J. C. Smyth (Rex) ...	1	...	449	... 40s.
4.	C. E. Bennett (Indian) ...	2	...	616	... scratch
5.	W. H. Bashall (Zenith)...	1	...	482	... 48s.
6.	L. C. Munro (N.S.U.) ...	2	...	743	... 20s.

The following also ran: W. Dewar (Triumph), J. T. Bashall (W.H.B.), F. A. McNab (Trump-J.A.P.), A. G. Fenn (Triumph), A. P. Applebee (Rex), D. F. Steeves (N.S.U.), E. C. W. FitzHerbert (F.N.), O. C. Godfrey (Rex), S. F. Garrett (N.L.G.), and P. W. Bischoff (F.N.)

The winner's speed was 60½ m.p.h.

The critics declared before the race that Lee-Evans was a sure winner, and so it proved, for man and machine were irresistible. Lee-Evans used a gear ratio of 3½ to 1, Bosch magneto, and R.O.M. tyres 28in. x 2in.



The leather helmet which is wisely worn by a number of Brooklands riders. It has proved worth its weight in gold to more than one racing motor cyclist.

The Senior Motor Cycle Handicap.

The entrant of the winner to receive 7 sovs., or a cup at option; the entrant of the second 3 sovs., or a cup at option; and the entrant of the third two sovs., or a cup at option. Distance, about 8½ miles.

For motor bicycles, the cubic capacity of whose engines exceeds 500 cubic centimetres, but does not exceed 1,000 cubic centimetres.

Cubic centimetres.			No. of	Cubic	
Position.	Rider.	Machine.	cylinders.	capacity.	Start.
1.	G. Lee Evans (Indian) ...	2	...	638	... 65s.
2.	H. G. Partridge (N.S.U.)	2	...	796	... 80s.
3.	H. V. Colver (Matchless)	2	...	964	... 25s.
4.	L. C. Munro (N.S.U.)...	2	...	743	... 90s.
5.	F. A. Applebee (Rex) ...	2	...	726	... 100s.
6.	F. Toman (Laurin-Klement)	...	2	...	905 ... 60s.

The following also ran: C. R. Collier (Matchless), W. E. Cook (N.L.G.), H. E. Parker (N.L.G.), H. Martin (N.S.U.), W. H. Bashall (Bat), and C. E. Bennett (Indian).

The winner's speed was 60½ m.p.h.

This race again proved an easy thing for Lee Evans, for he won easily by three parts the length of the straight. One hundred yards separated second from third.

Monday's Racing.

The Second Roadster Handicap, the Second Champion Plate, and six events for motor cars made up a good programme for this day, although more prominence was given to the car races. Very good performances were accomplished in all the events, and this was made easier by the wind dropping after the first race had been decided. We fail to see how some of the machines in the Roadster Handicap complied with the regulations, for most of their silencers were certainly misnamed, and but for the conditions printed in the programme as a heading to the race we should certainly have asserted that some of the machines were racers in disguise. If not racers, they were far removed from standard touring motor bicycles as usually used on the road.

The Second Roadster (?) Handicap.

The entrant of the winner to receive 7 sovs., or a cup at option; the entrant of the second 3 sovs., or a cup at option; and the entrant of the third 2 sovs., or a cup at option. Distance, about 8½ miles.

For motor bicycles, the cubic capacity of whose engines does not exceed 1,000 cubic centimetres. "Machines must be standard touring motor bicycles as usually used on the road. They must be fully equipped for the road, and fitted with not less than 2½in. motor cycle tyres, two brakes, metal mudguards, toolbag with contents weighing not less than 3 lb, stand and touring saddle, and with a petrol tank holding at least one gallon of petrol. All machines must have efficient silencers, and no cut-outs may be used."

Position.	Rider.	Machine.	No. of cylinders.	Cubic capacity.	Start
1.	G. Lee-Evans	(Indian) ...	2	638	35s.
2.	H. A. Collier	(Matchless)	2	964	scratch
3.	F. W. Bashall	(Zenith) ...	1	482	105s.
4.	G. Aldington	(Eland) ...	2	663	150s.
5.	O. C. Godfrey	(Rex) ...	1	482	85s.
6.	W. H. Wells	(Indian) ...	2	616	40s.

Also ran: R. Lord (Rex), A. G. Fenn (Rex), H. E. Parker (N.L.G.), W. E. Cook (N.L.G.), A. R. Abbott, jun. (Triumph), and E. C. W. FitzHerbert (four-cylinder F.N.)

The winner's speed was 57½ m.p.h.

This event again proved that Lee-Evans and the Indian have been under-rated by the handicapper. There was opposition for first place, although the issue was close between Collier and Bashall.

The Second Champion Plate.

The entrant of the winner to receive 8 sovs., or a cup at option; the entrant of the second 4 sovs., or a cup at option; and the entrant of the third 3 sovs., or a cup at option.

For motor bicycles the cubic capacity of whose engines does not exceed 1,000 cubic centimetres. Distance, about 8 miles.

Position.	Rider.	Machine.	No. of cylinders.	Cubic capacity
1.	C. R. Collier (Matchless) ...	...	2	964
2.	H. V. Colver (Matchless) ...	...	2	964
3.	L. C. Munro (N.S.U.) ...	...	2	995
4.	H. E. Parker (N.L.G.) ...	...	2	944
5.	H. A. Collier (Matchless) ...	...	2	964
6.	W. E. Cook (N.L.G.) ...	...	2	944
7.	W. H. Bashall (Bat) ...	...	2	964

The winner's speed was 69½ m.p.h.

This event provided an exciting duel between C. R. Collier and Colver, the issue being in doubt up to the last 20 yards. The third man was about the length of the straight behind them.

The last event of the day was the August Winners' Handicap, wherein Lee-Evans found himself pitted against the motor cars. These were: H. J. D. Astler's 59.2 h.p. Napier (scratch), Sir Geo. W. Abercromby's 39.5 h.p. Napier (1st start), and P. C. Kidner's 20.1 h.p. Vauxhall (1m. 12s. start). Lee-Evans had 1m. 46s. start. This event was finely contested, and travelling along the straight for home it looked as if Vauxhall was third and the smaller Napier last, very little odds on the big Napier getting home first, but, riding grandly, Lee-Evans just kept in front to the end. Vauxhall was third and the smaller Napier last, very little behind the winner. Lee-Evans averaged 60½ m.p.h., and received a well-deserved ovation for his fine performance.

LONDON TO LAND'S END AND BACK.

EVERE as is the test, both for man and machine, provided by the Motor Cycling Club's annual run to Edinburgh, and back at Whitsuntide, most members who have taken part in both agree that the run to Land's End and back in competition for the cup presented to the Club by its president, Mr. Charles Jarrott, is far and away the harder task of the two. The course is more varied, which makes the ideal of exact punctuality more difficult of attainment, and west of Exeter it is more rigorous than any stage on the North Road, while in the neighbourhood of Land's End itself, the combination of corners, hills, and holiday traffic serves as a severe test on the skill of the driver. On Saturday last the strenuous nature of the run down was greatly increased by the hindrance of a very strong easterly wind, which on the exposed portion of the road, especially on the north side of Dartmoor, and the high country between Launceston and Bodmin, put the riders of the smaller powered cycles extremely hard by maintaining schedule time.

Arms, Cranford Bridge, near Hounslow, for a four o'clock start. Four riders (G. L. Fletcher, W. W. Douglas, J. V. Robinson, and Eli Clark) used $2\frac{3}{4}$ h.p. Douglas machines, and there were eight men mounted on $3\frac{1}{2}$ h.p. Triumphs, viz., H. G. Bell, Stanley Webb, G. Purchase, H. Gibson, W. Cooper, C. C. Cooke, F. G. Smith, and E. Peppercorn. W. Mussell rode a $3\frac{1}{2}$ h.p. Rex and J. Winslow a 5 h.p. of the same make, and the remaining starters were F. A. Hard (3½ h.p. Norton), Owen Summers (6 h.p. Acacia), A. T. Stanton (3½ h.p. Bradbury), E. Gwynne (7 h.p. V.S.), G. Brough (5 h.p. Brough), D. S. Baddeley (7-9 h.p. Baddeley), L. A. Baddeley (3½ h.p. Yelladab), and H. Karslake and C. B. Moss Blundell (3½ h.p. nondescript machines).

All the starters got going in eighteen minutes, and Mr. F. T. Bidlake, who acted as official timekeeper, travelled the course as the guest of Mr. T. Pears on his 15 h.p. Rover, and was thus able to synchronise the records at all the intermediate timing places.

Immediately after the start H. Karslake was in diffi



London-Land's End-London, 55 miles. The start from Cranford Bridge at 4.0 a.m. on Saturday last. Immediately behind the centre rider is Mr. Charles Jarrott, the donor of the cup offered in this competition.

The scheme of scoring for the cup consists in the awarding of marks for the closest approach to exact punctuality, and for this purpose three secret checks were arranged at positions not specified in advance, the information given to the riders being that such checks would be within thirty miles of Basingstoke, Chard, and Mitchell on the down journey, and within the same distance of Redruth, Exeter, and Andover on return. Additional controls were provided at Salisbury, Sherborne, and Launceston to ensure that no competitor over-ran the time table, for a penalty of disqualification fell upon anyone being found at any part of the journey fifteen minutes too soon. There was, however, no trouble of this sort on the down journey.

Two Dozen Competitors.

The twenty-four entrants, all save one mustered at the small hours of Saturday morning at the Berkeley

culties, and lost half an hour, but by Basingstoke was up with his time standard, and there waited with his paired companion (H. Gibson) to assist in a tyre repair. In the first three miles Brough punctured on a nail. Later in the day, near Bodmin, Karslake sheared the shaft of his two-speed gear, and was forced to retire. Up to the first secret control (two miles west of Basingstoke), at 5.52 a.m., only one competitor was out of the running (G. L. Fletcher), who broke the tappet of the exhaust valve, and, though later able to proceed, he did not land at Penzance until some hours after the control closed. The brothers Baddeley appeared to hit off the required time with the greatest precision, and all the twenty-two men were through the Land's End and back portion of the route in sixteen minutes, so that the analysis of this sheet must show very close running. The hills round Chard affected the regularity of several men. Hereabouts Summers,

London to Land's End and Back.—

began a series of disasters, which, although not stopping him finally, caused him to arrive at the Exeter control an hour late. Persevering, he enjoyed the luxury of a hobnail puncture repair at Land's End. Winslow lost a little time through over-lubrication, and twice replaced sooty plugs, and Robinson also had a little delay from the same cause, which affected him, unfortunately, just in the neighbourhood of the timing station three miles east of Honiton. At this point H. G. Bell was within five seconds of absolute punctuality, and his journey down was without incident. He varied his gear from 4 to 1 to $4\frac{3}{4}$ to 1 at Salisbury, changing his belt to suit the altered pulley. Between this control and Exeter C. C. Cooke was stranded with the bearing of his front wheel adrift, and a stripped thread on the adjusting cone prevented further progress. A midday halt was called at Exeter, and under the control of Mr. E. Gould the men were restarted from Exeter Bridge at 1.12, having now covered $159\frac{1}{2}$ miles, and everyone felt the severity of the opposing gale on the next stage to Okehampton.

Approaching the third secret control, Mussell broke a belt fastener, and Moss Blundell smashed his exhaust valve. His delay put him late on the Penzance to Land's End stage, so that he ran into a fog, lost his way, and finished over three hours late. The stage between Penzance and the End was peculiarly fatal. Baddeley punctured at the very End, Hardy had tyre failure at Buryas Bridge, and Eli Clark had his belt rim break in Sennen. Nineteen men finished at Penzance, returning to Land's End for the Sunday, spent divorced from locked up machines.

The Return Journey.

By daybreak on Bank Holiday there was a scene of considerable activity in Taylor's garage at Penzance, for the nineteen men eligible for the return journey were allowed an hour's access to their machines previous to the start at 5 a.m. The tuning up process was in every case completely satisfactory, and a punctual start was effected for the homeward journey, which was twenty miles shorter than the Saturday run, owing to the Land's End and back portion being already covered.

A glorious dawn illumined the eastern sky, and run throughout was favoured by brilliant weather, wind having shifted to the north, keeping the ride cool, without the heating effects of a following breeze. Moss Blundell was early in difficulties, and was first to retire, while near Redruth D. S. Baddeley was forced to quit his brother's company, and give up further riding, owing to complete breakdown of magneto. After Redruth one of the thirty miles stages containing a secret checker was entered upon, and fully one half of the men went astray, headed by the trials honorary secretary himself. Fortunately the unknown location of the timekeeper was very soon on in the stage, being only six miles west of Bodmin, and before this point was reached the wanderers had returned to the course, and had hurried into punctuality, so absolute that Bell passed the milestone the tick of seven, and several others were within less than half a minute of accuracy. Hardy was the next man reported disabled, but this was the only incident reported to Launceston.

As on the down journey, a halt of 1h. 15m. was made at Exeter, where another control commenced. Stanton Webb executed a marvellously rapid substitution of sound for a punctured air tube, and W. Cooper had a broken front fork spring jury-rigged in Exeter. After the hidden check close running was again the rule, and thereafter the home run was free from incidents, save that Webb ceased near Salisbury, Douglas tackled two punctures in quick succession on Salisbury Plain, and the third control was hit off to a nicety near Andover at the sixtieth milestone. In the last lap a good deal of traffic dodging was required. Eight miles from the finish Purchase broke a valve stem, but the majority of finishers reported faultless running, and the fifteen who completed the journey at Cranford Bridge between 7h. 23m. and 7.46 p.m. were: H. G. Bell, O. L. Sumners, L. A. Baddeley, E. Gwynne, A. T. Stanton, W. W. Douglas, W. Mussell, G. Purchase, J. V. Robinson, G. Brough, H. Gibson, W. Cooper, J. Winslow, F. G. Smith, and E. Peppercorn. Among these is the winner of the cup, but his identity cannot be determined until the Club Committee adjudicates upon an analysis of the timing returns.

International Auto Cycle Tourist Trophy Race.

The third race for the International Tourist Trophy is to be held in the Isle of Man on Thursday, September 23rd. The regulations have already been published in these pages. The cylinder capacity limit for single-cylinder engines must not exceed 500 c.c., and multi-cylinder engines 750 c.c. The total distance of the course is 158 miles 220 yards. The start will be from

St. John's, thence to Ballacraigne, Kirk Michael, and by the coast road to Peel and back to St. John's. Fifteen competitors will be despatched at 10 a.m. Entries are accompanied with the fee of five guineas, must be received by the secretary of the Auto Cycle Union, Mr. F. Straight, 18, Down Street, Piccadilly, W., not later than September 1st.

Club News. (See also page 587.)**Hull and East Riding A.C.C.**

A reliability trial to Whitby and back is fixed for Saturday next for the Palmer Tyre Challenge Cup. Entries close Thursday, 5th inst., to the hon. sec., Mr. F. Boxhall, 165, Coltman Street, Hull.

Motor Cycling Club.

Communications from July 31st to August 21st should be addressed to the hon. treasurer, Mr. R. C. Davis, Standishgate, Southwood Road, New Eltham, S.E., as the hon. secretary will be away on holiday.

Coventry and Warwickshire M.C.

The supplementary regulations for the Coventry and Warwickshire M.C. open motor cycle hill-climbing competition are now in the hands of club secretaries for distribution among their members. Unfortunately, there is a slight error in the regulations respecting standard touring machine mudguards in Class 1. The regulations say metal motor cycle mudguards at least 4in. wide. This should read $3\frac{1}{2}$ in. wide. The committee found after the regulations had been printed that the average metal motor cycle mudguard did not exceed $3\frac{1}{2}$ in. Will intending competitors kindly note?

THE MOTOR CYCLE

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The Tourist Trophy Race.

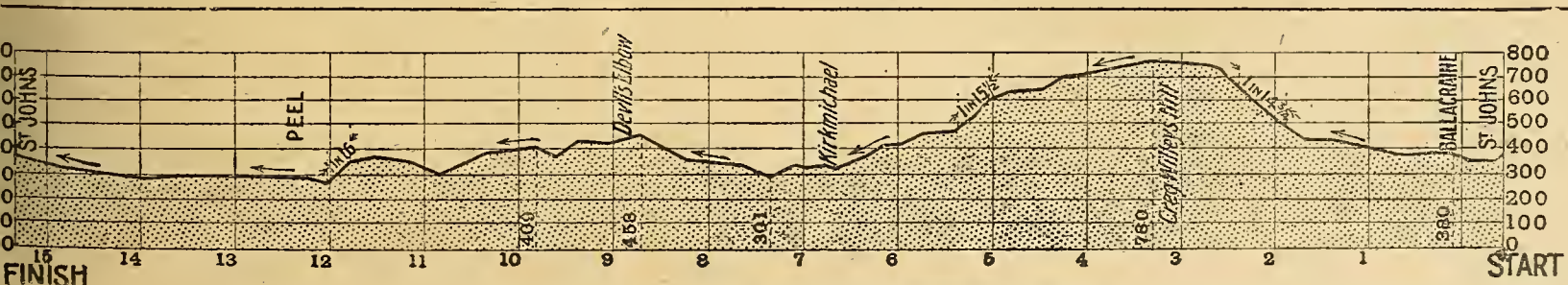
THURSDAY, September 23rd, is the date of the International Auto Cycle T.T. Race in the Isle of Man. The start is to take place at 10 a.m. from St. John's, the course being as last to Ballacraigne, Creg Willey's Hill, Kirk Michael, by the coast road to Peel and back to St. John's map, p. 596, and contour accompanying this article). Competitors will make ten complete circuits of the course, making a total distance of 158 miles 220 yards. Single-cylinder machines must not exceed 500 cubic centimetres, and twin-cylinder machines 750 c.c. In previous years, the single cylinder machines have competed in a different class from the multi-cylinders, but this year all will compete together for the one prize—the International Tourist Trophy, presented by Marquis de Mouzilly St. Mars. Once and for all time the question will be settled as to which is the most efficient 1909 motor bicycle, the 3½ h.p. single-cylinder or the 5 h.p. multi-cylinder. Consequently the greatest interest attaches to this year's race, especially as on the occasion of the two previous years 3½ h.p. single-cylinder machines have averaged better speed than the multis, and withal on a lower

consumption of petrol, as will be seen by the particulars published on the next page. It must, however, be considered that the amount of fuel measured out to the multis was not thought adequate by those who made and bestrode them. The singles were allowed one gallon per hundred miles and the multis one gallon per eighty miles. Had petrol consumption been unlimited, a different result might have been recorded.

Definition of a T.T. Machine.

All motor cycles entered must be touring machines, without pedalling gear, fitted with two brakes, tool-bag weighing (with contents) not less than 5 lbs., motor cycle tyres (not less than 2 in.), metal mudguards (not less than 2¾ in.), touring motor cycle saddle, tank to hold not less than 1¼ gallons of petrol.

New regulations introduced for this year's event discard the petrol allowance (although it would be interesting and instructive if the A.C.U. checked and announced the consumption of liquid fuel), and there will be two depots along the route at which spare tyres, petrol, and lubricating oil may be taken in during running time.



Contour section of the T.T. course. The highest point is Creg Willey's Hill, which has an average gradient of 1 in 14½, and rises to 800ft. above sea level.

Tourist Trophy Race.—

No race will be held unless twenty entries are received, and the entrance fee of five guineas per machine must be received by the secretary of the A.C.U., Mr. F. Straight, 18, Down Street, Piccadilly, W., by the 1st prox. The A.C.U. will also hold a

hill-climbing competition on the Island a day or after the race, provided the necessary permission can be obtained.

The following particulars of previous Tourist Trophy Races will be of interest:

1907.—SINGLE-CYLINDER CLASS.

Position.	Name and machine.	Total nett time.			Miles per hour.	Petrol consumption			Miles per gallon.
		h.	m.	s.		gal.	pt.	oz.	
1.	C. R. Collier (3½ h.p. Matchless)	4	8	81½	38.2	1	5	10	94½
2.	J. Marshall (3½ h.p. Triumph)	4	19	47½	36.5	1	3	2½	114
3.	F. Hulbert (3½ h.p. Triumph)	4	27	49½	35.4	1	6	0½	90

Fastest circuit—H. A. Collier, 23m. 5½s.

TWIN-CYLINDER CLASS.

1.	H. Rem Fowler (5 h.p. Norton)	4	21	52¼	36.2	1	6	13	87
2.	W. H. Wells (5 h.p. Vindec)	4	53	41½	32.3	2	0	7	77
3.	W. M. Heaton (5 h.p. Rex)	5	11	3½	30.5	1	3	17	107

Fastest circuit—H. Rem Fowler, 22m. 6½s.

1908.—SINGLE-CYLINDER CLASS.

1.	J. Marshall (3½ h.p. Triumph)	3	54	50½	40.4	1	2	15	117.6
2.	C. R. Collier (3½ h.p. Matchless)	3	57	6½	40.1	1	3	11	109.5
3.	Capt. Sir R. K. Arbuthnot, Bart., R.N. (3½ h.p. Triumph)	4	7	57	38.2	1	3	15	107.2

Fastest circuit—J. Marshall, 22m. 20s.

MULTI-CYLINDER CLASS.

1.	H. Reed (5 h.p. Dot)	4	5	58½	38.6	1	6	18½	86.3
2.	W. H. Bashall (6-7 h.p. Bat)	4	8	15	38.2	1	6	16	85.1
3.	R. O. Clark (5 h.p. F.N.)	4	11	24½	37.7	1	4	19	90.8

Fastest circuit—W. H. Bashall, 22m. 27s.

AUSTRIAN VOLUNTEER MOTOR CYCLE CORPS.

ON the 25th ult. the newly formed Volunteer Motor Cycle Corps, which has already grown wonderfully in favour, held its first military test. Taking into consideration the short

time the test occupied, the number of participants was not large, as only a total number of twenty members took part. Of these no less than nineteen went through the whole of the test from 9 a.m. to 2 p.m., one only (the rider of a lightweight) failing.

The course selected was a difficult one, and it was rendered more difficult by the fact that it had been raining during the preceding night, and consequently the roads traversed were heavy and treacherous. The participants made use of various vehicles, some used lightweight motor bicycles, others 6 h.p. bicycles, while one or two drove sidecars and small cars.



The smart uniform of the Commandants of the Austrian Volunteer motor cycle corps.

The test consisted of reconnoitring the ground around the railway station, etc. At the conclusion of the test the founder of the 5th Division of the Imperial War Ministry (Oberst Höfer) spoke in praise of the manœuvres. The newly formed volunteer motor cycle corps comprises about 100 riders at the present time.

A COURIER RUN IN GERMANY.

For September 26th the Silesia-Posen branch of the German Motor Cyclists' Association, with the support and, indeed, co-operation of the military authorities, will organise interesting military courier runs over the Breslau-Posen and Thorn-Posen roads for the purpose of ascertaining in what degree light and heavy motor cycles are suitable for orderly express duties. Each rider will carry a despatch, and have to deliver it to a given rider in waiting at the stage terminus, who dashes off with the message at once. All the riders may continue the journey, and in the event of anyone overhauling the relief rider within five kilometres he is entitled to receive back the despatch. Anyone may also demand a despatch from any other despatch bearer overtaken, the object of the run being to have the messages forwarded by the fastest bearers.

[It would appear from the foregoing that there is far greater enthusiasm in German and Austrian military motor cycle circles than there is in England.—Ed.]

In the Essex Motor Cycle Club hill-climb on July 24th at Lippett's Hill, the single cylinder class was won, both on time and formula, by a 3½ h.p. Norton fitted with Simms magneto and Clincher tyres. The Norton was only ¾s. behind the fastest time of the day, which was made by a 5 h.p. twin-engined motor cycle.

OCCASIONAL COMMENTS.

By "IXION."

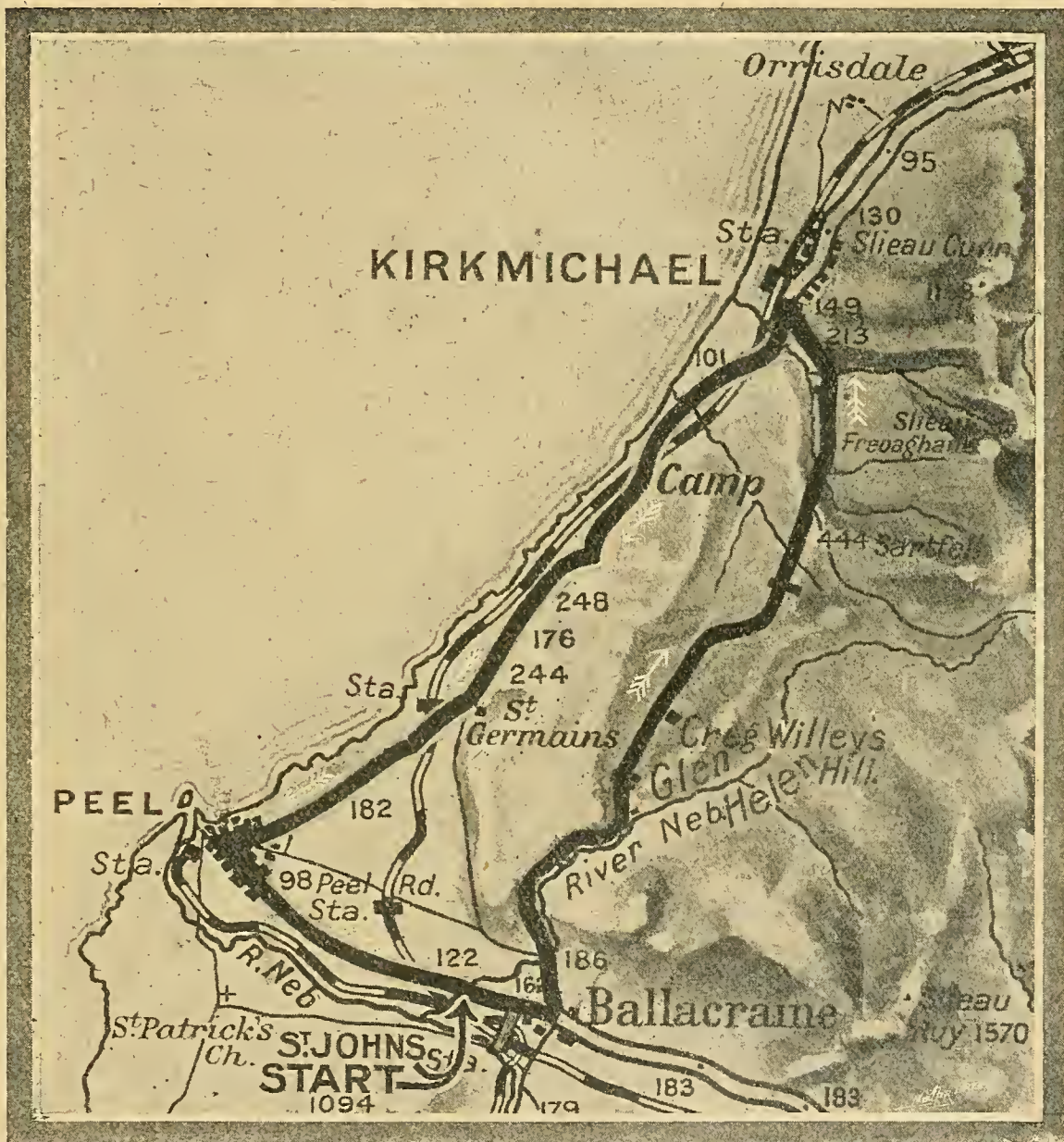
Hill-climbing Extraordinary.

I do not think the A.C.U. Trial ought to pass into comparative oblivion without mention being made of our remarkable hill-climbing achievements, which stand out head and shoulders from the general mediocrity. There were machines entered which everybody knew would climb well; instances are the two-speeded machines, the mounts of men like Godfrey and Marshall, and the high-powered machines which had adjustable pulleys. Others also climbed well when under official observation, but by dint of reducing pulleys and changing belts. Our machines, however, surprised the acute observer. Chief among them stands the Motosacoche, which twice passed a car in which I was seated, when we were doing somewhat better than legal limit up grades of about 1 in 20, while reference to our complete report will show that it shone on the test hills as well. Then I think the facts astonished everybody. It will be news to many readers that these machines had fixed pulleys giving gear of about $3\frac{1}{2}$ to 1. Granted their high power, the ability to negotiate Wenlock, Dinas, Festiog, and Birdlip under adverse conditions with a racing gear proves that these machines are tremendously efficient. Thirdly, a word of praise is due to the Douglas machines. They are not perhaps absolute featherweights, either in power or avoirdupois, but they carried normal riders, and their power is only $2\frac{3}{4}$ h.p., while the way in which they kept up with the man throughout shows that they were not under-gear. Yet they climbed the hills excellently, their horizontal twin-cylinder engines pulling like Trojans. Fourthly, the Moto-Rêve was a worthy member of my respected quartette. Whenever I saw it on a hill, its microscopic twin-engine was pulling steadily and smoothly. Incidentally, I never heard one engine out of the above quartette knock or plank on a hill. Readers will note that the above quartette consists of machines which in theory were very ill suited by such a route as that adopted for the six days.

Magneto Position.

Before 1910 designs are settled for good or ill, I want to make a last appeal to manufacturers to consider the placing of the magneto. The magneto must be kept both clean and dry if it is to be perfectly reliable and produce the highest efficiency. There are signs that the low down position in front of the engine is going to become standard, simply because

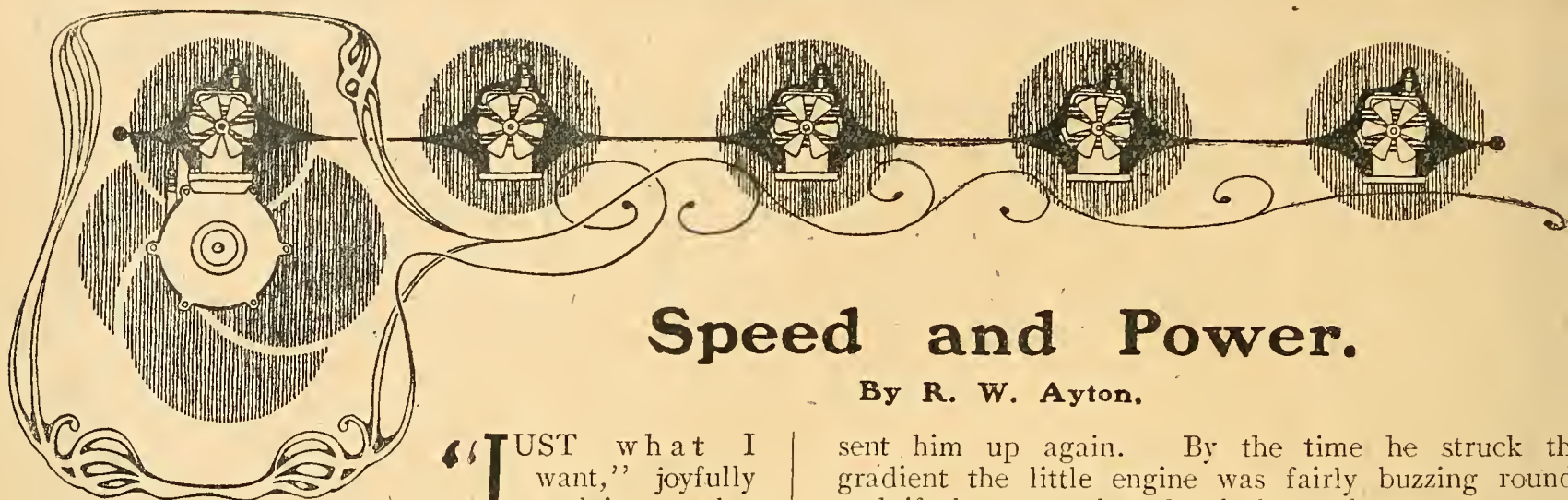
of its neatness and simplicity. But this is a position in which the magneto can seldom be clean and dry for long periods together. Its becoming standard would, therefore, be an event to deplore in my opinion. There are many alternatives. The small platform abaft the engine is technically far superior. The tank position, obtained by a long overhead bevel drive, has at least as much in its favour as against it. I hope two or three of our largest manufacturers will very seriously con-



The course for the Tourist Trophy Race in the Isle of Man, measuring nearly sixteen miles in circuit. Starting from St. John's, it will be covered ten times.

sider an alternative position for 1909. Covers are all very well, but after many experiments with different methods, I am inclined to call the gear-driven magneto placed abaft of the engine distinctly superior to any.

It may be news to many of our readers that the Service Co., of 292-293, High Holborn, is as well-known in the photographic world as it is among the motor cycling community. The company has one of the largest and best class photographic connections in this country. It has just revised its photographic list, and those motor cyclists who are also interested in photography would be well advised to write for a copy.



Speed and Power.

By R. W. Ayton.

"JUST what I want," joyfully exclaims the average rider;

"book me five shillings' worth at once." Or words to that effect.

As a matter of fact, there is no reason why he should not have a generous allowance thereof without undue expenditure. There are comparatively few engines on the road at the present time which are absolutely incapable of attaining a fairly high rate of revolution or of delivering a satisfactory power output, however poor may be their present performances. Except in the case of a small minority of weaklings, most of the engines at present classed as "poor" (in various degrees from "rotten" to "fairly good") are capable of substantial improvement at small cost.

Improving an Old Machine.

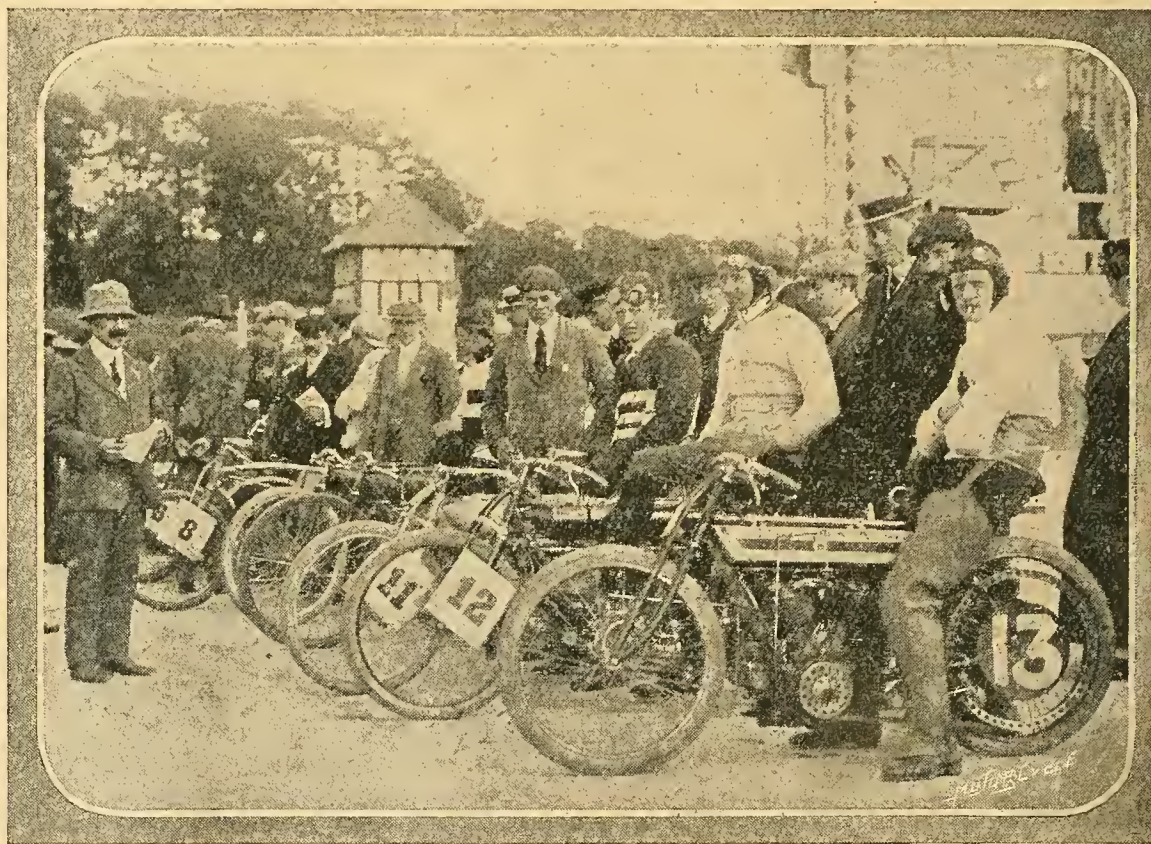
Take the case of the novice who I found the other day vainly trying to surmount a local test hill (gradient about 1 in 9) with a recently purchased second-hand machine fitted with an automatic valved $2\frac{1}{2}$ h.p. engine of good make, 1904 type. Gear ratio was reasonable, compression fair. Starting was very easy, the engine firing directly lifter dropped, and continuing to do so regularly at almost walking pace. Nothing much wrong in the carburation department evidently.

Inviting him to "have another try," I stationed myself a few yards up the first gradient. He got away promptly, and gathered speed well—at first. But from where I stood it was evident that acceleration ceased before he had covered the few dozen yards of comparative level, and to face such a gradient with a small engine lazily rolling over at a mere thousand a minute or less is hopeless. A long forgotten inlet valve was dug out from its carbonaceous cavern and carefully cleaned. The much worn spring, in places reduced to about half its original gauge, was gently pulled out, and the opening of the valve, almost doubled by pounding of steel cap on cast-iron guide, brought within limits by means of a $\frac{3}{16}$ in. washer from my tool box. With a few words of advice touching a new spring and cap, I

sent him up again. By the time he struck the gradient the little engine was fairly buzzing round and if the owner has fitted the replacements recommended he now probably climbs that hill without even the half-dozen turns of the pedals with which he assisted at the summit on the occasion in question.

Strength of Valve Springs.

To any reader who may be serving his novitiate on a machine of similar type I would say do not forget that there is only one strength of automatically operated inlet valve spring from which you can secure good all-round results. Every mile you travel tends to slightly further weaken the spring you have in use. Consequently, replace in time if you wish to keep



Competitors in the Senior Motor Cycle Handicap at the last Brooklands meeting. The nearest rider is F. A. Applebee (5 h.p. Rex) who finished fifth.

speed and power up to the mark. Failing a supply of suitable springs from the maker of the engine, a good tip is always to fit a spring as strong as can be used without impairing easy starting and slow running. A little experimenting in this direction may yield surprising results.

For very high engine speeds use a short, strong well-tempered "buffer" spring, occupying the annular space between the true valve spring and the guide and of a length allowing the valve to open quite $\frac{1}{16}$ in. before the cap comes into contact with its free end.

Speed and Power.—

is will save much wear and consequent undue increase of lift, will secure prompt closing, and last, but not least, will greatly reduce liability of valve leakages.

Most modern engines are, of course, fitted with mechanically operated inlet valves. Sometimes a distinct advantage can be secured by fitting slightly longer springs to these, so as to seat the valves more promptly and firmly. Unduly strong springs will, however, inevitably exact a penalty in the shape of broken valves, particularly if the cams have steep rising faces or are undercut at this point. Many of the more ancient engines of this type could do with new timing gear, as considerable advance has been made during the last few years in the art of valve setting for speed and power.

Valve Setting for Speed and Power.

Broadly speaking, exhaust valves are now made to open earlier and close later than was formerly the case, whilst the induction valve is made both to open and close considerably later. A good setting for our purpose would be as follows: Exhaust valve, opens early, closes 15° late; inlet valve, opens 30° late, closes 35° late in racing engines and 25° late in touring engines.

Another common defect, tending to limit speed and power, is bad balance. A simple and practical method of correcting this was recently described in these pages. For any but racing machines, and especially on touring machines unprovided with a two-speed gear, a high compression engine is a doubtful blessing. In some of the strongly built engines of other types, however, the compression is very low, and may be raised somewhat without seriously impairing the all-round efficiency of the machine. In such cases the addition of a cap or junk plate on the piston is the expedient usually resorted to. This should be allowed, in order to keep down weight, and where the piston can be safely drilled this should also be done, in order to preserve approximate balance.

Upon the important subject of the ignition it is impossible to say much within the limits of an article such as this. One might safely affirm that, setting aside the numerous classes wherein ignition is effected by high tension magneto, more machines have their speed and power limited by defective ignition apparatus than from any other two causes combined. Faulty wiring, imperfect connections, "wipe contacts" of inadequate design and material (their name is legion, and they dwell among the tombs of departed efficiencies), wrongly adjusted trembler coils, extravagant badly condensed platinum-devouring coils of both in and trembler types, defective "earthing" arrangements, mal-adjusted or untended "make and break," and poor accumulators exhibiting in various degrees the manifold shortcomings of their touchy and delicate race—all these afflictions exist to chasten the spirit of the novice, to enrich the vocabulary of the gain hunter and the pocket of the garage man.

Whatever your especial troubles, let your remedies be radical. Tolerate no imperfections in any department, and let anything in the nature of a defect be a thema unto you. Should you wisely decide to replace your current-wasting, defective old coil with a more reliable and economical article, do not for the sake of charity, sport, or whatever most appeals to you

sell the old one "cheap" to be of the short purse and confiding disposition. The wretched remains have only one legitimate application. The wood and wax will render them an excellent firelighter for a cold morning.

Multi-point Ignition.

Of all classes of motorists, the motor cyclist stands to derive the greatest benefit from the adoption of multi-point ignition or simultaneous sparking at two or three points as far apart as the construction of the engine may permit. The reason for this is that in these high speed engines the spread of ignition through the mass of the charge, rapid as it may be, is under most working conditions not nearly fast enough to ensure combustion being completed before the exhaust valve opens. This is the reason why the spark has to be so excessively advanced for high speeds, although such advances obviously entail a reduction in the degree of compression attained before the passage of the spark and a serious amount of undue back pressure or negative work thrown upon the ascending piston. Even under these conditions combustion is frequently incomplete when the exhaust valve opens. The blow-pipe flame character of the issuing blast can be easily observed by running the engine minus exhaust pipe, and may be taken to represent a waste of heat (e.g., power) which has been generated too late to allow of its conversion into work in the cylinder.

Consequently, if we simultaneously fire the charge at a number of points well apart from each other it follows that these local explosions will merge or blend, and thus obtain complete combustion, in a fraction of the time taken to secure a like result from any single point, more especially when the latter is situated at one side of the combustion chamber, as is usually the case. Therefore, in order to maintain a high engine speed, we are no longer compelled to "advance the spark" to such an extent as formerly; yet we shall attain a higher maximum pressure in less time, and expansion during the impulse stroke will become actual, instead of merely nominal, as at present.

The adoption of the principle in question will result in a substantial increase in power and fuel economy, provided that the application be properly carried out and suitable plugs employed.

A Proportional Gain in Power.

As many readers will no doubt be aware, Dr. W. Watson, Professor of the Royal College of Science, has certified that in a water cooled four-cylinder engine he obtained an increase in power of twelve per cent. and upwards by the use of two plugs sparking simultaneously, arranged one on each side of the combustion chamber. Remembering the fact that motor cycle engines are commonly run at much higher speeds than usually obtain in car engines, it is particularly interesting to the motor cyclist to note that the proportional gain in efficiency was found to increase with the speed of the motor. Not only can I confirm this, but from the experience gained during the experiments which led to my patenting the system in 1906, and also since that time, I can affirm that the still higher results obtained from the use in triangular arrangement of three plugs sparking in series are sufficient to amply justify this seeming complication. I am aware that very few engines are so constructed as

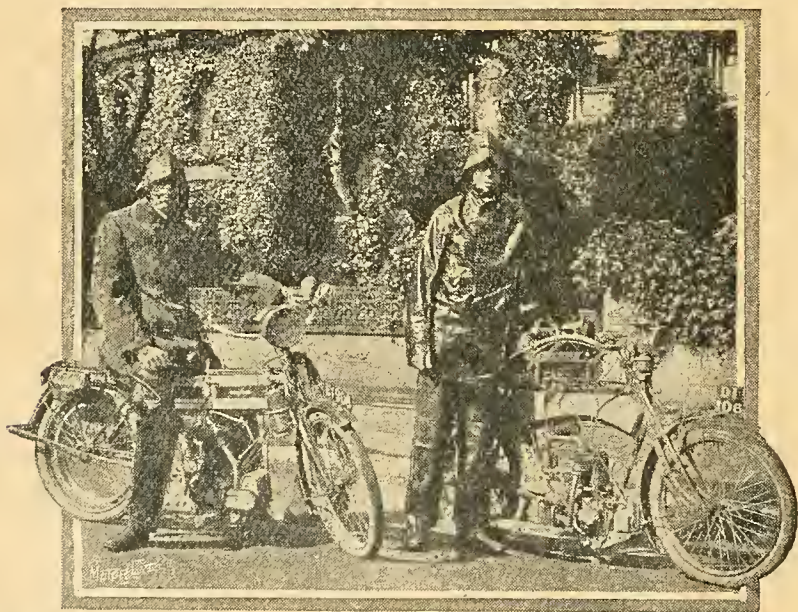
Speed and Power.—

to permit of such an arrangement being employed, but am endeavouring to secure facilities for the effective conversion of standard engines.

The higher pressures and temperatures attained by the use of this system naturally tell on the plugs, which are even normally the most vulnerable point of the modern motor engine. Having carefully considered the nature and causes of the many troubles and failures experienced in this department both on cars and cycles, I have been led to design a new type of plug which is calculated entirely to obviate the tendencies to set up pre-ignition and to sudden failure, both of which weaknesses appear to me inherent in plugs of standard patterns, more particularly when used in high speed cycle motors. The long-suffering editor will be invited to test and report upon this alleged improvement directly the makers are ready to supply.

Sparkign Plugs to be Avoided.

Meanwhile, with the memories of many failures prompting, I would offer a word of advice: If you wish for reliability, do not be persuaded into using for speed work plugs which have long wires, arms, or points projecting far into the combustion space. Every millimetre on the length of such parts represents an added danger—an increased risk of elusive and oft-times mysterious troubles, such as falling off in power, sudden stoppages, and the like. Failures of this class I have on so many occasions traced to the use of such plugs that I now shun the latter as I would the plague. "Taking the spark into the mixture" is all very well in theory. The more satis-

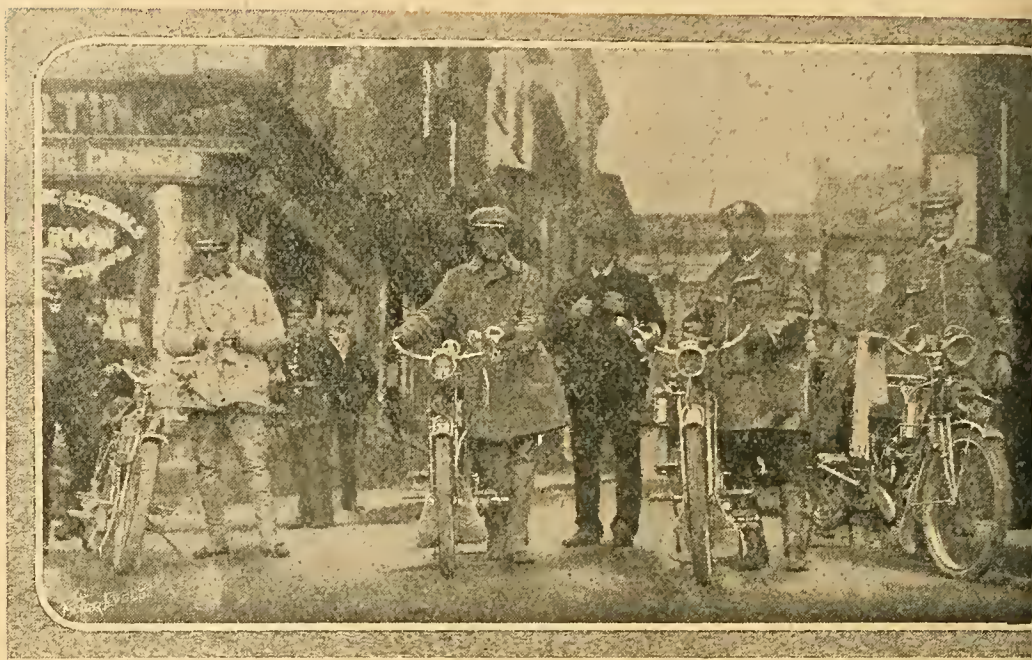


Mr. C. A. Crow sends us the above photograph showing he and his brother starting out equipped for their 1909 summer (?) tour. He adds that it is not generally known that a complete suit of black oilskins can be bought for under ten shillings.

factory practice, however, is to keep the electrodes in close neighbourhood to the metal which is to conduct away their superfluous heat, and to see that the mixture gets to the spark.

Carburation.

To the reams that have been written on the subject



Four of the competitors about to leave Penzance at 5 a.m. on Bank Holiday Monday in the M. London-Land's End-London Run for the Jarrott Cup.

of carburation there is little need for me to. Automatic and semi-automatic carburetters continue to bloom and boom at intervals, but the majority of these devices have realised that "brief life is here and gone." Seeing how the capabilities of many engines have been restricted by ill-considered attempts to attain the unattainable in this direction, the motor cyclist may still feel thankful for the small improvement represented by the "air lever" on his handle-bar. The position, in fact, is very much what it was in the autumn of 1904, when, after patiently testing a type submitted, I reported to a well-known firm of manufacturers as follows:

"*Carburetter.*—This question has remained unsettled. Do the directors think that a so-called 'automatic' carburetter would be an attraction or will the average customer be convinced of the superiority of the controlled type? My preference is, of course, for the latter. Throttle might be with advantage controlled by the handle-bar."

In setting a carburetter for maximum speed and power the thing to go for is the largest diameter throughout consistent with the necessary flexibility of the engine and control over proportions of fuel and air in the mixture. There should be no reduction of area at any point in "full open" positions.

No matter in what form of competition you engage do not gear your engine too high.

In conclusion, I hope that one or other of the foregoing hints may be of service to some of your readers in "keeping their end up" in competition.

Motor cyclists who are also golf enthusiasts will be interested to know that the golf club carrier which was recently reviewed in *The Motor Cycle* has been taken in hand by Brown Bros., Ltd., Great East Street, E.C., and will be marketed in future under the name of the Bogie golf club carrier. A descriptive circular illustrating the device, which is certainly a very practical method of carrying clubs, will be sent on application to the firm at the above address.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Lubricants for a Motor Cycle.

? (a) Can I use castor oil as a lubricant for (1) cylinder and (2) bearings of my 1909 Triumph? (b) What should be the lowest flash point of a cylinder oil for an air-cooled engine?—BK 423.

(1 and 2) It is not desirable to use vegetable oil, except in cases of emergency when no other can be obtained, and then the cylinders should be cleaned out in two or three days' time. (b) The lowest flash point should not be under 450° F. The flash point of most really good oils is nearly 550° F. We advise motor cyclists to be most careful in the selection of an engine lubricant, and, once having found a satisfactory oil, always to use that brand.

Leakage past Valve Seating.

? I have a 3½ h.p. White and Poppe engine, and cannot get proper compression, the reason being the inlet valve and detachable seatings. I take off seating and grind in valve, but when bolting up again (one bolt each side) and using copper asbestos washer, the seating springs up each side with the pull of bolts, thus preventing the valve taking a proper seating, and allowing leakage. What would you advise?—F.M.

Probably the washers you use are too hard. Obtain a new one and when tightening down the seating be careful to screw up each nut one turn alternately. This should prevent one side springing up. You could also try painting the joint with fish glue, but you still cannot get good compression write the makers of your engine.

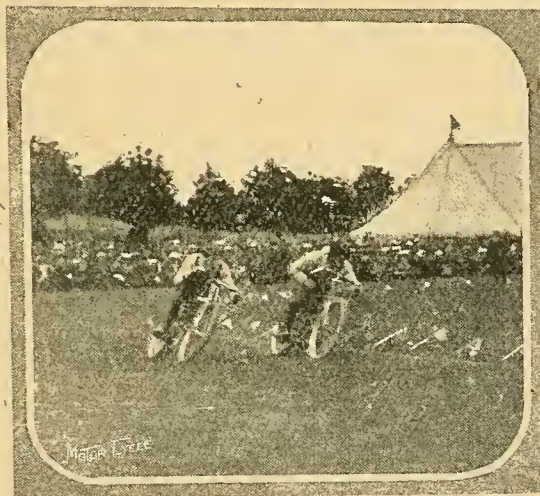
Exhaust Whistles.

? I have ordered a 1909 Triumph machine, and want to have a whistle or organ horn fitted to the exhaust. I shall be glad to hear from you as to which is the better, and whether it would be possible to fit one to a Triumph motor cycle, and kindly say if same should be fitted to the exhaust box or exhaust tube.—F.R.

One should say that it would be possible but hardly desirable to fit an exhaust whistle to act as a warning for your machine. Being a single-cylinder, it could give a series of unpleasant shrieks, and it would also exert a good deal of back pressure. The same remarks we should apply to the organ or Gabriel horn (to which we presume you refer). Consult Brown Bros., Ltd., Great Eastern Street, E.C., on this question.

Carburettor Control and Slow Running.

? (1.) My 3½ h.p. motor cycle is fitted with Amac carburettor with handle-bar control. This slows by drawing the two levers together. When raised as much as possible, ought I to be able to cut off the entire supply of gas? At present with levers in above position and spark fully advanced, machine runs fourteen or fifteen miles per hour on level. (2.) The main air intake is facing the side of the machine. What would be the effect of turning the opening towards front of machine (if it will turn)? (3.) In reading instructions re machines with magneto, these generally say that spark should, as a rule, be fully advanced. In going through traffic I find my machine travels too quickly if set in this position, with other levers as stated above. Does any harmful effect follow if the magneto spark is set for slower sparking?—DI 24.



H. S. Wallis, 2½ h.p. King, passing H. P. Storey, and winning the five miles open handicap at the Cambridge Mammoth Show on August Bank Holiday.

(1.) The throttle lever when quite closed should prevent any gas entering the cylinder. This will economise fuel, and also enable you to use the engine as a brake when descending hills. (2.) You had better leave the air intake as it is. If you turn it to the front it will probably draw in a lot of dust, and probably too much cold air. (3.) The reason your machine travels too quickly in traffic is because you cannot throttle down sufficiently (see first query and reply), although the running position of the magneto lever depends on how the spark is timed. Do not retard the ignition in traffic unless the engine knocks. It will do no harm to slightly retard the timing.

Power on Hills.

? I have a 3½ h.p. Minerva, 1908, Eisemann magneto, geared 5¼ to 1. My weight is 11 stones, but the machine is weak on hills, although it will attain a high speed on the flat. Compression is good, valves in good order, firing all right, and I have varied the timing a little. I have also tried an Amac carburettor. Would raising the compression give me more power on hills? The cylinder, I think, would stand it.—W. J.

Hill-climbing depends chiefly on good compression. If your engine will not bear your weight on the pedal for half a minute, you should turn your attention to the condition of (1) the valves, (2) washers under valve and compression taps, (3) the piston rings and the fit of the piston in the cylinder. The gear is about right for your weight, and we should not recommend you to alter the ratio of the compression. You might, however, try a slightly larger jet, but if the engine overheats return to the original one.

Altering the Type of Ignition.

? I am the owner of a motor cycle with accumulator ignition, make and break contact, plain coil. (1.) Would you kindly tell me (assuming that I could find a reliable method of driving it) whether I should get a spark and a good one if I connected a four volt dynamo to the existing wires which are now connected to the accumulator, e.g., leave wiring, contact breaker, coil, etc., exactly as at present, but substitute dynamo for accumulator. (2.) I have an old telephone magneto, and have rewound the H armature, and it now at a moderate speed lights brilliantly a four-volt lamp. Could I use this as mentioned above? (3.) Would coil be damaged at high speeds by too large a current passing?—J.H.L.L.

(1.) Such a system of ignition is quite possible, and, in fact, it was practically on the market for motor cycles a few years ago. The particular system which we have in our minds necessitated a special coil and an extra large condenser. (2.) It is possible that the machine referred to might do, but it would not be so satisfactory as a magneto. Probably for a very slightly increased expenditure you could buy a second-hand magneto by a well-known manufacturer, which would suit you infinitely better. (3.) There is a risk of the coil being damaged unless a complicated cut-out and governor are provided.

Various Queries.

?

(1.) Is a machine weighing 112 lbs. too heavy to start by mounting in the usual way and pedalling? (2.) Will a Watawata belt run satisfactorily with a 2 $\frac{3}{4}$ in. pulley on the engine? (3.) Are springs sold for fitting on the forks of existing machines quite reliable and satisfactory? I mean such as the Matchless. Are they sufficiently free from side play?—J.B.

(1.) No, a 112 lbs. bicycle is not too heavy to start by pedalling on level ground. (2.) We should not advise an engine pulley under 3 in. in diameter. (3.) Yes, it is, we believe, quite free from side play.

Under-powered for 11 $\frac{1}{2}$ Stones.

?

I ride a lightweight twin, which, though excellent on the flat or slight gradients, I find too weak on hills and against strong head winds. My weight is about 11 $\frac{1}{2}$ stones, but my area of wind resistance very great, as I am over six feet in height. Compression is excellent. Carburation is, I think, right, though the machine will not take full air to give best running with full gas. Petrol level correct. (1.) Would increase in size of jets give increased power? (2.) Do you think increasing the degree of compression by adding a thin plate to top of the piston would give me an appreciable increase of power? If so, would an eighth of an inch be about right? Would you advise it being convex, as that seems the favourite piston top just now? Would this materially increase the difficulty in starting? (3.) As an alternative to this, would it be possible to bring the attachment of the piston rod nearer to the circumference of the flywheel, so as to increase both the down stroke and the up stroke, and so increase both the amount of gases and the degree of compression? If so, how much do you think one could gain? A $\frac{1}{8}$ in. or more?—H. S.

(1.) A larger jet would give more power, but might probably tend to overheating. (2.) We should not recommend you to increase the compression. The engine is so small that it might not increase the difficulty in starting, but it would probably render the engine more liable to overheat. (3.) Not without running into a good deal of expense, which we should say would not be worth while. We are afraid the only thing to do would be to get a slightly more powerful machine, as experiments of this kind are often likely to run one into great expense without attaining the desired results.

Engine Knocking and its Causes.

?

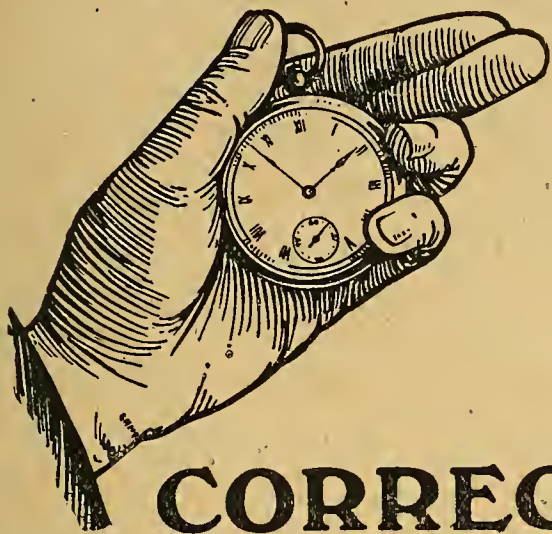
About a year ago I began to read your valuable journal with a view to buying a motor cycle. Since that time I have constantly read in the letters of "knocking," and have naturally been very curious to know what it is. Friends could not exactly explain it, but I "would soon know it when it came." I have ridden my

machine 2,600 miles so far, but it was not until I had reached 2,300 that, when trying a very steep hill, my machine suddenly gave forth a sweetch, sweetch, sweetch. When I so described it an experienced motor friend told me it was "knocking." I should be very grateful if you would answer the following questions: (1.) Why have I since that time experienced knocking on every ride? Latterly it has been very constant, and at even slight hills. (2.) Even supposing that I have had more than the average carbon deposit for the last 600 miles (I cleaned it all off at 2,000 miles), why should my machine give signs of knocking when I restart after a stop and knock badly on ordinary hills? If "compression is power," if carbon deposit raises compression, and if again the compression of my machine is (as it actually is) perfect, I presume it ought to be less likely to knock? (3.) But what exactly is knocking? Does it do the machine any harm? If so, in what way? (4.) Once a machine has begun to knock will it do so again more easily under like conditions? Will it, in other words, "grow on" the machine like a bad habit might grow on?—D 4139.

It is difficult to find out whether you actually experience knocking or the screech of a bearing in want of oil. Probably, as you say, you have an excessive amount of carbon deposit on the cylinder head and piston. Up to a certain point it is practically true that a small amount of carbon deposit is more beneficial than otherwise when it gets excessive it causes overheating, and overheating in turn causes flakes of carbon deposit to become white hot. This produces pre-ignition, and what happens is that the piston has to rise against the full force of an explosion, with the result that you hear a noise which may be best described by the word "clink." This noise comes either from excessive carbon deposit or from the cylinder requiring oil and being, at the same time, excessively overheated. This, we think, describes what "knocking" is, and the harm it does results in the looseness of the bearings, and possibly in very bad cases with the bending of the connecting rod. Once the noise has been removed there is no reason why it should occur again. Knocking is also caused by—(1) Play in the bearings; (2) wear of the piston and cylinder; (3) spark too much advanced; and (4) too much air in the mixture.



The M.C.C. London to Land's End and back run, 555 miles. This year a day's rest was arranged between the outward and homeward journeys. The photograph shows most of the competitors at Land's End.



CORRECT TIMING

of valves and ignition is absolutely essential to smooth running in a twin-cylinder engine. Hence the number of disappointed owners of "twin" machines.

In the case of the

MOTO REVE,

THE LUXURIOUS
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two things ensure exactness. The valves are equipped with adjustable tappets, thus permitting the finest possible adjustment; the special design of the magneto secures synchronized firing at all speeds (see "The Motor Cycle," Aug. 4, p. 581).

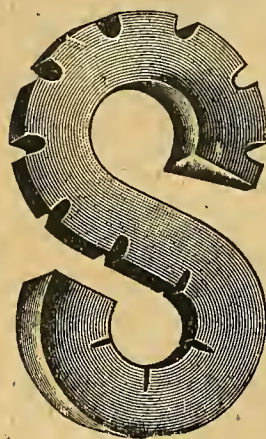
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294 miles 803 yards
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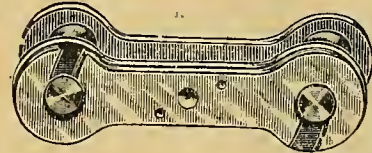
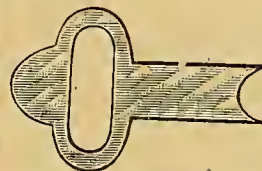
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S.G. Detachable and Adjustable Fasteners.

Very flexible. Accurate fit. For 5/8 in., 3/4 in., 1 in. S.G. Belts.
Protected Design.

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SHAMROCK-EXCELSIOR TYRES
outclass all others.

ONLY 5 000 MILES.

Mr. Sioroni on July 27th writes:

"I am pleased to mention that the last Shamrock Gloria Belt has run me over 5,000 miles and is still in use. The Shamrock-Excelsior Tyre fitted to my back wheel is giving every satisfaction; so far I have had no punctures."

All sizes made.

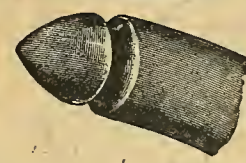
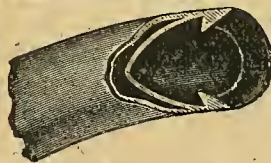
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to it--and to the cyclist
who uses it!--It is LYCETT'S
"LYSO"

The Leading Rubber Belt.

—We say "Rubber" advisedly, because it is practically all pure rubber—not composition—despite the present high price of rubber.

The NEW Belt.

The REAL Belt.

The TRIED Belt.

—We do not claim perfection for this Belt without practical and exhaustive TESTS. It will interest every cyclist to learn that this Belt has been undergoing tests of all kinds since last March and we have made quite sure that it is a real LEADER before proclaiming it to the motoring world.—Regarding its performances

TOM PECK says: "You will be pleased to hear that I used your new 'LYSO' Belt with the Patent Fastener on my Motor Cycle when I broke the Land's End to John-o'-Groat's record on May 24th and 25th. The BELT gave EVERY SATISFACTION. IT DID NOT SLIP OR STRETCH, AND ONLY ONE BELT WAS USED THROUGHOUT THE WHOLE RIDE."

S. C. PERRYMAN says: "Up to the present the 'LYSO' Belt has run about 1800 miles on a heavy 6 h.p. Twin. The last 500 miles were run through Derbyshire... during very wet and muddy week... and the Belt was not spared at all. It is without doubt the MOST FLEXIBLE RUBBER BELT that has yet been produced. I consider it was this quality which enabled me to score fastest time in the Birmingham M.C.C. Hill Climb at Ankerdine. The Belt pulls steadily, is still apparently GOOD FOR ANOTHER 1800 MILES, and IS MY MOST CHERISHED POSSESSION IN THE MOTOR LINE. Wishing you every success."

MR. NORTON, who used our new "LYSO" Belt in the Essex Hill Climb, and WON FIRST PRIZE, says: "AM QUITE ENTHUSIASTIC OVER THE WAY IT PULLED."

—This "LYSO" Belt is positively the strongest, most flexible, clean, durable, and CHEAPEST BELT on the market. Study the illustration—note the Ribs underneath and above, the new suction holes at sides, the gap-less Fastener, etc., and think of the enormous benefits these improvements bring. Although it is the best belt that is made—and therefore should be the most expensive—we have decided, in the matter of price, to err on the sensible side, and market it at a price which places it within purchase of everyone.

We are making the two most usual sizes at present—in $\frac{3}{4}$ " size our

PRICE is 1/6 per foot,

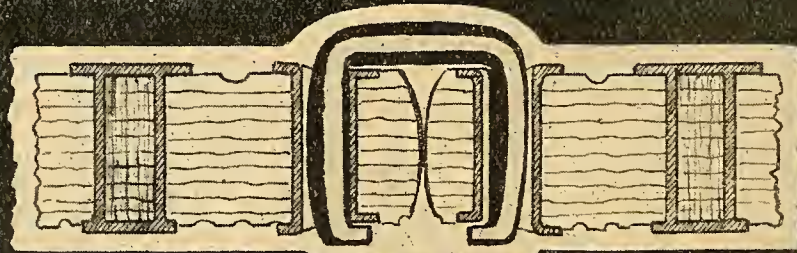
and in 1" size, 1/10 per foot, and this price includes our well-known Patent Fastener as illustrated. Other sizes follow.

—You should have one without delay when you will realize the truth of our last week's assurance "You're in for a good thing."

LYCETT'S (Dept. 9), 'The Saddlery,'
BIRMINGHAM.

"Where the comfortable Saddles come from"

**HERE
IT IS!**



**and this is its
PATENT FASTENER**

A.C.U. Six Days' Reliability Trial (July 5th to 10th).

Table showing marks gained by the survivors.

Rider and Machine.	Reliability Marks. Possible 1000	Brakes 50	Con- veni- ence. 80	Hill- climb- ing. 75	Con- dition. 100	Acces- sibility 20	Silencer 20	Total. 1345	Remarks.	Award
A. D. Draper (3½ Matchless)	1000	50	80	50	100	20	20	1320	—	G.M.
C. Williams (3½ Triumph)	1000	50	80	50	100	20	20	1320	—	G.M.
G. H. Lake (3½ Triumph)	1000	50	80	—	100	20	20	1270	—	S.M.
W. W. Douglas (2¾ Douglas)	1000	50	80	65	100	20	20	1335	—	G.M.
P. Phillips (2¾ Douglas)	1000	50	80	55	100	20	20	1325	—	G.M.
W. C. Bentley (3½ Rex)	1000	50	80	50	100	20	20	1320	—	G.M.
F. G. Boddington (3½ Rex)	918	50	80	—	95	20	20	1183	Repaired petrol pipe at Worces- ter, penalised 18 marks.	Certi- ficate.
W. H. Wells (5 Indian)	1000	48	80	65	100	20	20	1333	Penalised 2 marks for faulty front brake.	G.M.
W. Pratt (3½ P. and M.)	1000	50	80	75	100	20	20	1345	—	G.M.
R. Moore (3½ P. and M.)	1000	50	80	45	100	20	20	1315	—	S.M.
W. Milnes (3½ P. and M.)	1000	50	80	75	100	20	20	1345	—	G.M.
Thos. Canby (3½ P. and M.)	1000	50	80	70	100	20	20	1340	—	G.M.
J. Slaughter (3½ Triumph)	1000	50	80	65	100	20	20	1335	—	G.M.
W. H. Bashall (6-7 Bat)	1000	50	80	75	100	20	20	1345	—	G.M.
H. H. Bowen (6-7 Bat)	1000	50	75	75	100	20	20	1340	Lamp-bracket broke off, penal- ised 5 marks.	G.M.
T. H. Tessier (7 Bat)	1000	50	80	75	100	20	20	1345	—	G.M.
W. Smith (2 Moto-Rêve)	1000	50	80	65	95	20	20	1330	Penalised 5 marks for oil over crank case.	G.M.
G. L. Fletcher (2 Moto-Rêve) ..	1000	50	80	50	95	20	20	1315	Penalised 5 marks for oil over crank case.	G.M.
A. J. Sproston (5 Rex)	1000	50	80	50	100	20	20	1320	—	S.M.
O. C. Godfrey (3½ Rex)	1000	50	80	50	100	20	20	1320	—	G.M.
F. Southam (3½ Triumph)	1000	50	80	70	100	20	20	1340	—	G.M.
R. W. Duke (3½ Triumph)	1000	50	80	60	100	20	20	1330	—	G.M.
F. C. Mustard (3½ Triumph)	1000	50	80	75	100	20	20	1345	—	G.M.
J. O. M. Dixon (5 Vindec)	1000	50	80	25	100	20	20	1295	—	S.M.
J. Holroyd (1½ Motosacoche)	879	50	80	75	100	20	20	1224	—	G.M.
J. F. Crundall (3½ Humber)	1000	50	80	60	100	20	20	1330	—	G.M.
F. Edmond (3½ Humber)	1000	50	80	35	100	20	20	1305	—	S.M.
A. V. Sumner (3½ Humber)	1000	50	80	50	100	20	20	1320	—	G.M.
O. Parker (3½ Humber)	1000	45	80	30	100	20	20	1295	Penalised 5 marks, front brake defective.	S.M.
P. J. Evans (3½ Humber)	989	50	80	50	100	20	20	1309	—	S.M.
F. C. Wood (4 N.S.U.)	1000	50	80	70	100	20	20	1340	—	G.M.
W. F. Newsome (3½ Triumph) ..	1000	50	80	65	100	20	20	1335	—	G.M.
J. Marshall (3½ Triumph)	1000	50	80	60	100	20	20	1330	—	G.M.
Gordon Gibson (3½ Triumph)	1000	50	80	55	95	20	20	1320	Penalised 5 marks for oil over crank case.	G.M.
G. E. Stanley (3½ Premier)	1000	50	80	70	100	20	20	1340	—	G.M.
A. Weatherill (3½ Zenith Gradua)	1000	45	75	30	95	20	20	1285	Penalised 5 marks for broken luggage carrier, 5 marks for broken lamp-bracket, and 5 marks for brake block missing.	S.M.
F. W. Barnes (3½ Zenith Gradua)	1000	50	80	75	100	20	20	1245	—	G.M.
J. W. Morris (3½ Bradbury)	986	50	80	30	95	20	20	1281	Penalised 8 marks for repair dur- ing lunch interval, and 5 marks for mudguard fastening broken.	S.M.
G. Simpson (3½ Bradbury)	787	50	75	—	75	20	10	1017	Penalised 20 marks for broken front forks, 5 marks for broken lamp-bracket, and 5 marks for loose back wheel bearing.	Certi- ficate
P. Platt (3½ Bradbury)	1000	50	80	60	90	20	15	1315	Penalised 5 marks for fractured oil pipe, and 5 marks for dirty and oily machine.	S.M.
J. Eastwood (3½ Bradbury)	921	50	80	20	95	20	15	1271	Penalised 5 marks for oily engine	S.M.
G. E. Carrow (3½ T.T. Triumph)	1000	50	80	70	100	20	20	1340	—	G.M.
Robert King (3½ Triumph)	1000	50	80	—	95	20	20	1265	Penalised 5 marks for oily engine	S.M.
F. S. Barnwell (3½ Triumph)	1000	50	80	75	100	20	20	1345	—	G.M.
T. Woodman (7 V.S.)	1000	50	80	40	100	20	20	1310	—	S.M.
H. B. Lewis (3½ Triumph)	933	50	80	30	95	20	20	1283	Penalised 5 marks for oily engine	S.M.
Robert Fletcher (3½ Premier)	1000	50	80	15	100	20	20	1285	—	S.M.
Rev. Basil Aston (3½ Triumph) ..	1000	45	80	60	100	20	20	1325	Penalised 5 marks for broken front brake.	G.M.
A. J. Stevens (3 Wolf)	1000	50	80	45	100	20	20	1315	—	S.M.
J. Miller (4 Zenith and sidecar) ..	—	—	—	—	—	—	—	—	Finished outside maximum time on fifth and sixth days.	—

G.M., gold medal.

S.M., silver medal.

Time to
light lamps

Special Features

CURRENT
CHAT

Aug. 11 .. 8.30 p.m.

,, 14 .. 8.24 ..

,, 18 .. 8.16 ..

The Next Brooklands Meeting.

Saturday, October 2nd, is the date of the next race meeting at Brooklands. Details of the events for motor cycles will be announced later.

Two Wins on Saturday and Two on Monday.

Last week we were inaccurate in stating that Lee-Evans won five events at the last Brooklands meeting on a 5 h.p. Indian, as his successes totalled four, not five.

Germany's Imports and Exports of Motor Cycles.

Germany's trade returns show that during the first half of the current year she imported 99 motor cycles, or 110 fewer than in the corresponding period of 1908. Her foreign sales, however, were augmented, 1,116 motor cycles being sent out, or 93 more than in the preceding year, the respective values being £33,550 and £31,900.

The A.C.U. Quarterly Trial.

In the last Quarterly Trial, sixteen single-cylinder motor bicycles, five twin-cylinder, and one four-cylinder made non-stop runs, three single-cylinder tricars obtaining full marks in the passenger class. The contest for the silver cup in the four trials of 1909 has now reached its semi-final stage, and the scoring is as follows: Triumph Cycle Co., Ltd. (J. Marshall), 296 marks; Premier Cycle Co., Ltd. (G. E. Stanley), 295; Triumph Cycle Co., Ltd. (W. F. Newsome), 289; R. Griesbach (private owner), 283; N.S.U. Co. (R. J. Bell), 275; and W. Pratt, 271.

Two Motor Cycles Stolen.

The following particulars describe two Triumph motor bicycles stolen within the last fortnight, and will enable readers to identify them if offered for sale. The first was taken from Muswell Hill, and is the property of G. Howe, Park House, Sydney Road, New Southgate, N. The engine number is 2,207. Date of delivery, 29/10/07. Cylinder head chipped near exhaust port.

The second is W. Dewar's T.T. Triumph, and was stolen from the garage at Brooklands on Saturday, July 31st, between 4.20 and 5.30 p.m. The engine number is 5,951; frame number, 140,255. The machine is minus mudguards, stand, and carrier. Tyres are Dunlop 24in., and carburetter is specially cut away in half crescents on both sides. There are two holes in the induction pipe fitted with hub lubricators, and the bottom fin of cylinder is broken below inlet valve. Mr. Dewar's address is 14, Anhill Road, Grove Road, London, E.

The Isle of Man Race.

If the necessary permission can be obtained, an open hill-climb will be held in Manxland on September 24th, the day after that of the T.T. Race. The Auto Cycle Union will, of course, organise the event if it is held.

The London to Plymouth and back Run.

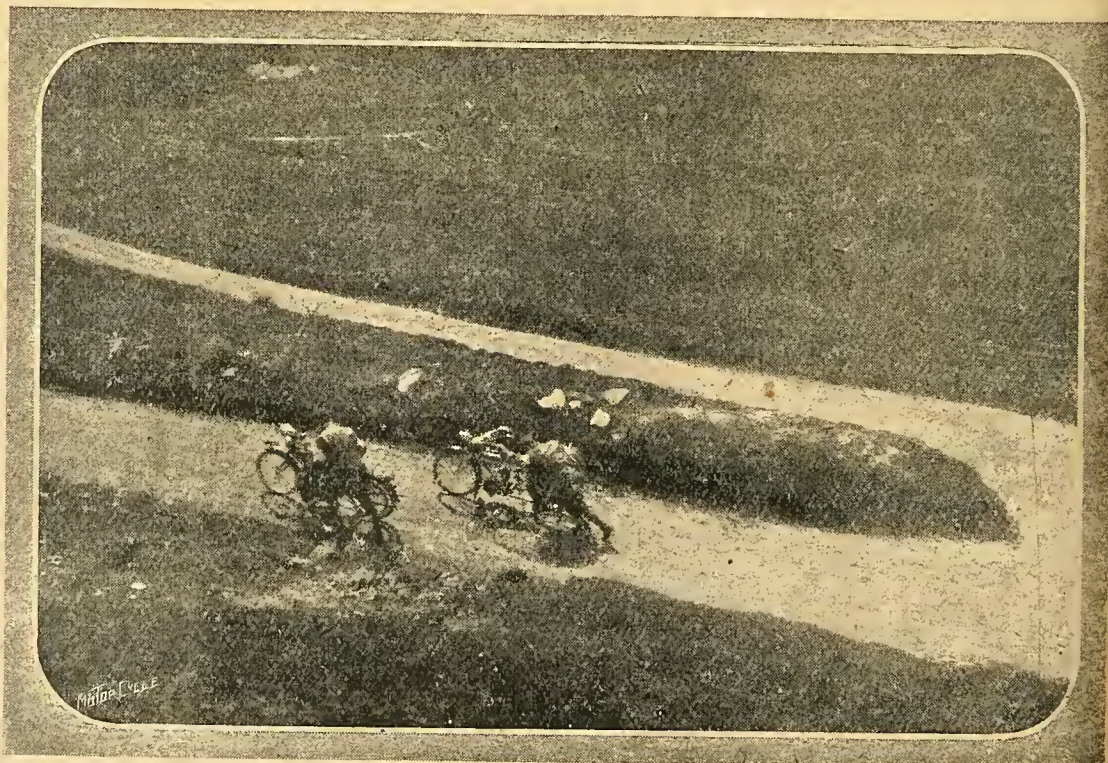
The committee of the A.C.U. has seriously considered the question of allowing the three riders who were disqualified for excessive speed in the London to Plymouth twenty-four hours run from taking part in any future competitions promoted by the Union.

The Speed of Motor Cycles on Hills.

In the Bradford M.C.C. open hill-climb at The Steep, Denholme, the following speeds were accomplished by the winners of the different classes: Single-cylinder standard class—E. S. Myers (3½ h.p. 1909 Triumph), 36 m.p.h. Twin-cylinder standard class—Felix Scriven (5 h.p. Rex), 38.7 m.p.h. Racing singles—F. Mackay (3½ h.p. Triumph), 43 m.p.h. Open-to-all class—L. W. H. Bashall (8 h.p. Bat), 48 m.p.h.; 2. J. Scriven (5 h.p. Rex), 47.8 m.p.h.; 3. O. C. Godfrey (3½ h.p. Rex), 45 m.p.h. (fastest single-cylinder). It is interesting to compare the above speeds with regard to the power, and it also shows how big an advantage special speed models have over the comparatively heavy tourist machine.

SPEED AND POWER.**THE TOURIST TROPHY RACE.
REGULATIONS.****Straying Horses on the Road.**

At King's Heath Police Court, on the 30th ult., James Corbett, Manor Farm, Wythall, was summoned for allowing five horses to stray in Shaw Lane, Hollywood. Two motor cyclists made a complaint to a police constable and the five horses belonging to the defendant were found straying in Shaw Lane off the main road. Defendant said he took every care to keep the animals in his field, but someone had left the gate open. The magistrates fined defendant 2s. 6d. and costs. At the same court on the same day S. Hargreaves was summoned for driving a motor bicycle at a speed dangerous to the public at King's Heath. He was alleged to have travelled at a speed of thirty miles an hour. Hargreaves denied the charge, estimating his speed at about eight miles an hour. He also stated that the engine was not firing at the time the officer held up his hand. The magistrates fined the motor cyclist 20s. and costs. Although it would not be fair to fine an owner of horses for negligence on the part of another person, the inconsistency of the two fines is apparent to anyone, and shows that the magistrates have one scale of fines for danger to one section of the public, and another scale for motor speed alleged to be dangerous. Magistrates seem to regard all motor cyclists as men of means.



One of the hairpin bends on Amulree Hill, showing incidentally two Scottish Trial competitors "bus." This exceptionally severe climb, which includes stretches of 1 in 5, and two sharp corners, demands a two-speed gear, although it has been climbed three times in succession by a 3½ h.p. single geared pedalless touring bicycle.

Muratti Trophy Trials.

The Muratti Trophy Open 400 Miles Reliability Trials in connection with the Ulster Centre Motor Cycle Union have now been fixed for the last days in the present month.

Land's End and Sidecar Record.

Land's End to John-o'-Groat's on a bicycle and sidecar record was established last week by Vivian Olsson, total time being 65h. 14m. This is the first time such a long and arduous journey has been attempted on a passenger motor cycle.

Accident Driving of a Horsed Vehicle.

C. Lucas, a native of St. Helier, Jersey, was charged on the 27th ult. with driving a horsed vehicle in a careless manner and causing an accident to Col. Joseph Espin Dickinson, who was riding a motor cycle. The magistrate said that accused had been very negligent, and that he would have to pay a fine of £6 or go to prison for a fortnight. The fine was paid, so we can only presume that Lucas is paying for his little escapade of a fortnight's confinement.

Sidecars in the U.S.

Although it may seem a curious fact to British readers (writes a Pittsburg correspondent), outside Chicago the sidecar is locally unknown. Greater Pittsburg, with its 600,000 inhabitants, cannot boast of a single sidecar; in fact, a sidecar when used always requires a very explanation as to its meaning, the production of an illustration of a sidecar excites considerable curiosity. This is not surprising when one takes into consideration that the wheel on pedal bicycles was in use long before it had attained the height of its popularity in England before anyone had fitted it to a modern safety bicycle. Even now it is seldom seen in the States.

London-Land's End-London Run.

Some comparisons between last year's event are interesting: S. G. Frost won the Jarrott Cup, London-Land's End and back run, and also the Motor Cycling Club Challenge London-Edinburgh and back, in 1908.

His performance has been repeated this year by F. G. Smith. Frost's best approach to punctuality on last year's run in any one of the six timed stages was ten seconds. Smith's best in this year's run was 16s., his consistent running throughout winning him the cup, which he richly deserves. Last year S. G. Frost (winner of cup), O. L. Summers (runner up) and H. G. Bell (third in order of merit), each got within 10s. of punctuality at one or other of the timing points. This, has, however, been repeated by several riders in this year's run. H. G. Bell, the trials champion of the club, as reported in last issue of *Motor Cycle*, arrived absolutely on time at one timing point, and was 5s. at another. Serious misadventure at two other points, however, cost him the cup. G. Brough at one point was only 2s. out, and at another 4s., and G. Purchase got in 3s. at one point. A. T. Brown, W. Mussell, and G. Pepper each got within 15s. at one point.

Scottish Five Days' Reliability Trials.

We are informed by the hon. secretary of the above, Campbell McGregor, that J. D. Morrison (6 h.p. Matchless) qualified for a silver medal and certificate, not R. S. Morrison, as stated in our report of the event. The committee would like to take this opportunity of thanking the F.N., Rex, R.O.M., and Triumph Co.'s for their very kind support, also the numerous friends who assisted in checking.

Mont Ventoux Hill Climb.

This event is to take place on the 4th and 5th September. There are three classes for motor cycles: Class 1, under 2 h.p.; Class 2, over 2 h.p.; Class 3, tricars carrying two persons, no engine limits. Any touring machine which can climb this hill without pedal assistance can truly be classed as a real hill-climber. Motor cycles which have performed well on the hill up to the present have been high-powered racing machines, which can only be manoeuvred round the corners by very expert riders. Giuppone (now the driver of a racing car) once

annual Tour de France trial has been postponed, either through lack of entries, or enthusiasm, or both.

Records.

Hitherto the only classes of records recognised by the Auto Cycle Union have been those for machines with "engines not exceeding 76 x 76" and machines with "any size engine." It has now, however, been decided to recognise records made in a number of other classes, namely, those made by machines with engines having a cylinder capacity not exceeding 275 cc.; not exceeding 344 cc.; not exceeding 500 cc.; not exceeding 750 cc.; not exceeding 1,000 cc.; and exceeding 1,000 cc.

The Quarterly Trials.

We are asked to state that the reason Mr. W. Hewitt, jun. (3½ h.p. Excelsior), failed to obtain an award in the last A.C.U. Quarterly Trial was that he had lost no marks, when, unfortunately, a rider who was in front on one of the test hills dismounted just as Hewitt was about to pass him, and a fall resulted, doing more damage to the machine than stated in the official report, or that he was aware of at the time. This accounted for the disarrangement of the gear and the slipping of the belt.

Motor Cycle Racing at Cambridge.

At the Cambridge Mammoth Show Sports at the beginning of last week, the three miles open motor cycle handicap was won by H. P. Storey (2¾ h.p. Cocks); 2nd, P. V. Wallis (2¾ h.p. King); 3, H. Martin (2¾ h.p. Martin); 4, W. Hodgkinson (2¾ h.p. J.A.P.). Winner's time, 5m. 17½s. Harry Martin afterwards attempted the five miles track record of 8m. 29½s., and was successful in clipping 2½s. off the record. A three miles open scratch race was won by P. V. Wallis, H. Martin finishing second, H. S. Wallis (2¾ h.p. King) third, and W. Hodgkinson fourth. Winner's time, 5m. 23s. The last event, a five miles open handicap, resulted in a win for H. S. Wallis, H. P. Storey being second, P. V. Wallis third, and H. Martin fourth. Winner's time, 8m. 39½s.

Quadrant Motor Co. v. O'Brien.

On Tuesday, the 3rd inst., at the Birmingham Assizes, Mr. Justice Bragg, sitting without a jury, gave judgment in a case in which the Quadrant Motor Co. claimed damages from E. S. O'Brien and Ada O'Brien, his wife, trading as the Challenge Cycle Co., Coventry, for breach of contract. The breaches were in respect of contracts made between William Priest, of the Quadrant Motor Co., and the defendant O'Brien for the manufacture of bicycles. The plaintiffs sought a declaration that they were entitled to the name Quadrant, and the defendants counter-claimed for damages stated to have arisen partially out of the difference between the contract price for the bicycles and the market value. Defendant also sought an injunction restraining the plaintiff company from using the name Quadrant. A settlement was arrived at, and judgment was agreed to for the Quadrant Motor Co. in the two actions for £500 and costs, and also in the counter-claim, the Quadrant Motor Co. to have the sole right to the use of the name Quadrant.

FUTURE EVENTS.

Aug. 18—British M.C.R.C. Fifth Members' Meeting at Brooklands.

Aug. 21—Coventry and Warwickshire M.C. Open Hill-climb for Motor Cycles.
Class I. Full Touring Machines.
Class II. T.T. and Special Machines.

Aug. 27 and 28—Essex M.C. 24 Hours' Ride. Woodford to York and back.

Aug. 30-31—Muratti Trophy Open 400 Miles Reliability Trials in connection with the Ulster Centre M.C.U.I.

Sept. 1.—Entries close for the Tourist Trophy Race on Sept. 23rd.

Sept. 23—THE TOURIST TROPHY RACE FOR MOTOR CYCLES IN THE ISLE OF MAN.
Limit cylinder capacity.
Singles: 500 cubic centimetres.
Twins: 750 cubic centimetres.

Oct. 2nd.—Race meeting at Brooklands.

climbed the hill on a lightweight by dint of hard pedalling, and we believe that several other lightweights have climbed it with laborious pedal assistance, but the ideal mount for a hill of this kind is a good motor cycle with variable gear. As there are signs that the British-built pedal bicycle is gaining favour in France, we should say it would be to the advantage of any manufacturer of a good variable-gear motor cycle to compete in this event, and to demonstrate to our French cousins that the motor cycle as made in England is almost a perfect touring mount. The popularity of the motor cycle is nothing like so great in France as it is in England, due in all probability to motor cycle manufacturers having turned their attention to the manufacture of small cars. Many names which a few years ago were a household word in English motor cycling circles are now no longer heard of, except in connection with voiturette manufacture. Even the

END-TO-END SIDECAR RECORD.

M R. VIVIAN OLSSON, with Mr. Charles Talbert as passenger, has succeeded in establishing a motor bicycle and sidecar record from John-o'-Groat's to Land's End. The machine used was a 7 h.p. twin-cylinder two-speed V.S., and the sidecar a Mills-Fulford fixed wheel. Mr. Olsson prepared for this record in a very systematic way. He chartered the services of a timekeeper, D. K. Hall, who gave the word to start at 1.35 a.m. last Thursday, and also travelled to Land's End to check the rider at the finish and examine the seals around the cylinders and frame which he had fixed at the start. These were found to be intact. Mr. Olsson had a supply of postcards on which were printed the following:

JOHN-O'-GROAT'S TO LAND'S END.

Mr. Vivian Olsson and Mr. Charles Talbert arrived here at and left at

Riders' signatures

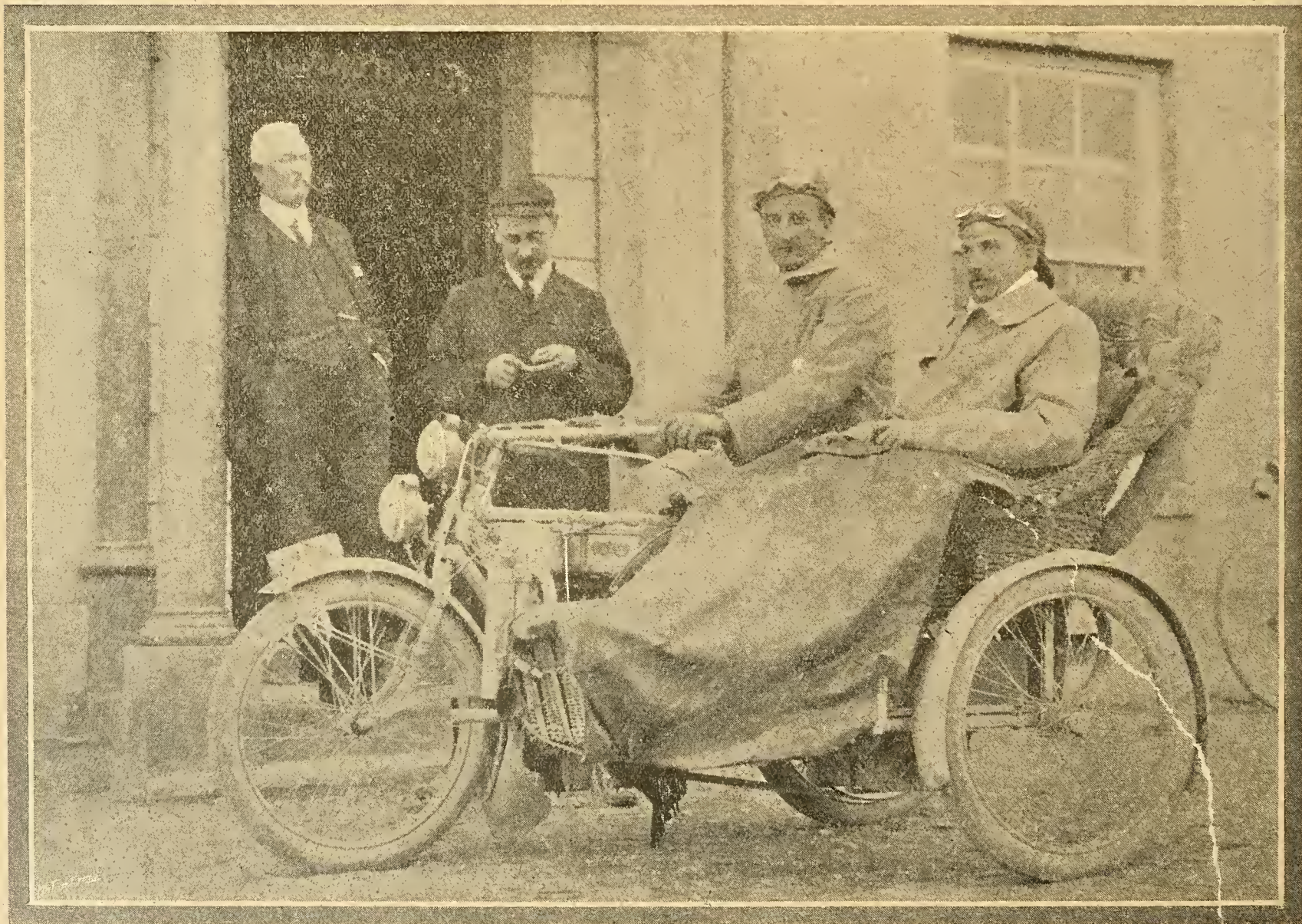
Witnesses

Dated this day of August, 1909.

These postcards, duly signed, we began to receive immediately after the start, and thereafter they arrived regularly, showing the excellent progress being made by the record breakers.

Dingwall was reached at 8.25 a.m., Blair-Atholl at 2.10 p.m., and here a thirty-five minutes' stop was made. At 10.15 p.m. Lanark was reached, the riders resting here until 2.30 a.m. Friday. Pressing onwards Carlisle was the next stopping place, the time of arrival being 6.30 a.m., and time of departure 7.30 a.m. At 1.50 p.m. Wigan was reached, and a forty minutes' halt was made here. At 10.15 on Friday evening the record breakers reached Worcester, and rested here until 3 a.m. At Bridgwater the time was 9.15 a.m., and a thirty minutes' stop was made.

The journey's end was reached at 6.49 on Saturday evening, the total time elapsed since the departure from Land's End being 65h. 14m. The motor bicycle ran with great regularity. Two punctures were experienced in the back tyre, and the operating rods for the low gear were adjusted once. The sidecar attachment gave some trouble, on account of the bolts supporting the front portion shearing twice. The first time the passenger just saved himself from going out backwards. With the exception of some rain near Denny, the weather was perfect during the whole trip. Up to the present there has never been an attempt to establish a Land's End to John-o'-Groat's passenger motor cycle record, so that Mr. Olsson may feel proud that his first attempt has proved so entirely satisfactory. His average speed, including all stops, was between fourteen and fifteen miles per hour.



Vivian Olsson, 7 h.p. two-speed geared V.S. and Mills-Fulford rigid sidecar being checked in at Land's End by timekeeper D. K. Hall

NO INLAND REVENUE LICENCE.

"The Motor Cycle" helps to secure the dismissal of a case.

A T Spalding Petty Sessions on the 3rd inst., Theophilus Buckworth, of Reform Street, Crowland, cycle agent, was summoned for using an unlicensed motor cycle at Crowland on July 5th.—Defendant denied the offence.—Inspector Brackenbury stated the case.—Defendant claimed that he was exempt as he used his motor cycle solely for business purposes.—Supt. Burton maintained that the cycle was not solely adapted for business purposes, as he contended it must be.—Defendant said he had always said until he saw a paragraph in *The Motor Cycle* to the effect that photographers and newspaper boys using motor cycles in their business were entitled to exemption. This was a great point with the R.A.C. and A.C.U., and he dare say they would appeal against it if he were convicted.—Supt. Burton: We shall be quite prepared to meet it.—The Magistrates retired, and were absent for some time. On their return the Chairman said the majority of the bench were of opinion that the case should be dismissed.—Supt. Burton: Might I ask your worships on what

grounds it has been dismissed?—The Chairman: Because we find it is used entirely for business purposes. That is the opinion of the majority of the bench.—At the close of the court, Supt. Burton asked the bench to state a case. The point would arise again, and it would be better to have it settled.—The Chairman said the majority on that question was that the cycle was used entirely for business purposes.—Supt. Burton: That is the point. I maintain that it does not come within the meaning of the section. It is not adapted solely for use in business.—The Chairman: Do you want a case.—Supt. Burton: Yes. It is a point that should be settled.—The Chairman said Mr. Marples would look into the case.—Supt. Burton said the man declined to take out a licence, and said that he used the cycle entirely for business purposes, and that was their worships' decision. On that he was dissatisfied.—The Chairman intimated that the Clerk would look into the matter. We understand that the Superintendent has decided to risk the ratepayers' money and lodge an appeal.

M.C.C. London-Land's End-London Run.

The Results.

A T a meeting of the committee of the Motor Cycling Club held on Friday evening last the checking sheets and timing records of the London to Land's End and back reliability competition were analysed. Owing to a discrepancy between the route card and the correct mileage between Mitchell and Redruth, the intermediate punctuality check at this point was cancelled, and the award was made irrespective of the scores in this control. The trophy presented by Mr. Charles Jarrott was awarded to F. G. Smith on a $3\frac{1}{2}$ h.p. Triumph, whose score was a total of only 2m. 22s. deviation from exact time

at the five special controls. Second place was occupied by H. G. Bell on a similar machine with a total of 3m., and L. A. Baddeley was third with 4m. 42s. It is a remarkable fact that Smith, by winning both the Edinburgh and the Land's End competitions, repeats the performance of S. G. Frost last year.

Gold medals were awarded to the second and third men above named, and also to E. Gwynne, G. Purchase, A. T. Stanton, W. W. Douglas, G. Brough, H. Gibson, W. Cooper, and J. Winslow, silver medals to Stanley Webb, J. V. Robinson, and E. Peppercorn, and a bronze medal to O. L. Summers.

CLUB NEWS.

Newcastle and District M.C.

The above club held its fourth annual two days' reliability trial for the N.S.U. cup on the 1st and 2nd inst.

The route set for the first day was from the club garage, Newcastle, *via* Kelso, Moffat, New Galloway, and Newton Stewart to Stranraer, where a stay was made for the night—distance of 222 miles. The second day the route was from Stranraer, *via* Castle Douglas, Annan, Canobie, Langholm, Hawick, and Jedburgh, to the club garage again—further distance of 204 miles, the total mileage being 426 $\frac{3}{4}$.

At Stranraer there were five competitors standing equal as regards marking, which pointed to a very keen struggle for the premier position. They were G. W. Raper, R. Crosier, R. Ellis, R. B. Smith, and E. L. Bates.

The weather remained fine and dry for the second day's journey, and ten competitors checked into Langholm for dinner, and later at Otterburn for tea, and ultimately at the clubhouse at the finish of the trial.

Winner of N.S.U. cup and special gold medal, presented by Mr. Robson Crosier.—G. W. Raper (6 h.p. N.S.U. twin).

Winner of A.C.U. special medal.—R. Crosier ($3\frac{1}{2}$ h.p. Ariel).

Winner of silver cigarette case, presented by Sir R. K. Arbuthnot, Bart.; R.N., for rider who has not previously won a club prize, doing best performance.—J. J. Hall ($3\frac{1}{2}$ h.p. Triumph).

Winners of club gold medals, riders not losing thirty marks between eight controls, half a minute late or early on schedule time representing loss of one mark.—Robert Ellis ($3\frac{1}{2}$ h.p. Special Rex), R. B. Smith (4 h.p. N.S.U., single), Geo. Dyson ($3\frac{1}{2}$ h.p. Premier), C. Reinhart ($3\frac{1}{2}$ h.p.

N.S.U.), T. Smith ($3\frac{1}{2}$ h.p. Triumph), and E. L. Bates (5 h.p. N.S.U. and sidecar).

Winners of club bronze medals, riders completing the course under forty-eight hours.—J. J. Hall ($3\frac{1}{2}$ h.p. Triumph) and T. W. Hall ($3\frac{1}{2}$ h.p. Bradbury).



Hull A.C.C. Reliability Trial to Whitby and back. Some competitors leaving the Newland control.

Club News.—

Manchester M.C. Reliability Trial.

The results of the above club's reliability trial on the 31st ult. to Dolgelly have been returned as follows: Single-cylinders—1, J. Eastwood (3½ h.p. Bradbury), 897.2 marks; non-trade members' prize, A. Moorhouse (3½ h.p. Triumph), 890 marks, also winning the timed hill-climb on formula. Twin-cylinders—H. Read (5 h.p. Dot), 885 marks; non-trade members' prize, J. Smith (5 h.p. Rex), 790 marks; Eastwood (3½ h.p. Bradbury), made fastest time in the hill-climb *en route*. Maximum number of marks, 900.

Western District M.C. (London).

Owing to the unfavourable weather and greasy condition of the roads on the 24th ult. the annual hill-climb fixed to take place on that date was postponed. It has now been decided by the committee to hold the event on Saturday, August 28th. Separate classes will be arranged as follows: Class 1, lightweights; Class 2, touring machines with single-cylinders of any capacity; Class 3, touring machines with multi-cylinders of any capacity; Class 4, for racing machines, including Tourist Trophy models, Speed Kings, etc. Messrs. I. Babbage and H. J. M. Hughes have been appointed to act as judges. Results will be decided on A.C.U. formula. Entries should reach the hon. secretary, Mr. F. H. Mullett, 53, Kingsley Avenue, West Ealing, W., not later than Monday, the 23rd inst.

Scarborough and District M.C.

On the 2nd inst. the above club held its second annual speed judging trial at Snainton. The competitors had to run over a measured half-mile, first at twelve miles an hour, and then at twenty miles an hour. First prize was won by Mr. Dale, of Middlesbrough, who was only three-fifths of a second out on the 20 m.p.h. test; the second prize was won by Mr. C. Pugh, 10s. out. Mr. V. Topham officiated as timekeeper. After the competition the members adjourned to the New Inn, Snainton, for tea. In the evening Mr. Ringrose, of West Ayton, opened the club quarters in Hibernia Street, which consist of a motor cycle garage with a reading room and library above. An exhibition of excellent lantern slides was given by the secretary.

Leeds M.C.C.

The hill-climbing competition held on Saturday last was originally arranged to be held on Otley, Old Chevin, but one of the residents near by requested the officials to change the venue as his wife was very ill. He very kindly offered to present a cup at some future date for competition. A police sergeant told the officials of another hill, Norwood Edge, and all the competitors rode there—about five miles from Otley. One corner of the hill was found to be very tricky—almost as bad as Sutton Bank. Several competitors sustained falls in negotiating this corner. The results were: 1, G. Mackay; 2, Shaw; 3, A. B. Hughes. Fastest time was made by the trials hon. sec., A. E. Bagshawe.

Next Saturday the annual speed trials will be held at Temple Newsum in conjunction with the Bradford M.C.C.

Falkirk and District M.C.

A hill-climbing contest was held on Preston Hill, near Linlithgow, on the 31st ult. The hill selected has two bad corners, the second of which, known as the "Devil's Elbow," is very sharp, and is immediately followed by a fair gradient. The difficulties in negotiating this second corner were greatly increased by a quantity of loose metal at the corner, which accounted for several of the competitors coming to grief.

After the competition the members adjourned to St. Michael's Hotel, Linlithgow, where they were entertained to tea by the club. The following is a list of the winners and their machines in the order in which they finished.

Class 1—R. Shanks (1½ h.p. F.N.) Class 2—A. H. Alexander (3½ h.p. Rex), D. R. Kelly (3½ h.p. Triumph), and R. H. Salvesen (3½ h.p. Triumph). Class 3—J. A. Une (4½ h.p. F.N.), J. M. Dobson (5 h.p. V.S.), and D. S. Cousins (5 h.p. V.S.) Class 4 (Mitchell Cup)—Winner, R. Shanks (1½ h.p. F.N.). A. B. Blane (1½ h.p. F.N.) Class 5—D. S. Cousins (5 h.p. V.S.), G. Kern (6 h.p. N.S.U.), and J. M. Dobson (5 h.p. V.S.)

D. S. Cousins made the fastest time of the day on his 5 h.p. V.S. It was a fine exhibition of skilful driving, his machine taking him up the hill at a great pace, and picking up after turning the corners in splendid style.

Ulster Centre M.C.U.I.

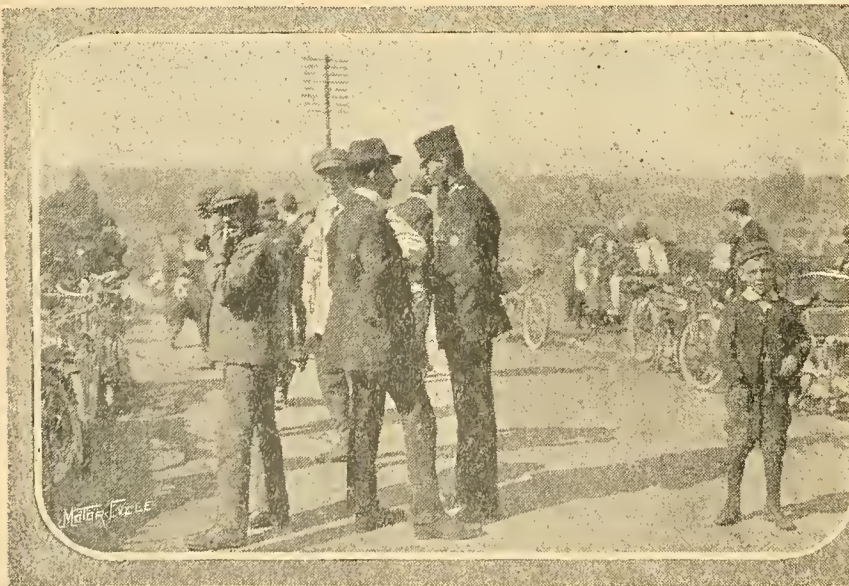
A hill-climbing competition in connection with this centre took place on the 7th inst. at Magheramorne, Co. Antrim, under the following conditions: Each competitor to make a timed trial ascent of the hill, the difference in the times recorded to represent the handicap, and any rider who in the hill-climb exceeded his trial time by five per cent. was to be considered out of the contest. The timing was done by a new electric apparatus recently acquired by the centre, and this worked without a hitch. The hill proved one of the best ever selected, the surface being good and the corners not too dangerous. Details:

Trial times: J. Stewart (3½ h.p. Triumph), 56s.; F. H. Maclean (3½ h.p. Triumph), 56s.; S. P. Corry (3½ h.p. Triumph), 57s.; J. J. O'Rawe (3½ h.p. Rex), 57½s.; A. V. Blake (3½ h.p. Triumph), 59s.; T. T. Maclean (3½ h.p. Triumph), 60½s.; J. S. Garrett (3½ h.p. Rex), 68½s.

Placings:	Competition time.	Handicap.	Nett time.
1. J. S. Garrett (3½ h.p. Rex)...	66½s.	12½s.	54s.
2. A. V. Blake (3½ h.p. Triumph)...	58½s.	3s.	55½s.
3. S. P. Corry (3½ h.p. Triumph)...	57s.	1s.	56s.
4. F. H. Maclean (3½ h.p. Triumph)...	56½s.	scratch	56½s.
5. T. T. Maclean (3½ h.p. Triumph)...	60½s.	4½s.	56½s.
6. J. J. O'Rawe (3½ h.p. Rex)...	57½s.	1½s.	56½s.
7. J. Stewart (3½ h.p. Triumph)...	57½s.	scratch	57½s.

Officials: Starter, R. G. Lindsay; timekeeper, E. B. Waring; stewards, J. J. Kennedy, R. W. Sloan, L. MacLaine, and H. Denby.

The open 400 miles reliability trials for the Muratti Trophy will take place on Monday and Tuesday, August 30th and 31st. Entry forms and all particulars can be had from the secretary, E. B. Waring, Grand Central Hotel, Belfast.



A police sergeant telling a Leeds M.C.C. official of another hill, the one at Otley, Old Chevin, not being available for reasons stated above.



Competitors in the Leeds M.C.C. annual hill-climbing competition last Saturday photographed at the viaduct over Ludley reservoir.

Club News—

Walthamstow M.C.

The above club held the Yarmouth and back competition on the 17th ult. The course was Walthamstow, Newmarket, Norwich, Acle, Yarmouth, and back; distance, 250 miles.

Out of thirteen starters, nine completed the journey to schedule time, viz.: J. W. Percival (6 h.p. Fafnir tricar), F. W. Applebee (5 h.p. Rex), F. A. Applebee (5 h.p. Rex and sidecar), W. H. Applebee (4½ h.p. Minerva and sidecar), J. H. Kerr (5 h.p. Rex and sidecar), G. Whitter (3½ h.p. Rex), H. Hudson (3½ h.p. Peugeot), W. S. Low (3½ h.p. Rex), and D. Fairhead (3½ h.p. J.A.P. Royal).

On August 28th the competition for Mr. G. West's prize will be held on a circular course of about twelve miles to be covered four times.

Coventry and Warwickshire M.C.

The hon. sec. of the Motor Cycle Hill-climb, W. F. Grew, 19, Hertford Street, Coventry, has received one or two letters regarding the regulations for Class 2, and as there seems to be some doubt with regard to the equipment of machines in this class we are requested to point out to intending competitors that all machines in Class 2 will require to be fitted with exhaust pipes and efficient silencers. Entries at ordinary fees will be accepted up to first post to-morrow (Thursday) and at double fees up to Saturday next first post. Several well-known riders have already entered, and a successful competition is practically assured. We hope to publish a complete list of entrants and their machines in the issue of August 18th. In the meantime intending competitors are asked to send in their entries without delay.

Ayr and District M.C.

The above club brought off a double event on Monday afternoon, the 2nd inst., when twenty-two members took part. The first item consisted of a speed-judging competition, the participants starting from the headquarters of the club and riding to Giltreehill Brae, a distance of seven and a quarter miles, at various speeds ranging from ten to twenty miles an hour, the different speeds being balloted for before starting. The winner was Q. Clark (5 h.p. Rex), who was 1m. 55s. fast.

The second event was a hill-climb on the hill above mentioned, and this proved by far the most interesting and exciting of the three climbs organised by the club this year. The hill, which is over half a mile in length, is extremely steep, and has two right and left-hand bends, on which some of the members came to grief, but, fortunately, without sustaining any serious injury. The result was based on the

Capacity × Gear × Time

formula, $\frac{\text{Weight}}{\text{Capacity} \times \text{Gear} \times \text{Time}}$, and the competitors

Weight

were divided into two classes, the results being as under-noted. -A special prize for the fastest time of the day was won by A. P. Walker on a 5 h.p. Vindec Special.

CLASS I. (all under 520 cc. capacity).

Figure of merit.

- | | |
|--|-------|
| 1. Jas. McClure (3½ h.p. Triumph) ... | 3.6 |
| 2. John Meredith (3½ h.p. Triumph) ... | 11.37 |
| 3. W. Munro (3½ h.p. Brown) ... | 19.2 |

CLASS II. (all over 520 cc. capacity).

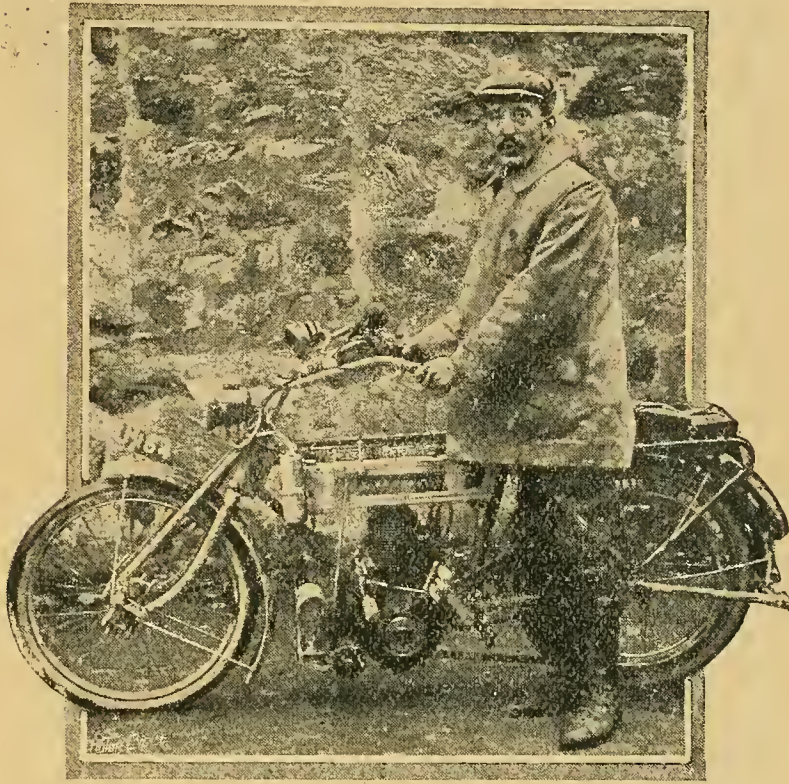
- | | |
|---|------|
| 1. A. P. Walker (5 h.p. Vindec Special) ... | X |
| 2. A. Sommerville (5-6 h.p. Roc) ... | 9.1 |
| 3. Q. Clark (5 h.p. Rex) ... | 39.5 |

Southampton and District M.C.

A speed-judging competition held last Wednesday resulted in a win for A. G. Butler, E. Prince being second, and W. Winckworth third.

Bolton and District M.C.C.

The above club will hold its annual hill-climb on Saturday the 21st inst. The hill will not be announced till the day of the competition. This year there will be three classes —(1) single class touring machines, (2) twin touring machines, and (3) single racing class..



J. Eastwood (1909 3½ Bradbury), who made fastest time in the Manchester M.C. hill climb, and also accomplished a non-stop run in the same club's reliability trial. (See below.)

Manchester M.C.

This energetic club held a one day's reliability run on Saturday last. The course mapped out was a most arduous one, made more difficult by the heavy roads and almost incessant rain. The competitors numbered ten motor cyclists and six autocarists, and were despatched from a point close to Manchester shortly after 8 a.m. Rain continued all the way through Chester, Wrexham, Chirk, Oswestry to Llanfyllin, 76½ miles, where engines were stopped for the first time while one hour was allowed for lunch. Then by way of Mallwyd and Dinas Mawddwy to Bwlch Oer-drws, where a hill-climb took place up this famous hill. The surface, generally good, was in a very bad condition, yet three motor cyclists made a clean ascent. J. Eastwood, 3½ h.p. Bradbury, made an absolute non-stop run; he also did fastest time on the hill. Other competitors to get through were A. Moorhouse, 3½ h.p. Triumph; H. Reed, 5 h.p. Dot; and J. Smith, 5 h.p. Rex; the remainder retired. The formula results will be announced later.



THE BIRMINGHAM v. OXFORD M.C.C. INTER-CLUB HILL-CLIMBING COMPETITION.

The winning team of the Birmingham M.C.C.

The Oxford Representatives.



LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Silence.

[4180.]—I can corroborate all previous letters *re* the Clair silencer. Some three months ago I fitted one of these to my 4 h.p. Bat. and as in Mr. C. Lake's case, my machine is ninety per cent. quieter than formerly. That awful, nerve-destroying, Gatling gun effect is entirely eliminated, and one can now distinctly hear the valves closing. To prove its efficacy one has only to open the cut-out.

I scarcely need add I have no interest in the makers beyond being a

SATISFIED PURCHASER.

[4181.]—Referring to letter 4163 in the issue of the 28th ult., this is a matter of great interest to me. The distinct bark of my 3½ h.p. — is my great bugbear; with less noise my enjoyment would be considerably enhanced. Explanations are, however, wanted to fully understand how this butterfly valve at extreme end of 5 feet of exhaust pipe is operated. Is the valve opening instead of the holes found in all other exhaust boxes?

I should be glad if Mr. Grafton would give us a little more enlightenment, or tell us where this exhaust trap can be purchased.

J. FALLOW.

[4182.]—I have read with interest the recent correspondence on silencers, and have thought that my personal experience might prove of assistance to those who are on the look-out for a really silent exhaust box, giving no back pressure.

I had tried several, including some home-made ones, until recently, when I obtained a St. Denis silencer of suitable size, from United Motor Industries, Ltd., Poland Street, London, and which after ample trials I can thoroughly recommend for absolute silence. The first thing that struck me was the speed I got out of my motor, proving the superiority of the silencer over what I was using as regards back pressure. These silencers are strongly made, and at about the usual price of such articles.

E. RYE.

Cardiganshire Police and Motor Cyclists.

[4183.]—Seeing farther reference being made to "the roads leading to Aberystwyth and the police," I think that if you will permit me to state my case, you will see that the comments in *The Autocar* are not altogether uncalled for.

Last month I was a competitor in a reliability run from Cardiff to Aberystwyth and back in connection with the Cardiff M.C., and during that run, on rounding a corner, about eight miles out on the return journey, I came across a policeman, and was called upon to stop. I was then accused of riding round the corner at the rate of 30 m.p.h., the result being that I was fined £2 and £1 ls. costs, and my licence endorsed, for riding to the danger of the public. Considering the very sharp bend of the road, and the loose surface, my contention is that it was impossible to do anything like 20 m.p.h.; and also, seeing that there was no habitation of any description and not a soul to be met for miles but the policeman, I have yet to learn how I rode to the danger of the public. I may also add that another of our members was timed over a stretch in the same run, proved to be doing 30½ m.p.h., and was only fined £1 and 14s. 6d. costs. Is this called justice?

H. J. RATCH.

Where Improvement is Needed.

[4184.]—It is quite refreshing to read the intelligent views as expressed by Mr. Edgcombe, which I fully endorse as I consider the so-called carbon deposit to be ninety per cent. road dust.

On a recent tour of 887 miles I found, on running from Birmingham to Southampton and taking my cylinder off, a much deposit as I found on reaching Durham from Weybridge—probably more. Hampshire I consider the very worst county for dusty roads.

Two rubber pipes of requisite section for main and auxiliary air, led, as suggested by Mr. Edgcombe, to handle bar *via* frame, would no doubt overcome this bugbear.

For the above reason I always when coasting shut the air right off with petrol full on.

H. P. LEWIS, Captain "Royal Mail."

Sunday Competitions.

[4185.]—I entirely agree with "Anti-Humbug's" letter regarding Sunday competitions. Personally, I am not a competition enthusiast, but I think the A.C.U. is very unreasonable to try to ban any competition that may be held on a Sunday. Every motor cyclist cannot enter competition on a week-day. Personally, I cannot see any difference between a party of motor cyclists going for a run of about 10 miles, and a party holding a reliability trial, speed-judging or a consumption trial. I think that riders in a competition of that description are no more likely to bring the sport into disrepute than a party that is out for a run only.

H. W. BEECH.

[4186.]—"The Wandering Worm" in letter 417 says there is no need for the A.C.U. to speak right out, but when this body passes a resolution condemning Sunday competitions, this ban has a detrimental effect, as instance the paragraph page 452 in June 16th issue which called attention to the "regrettable" action of certain clubmen in the matter.

Again, it places firms or individuals who offer cups or medals in a quandrous position.

Were it not for the Sunday usage of motor cycles some of our largest firms would not be of the magnitude they are, and as pointed out in letter 4154 July 28th issue, by Mr. Wilson-Prosser, Sunday is the only day a large number of motor cyclists get to hold their harmless competitions.

"Wandering Worm" refers to the N.C.U.'s attitude twenty years ago, thus confirming Mr. Wilson-Prosser's reference to the A.C.U.'s attitude as grandmotherly legislation.

The A.C.U. in its duty to the public (referred to by "Wandering Worm") is acting most unfairly to a large section of motor cyclists affiliated to it, to whom it would be better to protect than condemn—the "public" must surely be very grateful to them for their attitude.

Meantime, if "Wandering Worm" is on the committee of the A.C.U., let him propose "that the resolution of the A.C.U. condemning Sunday competitions be rescinded," and we can assure him we shall not taunt him that "even worm can turn."

ANTI-HUMBUG.

Federated Malay States Race Meeting.

[4187.]—On page 403 of the issue of May 26th I was very glad to see an illustration of the competitors in the Ipoh (Perak) Federated Malay States race meeting, held on April 1st last. Will you kindly permit me to say that the gentleman who supplied you with the result of the races has done an injustice to two competitors in the races, and I hope to be allowed to correct the mistake?

Event 1.—This race was won by Mr. Low Hoot Kee on a 3½ h.p. Minerva in 2m. 39s., beating Mr. G. P. Parsons, the next fastest, by ½s.

Event 2, an open handicap with a flying start.—In this race, Mr. D. J. Marquess, on a 3½ h.p. Rex, proved successful, his time being 2m. 38½s., and was awarded the first prize.

I hope you will kindly publish the above in justice to the two competitors.
Perak.

ONE OF THE COMPETITORS.**The Six Days' Trials.**

[4188.]—On looking down the columns of the A.C.U. list of marks last there is one thing that does not in the least surprise me, and that is the number of competitors that suffered accidents, damaged pedals, or footrests. I fully agree with "Vigilant" when he speaks of bringing the motor cycle into disrepute, and it certainly will be so if some of the competitors who were riding in the recent trials will ride in the same manner. I witnessed the riders about 10 miles out of Whitchurch (Cheshire), and one party consisting of three took the corner on the right hand side, very narrowly escaping an accident. I consider they were going from sixteen to twenty miles an hour at a point where it was impossible to see if anything was approaching on account of the high hedge. I myself am very fond of an occasional sprint, but not around a dangerous corner. The only way to counteract this is to ride with greater caution around dangerous parts of the roads, and upon motor cyclists it is incumbent to do so.
J.A.P.

Standard Machines.

[4189.]—Our attention has been drawn to a paragraph appearing in "Lion's" notes under the above heading, and this, if allowed to go unchallenged, is likely to hit the producer of the small makes unfairly.

To explain. Believing the N.L.G. to be possessed of a useful turn of speed, we introduced it at Brooklands. It is now common knowledge that it won the first motor cycle race held there, and has won consistently ever since. Brooklands being a racing track, we naturally entered racing models to compete with racing models.

Our touring models, while embodying the special features which have made for such satisfactory results, so far as speed is concerned, are, of course, equipped in a suitable manner to secure to the rider the maximum of comfort on the road.

It is therefore incorrect for your contributor to base any argument as to the genuineness or otherwise of a machine on the premise which he advances—that he could use one of our racing machines for road competitions. The specifications of our touring and our racing machines are entirely different, and are clearly set out with illustrations in our catalogue.

We have felt this letter necessary in justice to those owners of N.L.G. machines who may desire to enter competitions open to standard touring machines.

THE NORTH LONDON GARAGE.**The Lightweight Question Again.**

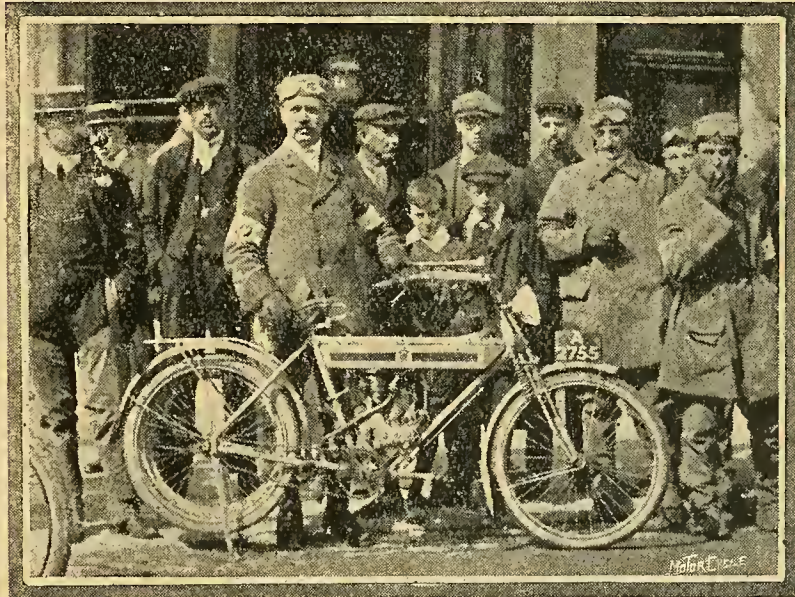
[4190.]—I feel it my duty to say a few words in praise of the 1½ h.p. lightweight. I am an amateur owner, and use my Motosacoche daily for my work. I have had it for a year now, and have just returned from a 545 miles tour over all sorts and conditions of roads, including the Peak District, Potteries, and the cobble-paved towns of Lancashire, finishing up along the grand old North Road into London. During the whole time I adjusted the platinum points twice (ignition, accumulator, and coil), this being the only adjustment required. I had no punctures and no belt troubles, though perhaps I should say I freshened up the ends of the belt three or four times. I had to pedal on some hills in the Peak District, but it was altogether the most enjoyable tour, and a credit to the Motosacoche. Needless to say, I am not interested in the trade, but only a satisfied user of a splendid little machine. M. R. C. S.

[4191.]—Your correspondent. "Ex-Lightweight," in *The Motor Cycle* of July 14th last, makes an interesting and not unfair comparison between light and heavy motor bicycles, summing up in favour of the latter.

I am, however, one of those who disagree with him, but do not do so without giving him credit for his opinions. The question turns, of course, upon what one needs. I have ridden motor bicycles from their earliest days, and have tried nearly every type in that period. While admitting that the heavy machines have their good points, I personally am going back to the lighter types, mainly because they are so handy, safe on greasy roads, and remarkably economical. Moreover, it must not be forgotten that lightweight motor bicycles have been remarkably improved of late, the use of a small magneto making them simplicity itself.

I have been riding three different makes of light motor bicycles this season, but most of my experience has been with the 2 h.p. Moto-Réve. As it does not exceed 90 lbs. or so in weight, it is difficult to ask for more in this respect, while the power is ample if one takes the trouble to keep the machine in good order. Certainly mine is sufficient for average needs, as it climbs gradients of one in seven without difficulty, while attaining a good thirty-five miles on the level. What I like, too, about the machine is the gentle turning movement of the engine, owing to its having two cylinders. With a machine of this type there is less temptation to "let her go," which, unfortunately, becomes an expensive proceeding in these days of Swiss stop-watches.

Perhaps the usual disclaimer as to trade interest is unnecessary.
A. J. McKINNEY.



In the last A.C.U. Quarterly Trials C. J. Janssen, a Danish rider, made his debut on a Moto Réve.

[4192.]—It is with great reluctance that I write, on the above question, as I am a lightweight enthusiast myself, but I should not like to make such claims as "AN 863" does. He states he would be pleased to meet any 3½ h.p. machine in a traffic riding test and on a long journey. Well, granted that a lightweight does score in traffic (though I find my heavy-weight perfectly manageable), I would remind him that only a very small fraction of one's riding is done through traffic, and, further, that a fifty miles road scramble would not do any good to the sport or prove the worth or otherwise of a machine.

At present I ride a 3½ h.p. medium weight, and am perfectly satisfied, but if I had the money to buy another machine, the Douglas would be one of the machines I should consider before I made my choice. It will be seen, therefore, that I am perfectly unbiassed.

I am constantly riding in the company of others with high and low-powered machines, and find on the road I can keep up with even the fastest twin, simply because the rider has more power than he wants, on the level. But I know that I should be hopelessly left if he liked to "let her out" a bit. In the same way, I have no doubt a Douglas could keep up a comfortable touring speed in the best of company, but if it came to a question of surmounting freak hills, or seeing who could do the greatest possible distance in the shortest possible time, the lightweight would be sure to be left. It would not be a fair test, 2½ h.p. against 3½ h.p. or 5 h.p.
E. M. OLIVER.

THE ROC - GOLD MEDAL AWARD. and ABSOLUTE RELIABILITY.

SIX DAYS' TRIALS: **GOLD MEDAL** awarded for best performance on privately-owned machine was fitted with the genuine **ROC Clutch and Two Speed Gear Conversion Set.**

SCOTTISH TRIALS:

Northampton, 26th July, 1909.

It is with great pleasure that we testify to the absolute reliability of the Roc clutch and two speed gear used in these trials. It was generally acknowledged that this was the most severe test that has ever been held, and with a 3 h.p. engine to average 20 miles an hour (no time being allowed for stopping at controls) over the worst roads possible to find, it goes without saying that there cannot be any spare time for adjustments, in fact, not a single adjustment of any kind whatever was necessary, except to straighten a footrest which became bent owing to a bad fall.

THE ADVANCE MOTOR MANUFACTURING CO., LTD.

Both above results were accomplished on ROC Standard Conversion Sets. These sets are now adaptable to ANY make of machine. Time for fitting only occupies a few days. The new ball bearing arrangement is the finishing touch to the greatest improvement ever added to the motor cycle.

Write for booklets of—

- (1) ROC Military Models : 4 h.p. Single Cylinder ; 5-6 h.p. Twin Cylinder.
- (2) ROC Clutch and Gear Conversion Sets, with live axle hand starting.

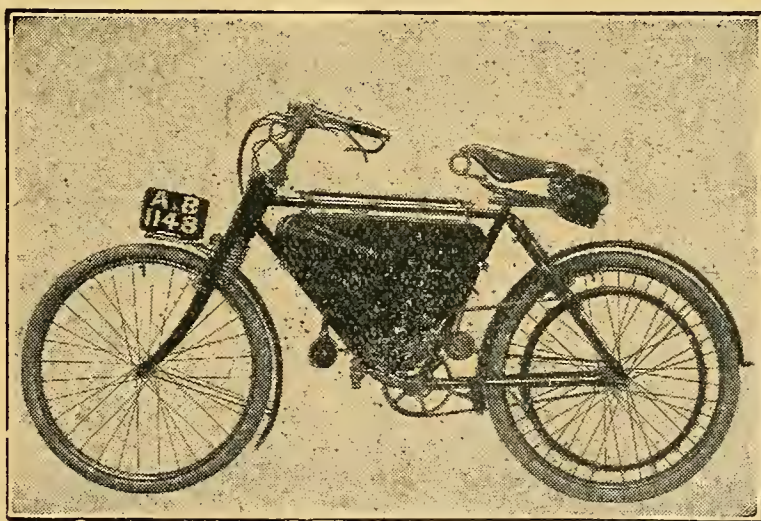
A. W. WALL, LTD., Roc Motor Cycle Works, Aston Road and Dartmouth St., BIRMINGHAM.

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ONE-AND ONE ONLY.

3, 4, 5, etc., H.P.
Engines
have to be
pedalled up hills.

Vide
Six Days' Trials



AND IT WON
a
GOLD
MEDAL.

MOTOSACOCHE

was entered in **SIX DAYS' TRIALS, AND IT FINISHED.**

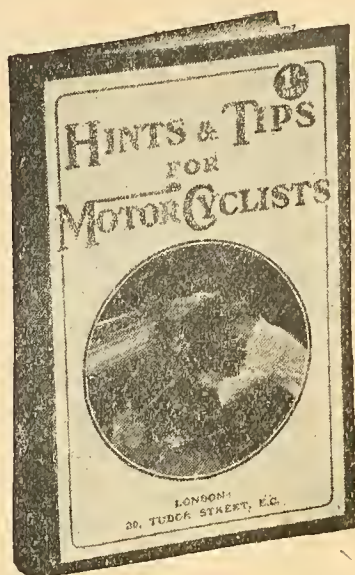
There is **NOTHING WONDERFUL** about this for a **MOTOSACOCHE** but we would like to draw your attention to the fact that it was an

ABSOLUTELY STANDARD ENGINE.

Verbum sat sapienti.

65, Holborn Viaduct, London, E.C.

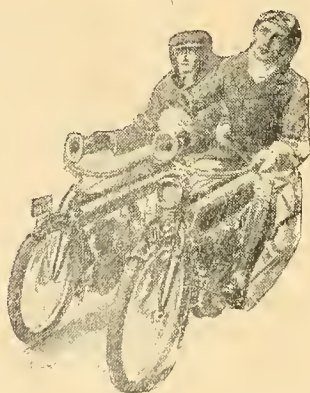
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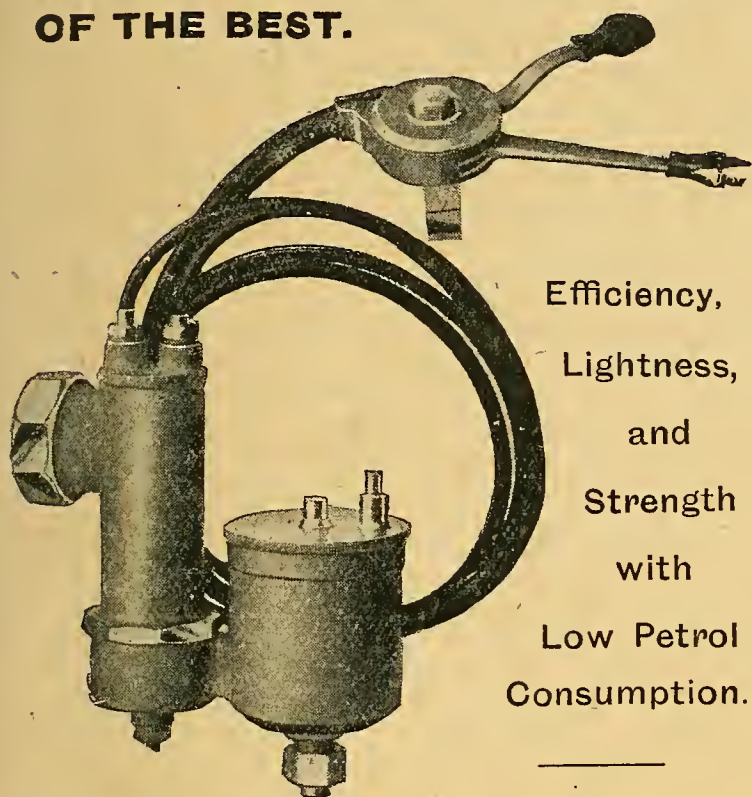
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Efficiency,
Lightness,
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Strength
with
Low Petrol
Consumption.

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BROWN & BARLOW, Ltd.,
BIRMINGHAM.

A.C.U. July Quarterly Trial.

ONE 3½ h.p. MIDGET

Bicar entered and
Made NON-STOP RUN.

COMPACT AND RELIABLE.

Special features.—Patented channel steel girder frame, Druid spring forks, spring footboards, gear driven H.T. magneto, "Amac" carburetter, handle bar control, variable pulley, stand, large petrol and oil capacity, low and comfortable riding position.

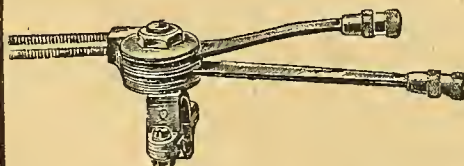
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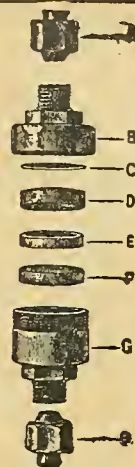
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has again shown its
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All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

An showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Merioneth, Flint, Denbigh, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Derby, Stafford, Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Gloucester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Buckingham, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

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NO "CROCKS"!

AT THE

PREMIER WORKS.

The following have all been **EXAMINED** at our Works. Any machine may be had on **APPROVAL**.

Second-hand Machines in Stock.

SINGLE-CYLINDER.

REX Tourist, 1909, magneto, 3½ h.p., good as new	£34 0
TRIUMPH, 1907, magneto, 3½ h.p., good condition, perfect running order	£26 0
VINDEC, 3½ h.p., magneto, Truffault forks, just overhauled, re-enamelled, and plated	£25 0
VINDEC, 3½ h.p., magneto, Truffault forks, two-speed gear, perfect order	£25 0
N.S.U., 2½ h.p., magneto, two-speed gear, 1907	£21 0
N.S.U., 3½ h.p., magneto, 1908, perfect	£22 0
ROC, 3½ h.p., magneto, clutch, good order	£14 0
CLARENDON, 3 h.p., low Chater-Lea frame, handle-bar control, attractive mount	£14 0
REX, '06, 3½ h.p., good order	£10 0
REX, '05, 3½ h.p.	£9 0
LINON, 3½ h.p., very good order	£8 0
EXCELSIOR, 2½ h.p., very powerful	£8 0
MINERVA, 2½ h.p.	£6 10
WERNER, 1½ h.p., running order	£4 0

TWIN-CYLINDER.

REX DE LUXE, 5 h.p., 1909, like new	£42 0
N.S.U., 4 h.p., magneto, 1908, two-speed	£34 0
ROC-PEUGEOT, magneto, 5 h.p., 1908	£35 0
ROC, 1909, run 300 miles only, special bargain	£41 0
REX, 1906, splendid condition	£15 0
REX, 1906, excellent order and condition	£14 0
KERRY, 5 h.p., low saddle, handle-bar control	£17 0
FAIRY Lightweight, 1909, ridden 200 miles	£24 0
MOTO-REVE, very little used	£25 0

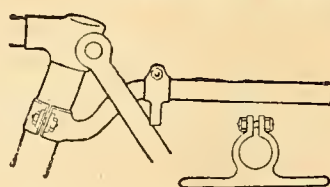
TRICARS, ETC.

LITETTE, 1908, water-cooled, grand order and condition	£45 0
CHATER-LEA tricar, Garrard engine, excellent machine	£10 0
HUMBERETTE car, fine bargain	£30 0

Fullest particulars of any of above on application.

WE SUPPLY ALL MAKES OF MOTOR CYCLES. EXCHANGES. DEFERRED PAYMENTS.

OUR LOW SEAT-PILLAR.



Fits all makes.

Carries any weight.

Converts the old high frame machines into modern designs.

Nickel-plated, 5/6 each.

Special Long Handle-bars for use with above, if required, 6/6 each.

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ALL OUR GOODS ARE SENT ON APPROVAL.

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ASTON ROAD, BIRMINGHAM.

Telephone 4310. Telegrams, "Primus, Birmingham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be forwarded for replies. Only the number will appear on the advertisement. Replies should be addressed, "P.O., c/o 'The Motor Cycle,' Coventry"; or if "London," added to the address, then to the number given, "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt, upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of 1s. registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Liffesons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answer to their enquiries are requested to regard silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to them by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

14 h.p. Motosacoche, perfect order; cheap.—J. Weall, Denwick, Alnwick.

44 h.p. 4-cyl. F.N., magneto, perfect, 1907; £22.—Pickering, Hart Rd., West Hartlepool.

TRIUMPH, 1908, perfect condition, Dunlop tires (new). Premier searchlight; £36.—J. Morley, London Sq., Whitley Bay.

1909 Bradbury, 3½ h.p., new June, only done 100 miles, all accessories; illness reason selling; £20.—Whitehall Terrace, Sunderland.

SECTION II.

York and Lancashire.

1908 Triumph, in grand condition; £33.—C. J. Rotherham, Rotherham.

1907 Triumph, handle-bar control; £25, complete.—Cross, Rotherham, Rotherham.

DOUGLAS, Lincoln, Elk, Norton, and Ariel motorcycles in stock.—Gourlay, Fallowfield.

3½ h.p. Riley, fine motor cycle, £15; also smart tractor £2 10s.—20, Potternewton Lane, Leeds.

7-8 h.p. Minerva, 1908, will take sidecar anywhere; perfect order, spares; £30.—14, Fir St., Sheffield.

1909 Rex, 3½ h.p., new; quick sale, accept £29, gain; no offers.—Cochrane, Victoria Bridge, Manchester.

DOUGLAS, 1909, 2½ h.p., twin-cyl., new, ridden 100 miles only; take £26.—Cochrane, Victoria Bridge, Manchester.

2½ h.p. Kerry, new tyre and accumulator, 26 by 2, 24 grey, fast; for cash, £10.—Barker, Aldborough, Darlington.

TRIUMPH, 1909, like new, Cowey's speedometer, lamp, and all spares; £40.—Smith, 108, Hodge St., Sheffield.

REX, late 1908, Tourist, ball bearing engine, perfect; reasonable offer wanted.—Write, 39, Bedford Rd., Southport.

2 h.p. Minerva, Barlow carburetter, copper tank, spring forks, low, French grey; £9.—Hall St., Southport.

REX, 3½ h.p., 1908 (new), Amac H.B. control; offer or exchange Triumph or twin Vindec.—S. L. H. shall, Knaresborough.

TRIUMPH, 3½ h.p., magneto, handle-bar control, perfect condition, all accessories; sacrifice £27.—23, Old St., Leigh, Lancashire.

6 h.p. Twin Maxim, J.A.P. engine, and Montgomerie sidecar, perfect; £30.—Whiteley, 38, Harting St., Barrow-in-Furness.

HUMBER, 3½ h.p., two-speed gear, new May, only a few hundred miles; client buying car; £40 nearest offer.—Dean, Carnforth.

TRIUMPH, 3 h.p., reliable machine, magneto ignition, enamelling, plating, and tyres good; 20 guineas.—Dean, Carnforth.

In answering these advertisements it is desirable to mention "The Motor Cycle."

TOR BICYCLES FOR SALE.

Twin Sarolea, with forecarriage, nearly new, in perfect order; £35, or offer; owner buying car.—8, West Bank, Stamford Hill, N.

3 h.p. Triumph, perfect condition, N.A.B. seat-pillar, spares, new Palmer cord back; best offer. *The Motor Cycle Offices*, Coventry.

White and Poppe, Enfield frame, Brooks saddle, low position, Longuemare carburetter, condition £14 10s.—73, Church St., Camberwell.

Featherweight, 2½ h.p., 1908, magneto, tyres uncut, absolutely perfect condition; £16, genu-torist, 89, Orford Rd., Walthamstow.

Lightweight, Werner engine, condition as new, light 84 lbs.; £12 10s. cash, or easy terms at 115, Boundary Rd., St. John's Wood.

Rex (1907), in really good condition, spring forks, Palmer cords, lamp, and horn; £15.—Garage, 418, Romford Rd., Forest Gate.

Bargain.—6 h.p. Fairy motor cycle, good condition, spare accumulator, pump, and tools; £14. Hall and Co., Garage, Blackheath, S.E.

4-cyl. P.N., 4½ h.p., footboards, all spares, several refinements, in perfect order; £29.—Harvey, 47, Lambeth Rd., Vauxhall. Tel.: 3134 Hop.

ES and Co., N.S.U. Agency, 275, High St., London. have a few brand new N.S.U.'s at very low exchanges entertained; deferred payments.

6 h.p. Twin N.S.U., spring forks, magneto ignition, two speeds and free engine, spare tyre, belt, tools, etc.; £33.—33, Bridge Rd., Uxbridge.

h.p. Royal Sovereign, in splendid condition, t, and reliable; £12, 3 h.p. Kerry, in new con- throughout; great bargains.—51, Burnt Ash Rd.,

Twin Motor Cycle, low, fast goer, excellent con- dition, £14; also 3 h.p. motor cycle, in good going and condition.—Hewett, 99, Churchfield Rd., W.

4 h.p., excellent condition, handle-bar control, y flexible, tools, spares, complete; £24; seen d by appointment.—Fabrique, 72, Vincent Sq.,

Quadrant for sale, Simms-Bosch magneto, new st October, a honest bargain to anyone want- st-class machine, £25, or offers.—35, Athelstan

2 h.p. Lightweight, Palmers, spring forks and ar. B100 saddle, not run 2,000 miles, grand machine, perfect order; £20.—Shrimpton, St. Thane.

N.S.U. Twin, brand new Bosch magneto, 1 in. t, 26 in. wheels, 1908 specification; £38; appre- hanges entertained.—Eagles and Co., N.S.U. Acton.

REVE, late 1908, spare back wheel and tyre, engine overhauled, perfect condition; £24.—6a, High St., Hampstead. Telephone, 2085

ON.—To commence motor cycling buy a second- and machine from me. When you have learnt I ange it for a new one, and allow you more than e for it.

ON.—3 h.p. Quadrant, spring forks, most ex- tent condition; quite equal to any 1909 model;

ON.—3 h.p. Quadrant, spring forks, fine ma- ne, low, thoroughly reliable; exceptional bar- 0 10s.

ON.—Clearance of good sound reliable ma- nes at £8 each. Stand expert examination. yde, H.B. control, 2 h.p. light Chater-Lea-Scout, rry, fine machine. Secure one of these genuine at once. Do not delay.

ON.—Bradburys and Moto-Reves from stock; als; easy payments.—619, Lea Bridge Rd., Ley- don.

N.S.U., brand new, magneto, 1 in. belt, 26 in. eels, 1908 specification; £30; approval; ex- entertained.—Eagles and Co., N.S.U. Agency, Acton.

Twin Kerry and Sidecar, in perfect order, little's belt lamp, horn, and full set of spares ; £25, complete, would separate.—71, Gibbon

NER, 3 h.p., very low, Michelin tyres and tubes, adjustable pulley, C.A.V. coil, spares, splendid ; £9 10s., or cycle and cash.—33, Cadogan

OSACOCHE, magneto, spring forks, tandem es, Bates non-skid, very little used, perfect c- ccessories; £24 10s.—Eason, Post Office, Strand, Chiswick, W.

Hobart, Chater-Lea, magneto, Amac carburetter, dle-bar controlled, torpedo tank, footboards, very y three months old; £23.—Eastern Garage, 418, Rd., Forest Gate.

De Dion, Roc clutch, and two-speed gear, spring rks, Chater-Lea fittings, handle-bar control, built; must sell; £20, sacrifice.—17, Kenmore

RE Deciding on any motor bicycle or tricar on or write to Pullman Bros., London Rd., London, who have the best selection of ma- a London; motor bicycles from £4.

MAUDES', HALIFAX and LONDON.

BRADBURY, 1909 model, magneto, spring forks, practically new, not done 200 miles £26

ROVER, 3 h.p., low built, handle-bar control, smartly enamelled, in splendid condition £14

MINERVA, 4½ h.p., 1907 model, Longuemare, 2½ in. Continental tyres, spring forks £23

BAT, 3½-4 h.p., spring frame, footrests, 26 in. wheels, low built, vertical, long bars £15

BRADBURY, 1908 model, latest Bradbury spring-forks, in Ar condition throughout, only done about 500 miles, will climb £25

MINERVA, 3½ h.p. vertical engine, 26 in. wheels, spring forks £16

REX, 3½ h.p., 1906 model, spring forks, spray, good order throughout £15

ALCYON, 4½ h.p., twin Minerva engine, spring forks, very good condition £17

TWIN REX, 5 h.p., spring forks, low built, aluminium finish, splendid condition £17

QUADRANT, 3 h.p., spray, spring forks, good tyres, etc. £10

MOTO-REVE, 2 h.p., 1908 model, twin-cylinder, spring forks, perfect order £25

HUMBER, 2 h.p., spring forks, spray car- buretter £9

RIP, 3½ h.p., Peugeot engine, spring frame, Longuemare spray carburetter, footrests, low built, unscratched £18

RILEY, 3½ h.p., 26 in. wheels, spray, trembler, low built, long bars, etc. £14

TRICARS.

REXETTE Tricar, 8-ro h.p., two speeds and reverse, open frame, water cooled, perfect £50

ENGINES

AUTO-MOTO, 3½ h.p., A.O.I.V., in good work- ing order £3 10

CUNARD, 3 h.p., A.O.I.V., in good working order £3 0

60/- deposit secures under-mentioned, balance 5/- weekly—

QUADRANT, 2 h.p., spray £3

SINGER, 2 h.p., magneto £6

BARTER, 2½ h.p., geared pulley £6

PHENIX, 2½ h.p., J.A.P. engine £10

LLOYD'S, 2 h.p., vertical £8

WERNER, 2 h.p., 26 in. wheels £6

MINERVA, 1½ h.p., coil and accumulator £5

EXCELSIOR, 2½ h.p., spray £8

We carry an exceedingly large stock of new and second-hand motor cycle accessories at London. Prices lowest.

90/- Beautiful Forecar Attachment, 26 in. wheels, Dunlop tyres. 90/-

£15 Screw-cutting Lathe, 6½ in. centres, 6 ft. bed, back geared, compound rest, 22 change wheels, overhead reverse motion. £15

£6 Forecarriage, PHENIX, practically new, 1909 model, not ridden above fifty miles. £6

SPECIAL BARGAINS.

Combined Tube and Belt Carriers 7/6

F.R.S. Lamp, brand new, bargain £1

Mudguards, 4 in., well finished (per pair) 3/6

Mudguards, 3 in., well finished (per pair) 2/11

Trinote Horns, best quality plating 7/3

Treble Twist Horns, very noisy 6/6

Hella Searchlights, best plating, separate generators, divided glasses 16/9

Long Handle-bars, best quality pair 5/6

Rex pattern ditto, dropped ends 6/6

We have special facilities for the repairing of mag- netos at London. Best work. Moderate charges.

CLINCHER TYRES.

31/6 FOR 25/-

Genuine { 26 x 2½ in. } Clincher studded Covers.

Maker's price, 31/6. Our price 25/-

All brand new 1909 goods, and in no way faulty or perished.

APPROVAL.

Tubes with valves, Red quality, 5/6; Grey, 6/-

Large Stock CONTINENTAL TYRES.

Good Allowances on Old Covers.

High-class Motor Cycles Wanted for Cash.

NOTE THE ADDRESSES:

Powell St., behind the HALIFAX.

Telephones: 433 day. 904 night.

Telegrams: "Petrol, Halifax."

Also 136, Great Portland Street (off Oxford

at LONDON, W.

MOTOR BICYCLES FOR SALE.

5 h.p. Vindec Special, two-speed gear, B. and B. car- buretter, with Mills-Fulford casing wheel sidecar, ideal combination, carefully used, concision as new; £40.—A.D., 14, Sheldon Rd., Crickwood, N.W.

4 h.p. J.A.P., Chater-Lea, quite like new, Bosch mag- neto, handle-bar control, Druid spring forks, foot- boards, new non-skid and belt, lamp, horn, spares; £32.—Eastern Garage, 418, Romford Rd., Forest Gate.

2½ h.p. Ariel Lightweight, splendid condition through- out, Dunlop tyres, easy starting, reliable, fast if required, just the thing for a beginner; £20, or nearest cash offer.—Marriage, Harpree, Merton Park, Surrey

5 h.p. Rex, Fuller coil, three accumulators, new tyres. Nonpareil gear, headlight, stand, all in perfect condition and running order, quantity spares; death causes sale; first reasonable offer.—H. Kirk, The Elms, Mortlake.

4½ h.p. Minerva Twin (October, 1908), spring forks, 42 magneto, Amac handle-bar controlled carburetter, stand, carrier, spare petrol tank, tools, spares, head- light, horn; £28.—Eastern Garage, 418, Romford Rd., Forest Gate.

LATEST 4½ h.p. Chater-Lea Motor Cycle and sidecar, magneto, spring forks, No. 6 frame, etc., only four months old, and cost £55, sacrifice £27; wanted, Sun- beam push cycle.—J. Sallows, 23, Lillington St., Bel- gravia, London.

RARA Avis.—3 h.p. Advance, variable gear, pulley, Palmers, Dermatine, footrests, stand, lamp, horn, carrier, spare new tyre and valves, perfect condition, and ready for touring; 10 guineas.—Rolie Goode, 163, Stock- well Rd., S.W.

7 h.p. Twin Peugeot, Chater-Lea frame, spring forks, spring footboards, top tube 28 in. from ground; will ride 40 miles to intending purchaser; very compact, and not troublesome; £25; expert examination invited.—9, Moreton Terrace, Pinlipo.

3½ h.p. White and Poppe, Chater No. 6 frame, spring footboards and seat-pillar, Brooks saddle, leather non-skid back, Dunlop front, new leather belt, spare valves and cover; any examination; price £15.—Page, 74, East Hill, Dartford, Kent.

4½ h.p. Stevens, Chater-Lea frame, very low, with 26 by 2½ Palmer cord tyres and plated wheels, new Bradbury spring forks, also footboards and variable pulley; sacrifice £18; all as new.—Apply, H. Sweetland, 13, Angus St., New Cross, S.E.

PRACTICALLY New 3 h.p. N.S.U., magneto, 2½ Peter-Unions, 26 in. wheels, all tools, lamp, horn, etc., enamelling and plating not scratched, fine running order, guaranteed not done 150 miles; selling, ill-health; £24 10s., all complete, great bargain.—Benn, 105, Bol- sover St., W.

5 h.p. Twin Chater-Peugeot, very low, handsome foot- boards, tyres equal new, both with unpunctured, detachable tubes, just fitted new bushes, handle-bars, contacts, mudguards, etc., Longuemare, accumulators, many spares; cash offers wanted.—186, Peckham Rye, S.E.

TO Speed Merchants.—Tourist Trophy Triumph, 1909, the identical machine which won the Easter Plate at Brooklands, Easter, speed nearly 60 m.p.h., complete with two toolbags full of spares and tools, lamp, horn, generator, tyres new, just been re-enamelled; a splendid bargain, price £45, or nearest offer.—Apply, W. H. Bashall, Ockham, Surrey.

3½ h.p. 1909 J.A.P., Chater frame and spring forks, 32 J.A.P. speed gear, splendid for sidecar work, J.A.P. automatic lubrication and carburetter, handle- bar control, 26 by 2½ in. tyres, unpunctured, carrier, stand, spare inlet and exhaust valves, complete with springs and cotters, everything complete, new in June- this year, ridden 150 miles, too fast for owner; would exchange for lower power and cash, or sell £35, cost £50.—13, Weighton Rd., Anerley, S.E.

2 h.p. Antoine, Dunlops, spray, complete, splendid 4 climber; £10, exchange 3½ h.p.—Skellern, Salt- ash.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

2 h.p. Antoine, Dunlops, spray, complete, splendid 4 climber; £10, exchange 3½ h.p.—Skellern, Salt- ash.

SECTION X.

Scotland.

MOTOSACOCHE, 1909, magneto, new in May, Clin- cher tyres, spring forks stand, carrier, etc.; £23.—Ferguson, 8, Montagu Terrace, Edinburgh.

DE DION Lightweight, vertical, 1909 Brown and Barlow carburetter, handle-bar control, tyres per- fect, tubes unpunctured, Ukantes stand, fine appearance, low, comfortable, ridden 100 miles last week; £20, or nearest offer.—Brown, Paxton, Berwick-on-Tweed.

TRICARS FOR SALE.

MONEY Wanted.—Water-cooled tricar, two-speed, run- ning order; offers.—Leigh, Ash, Dorset.

£14.—4 h.p., open frame, wheel steering, three-speed; trial run.—481 Katherine Rd., Forest Gate.

6 h.p. Water-cooled Aster-Century, three speeds, new car tyres; £20.—Lees, Priory Hardway, Gosport.

6 h.p. Tricar, De Dion engine, coach-built, wheel steer- ing, new tyres.—Talbot Hotel, Mapplewell, Barns- ley.

TRICAR, Ariel, 3½ h.p., fan-cooled, Palmer tyres, splen- did condition; a bargain, £25.—Churchill, Earles- town.

TRICARS FOR SALE.

TRICAR, in excellent condition, to be sold; no reasonable offer refused.—Moor View, Barton Rd., Torquay.

4½ h.p. Phoenix, two speeds, coach body, excellent condition; £20, bargain.—P., 25, Beaumont St., Oxford.

PHENIX 5-6 h.p. Tricar, latest, coach-built, like new; quick sale, £35.—Cocraane, Victoria Bridge, Manchester.

6 h.p. Twin Antoine, Chater frame, Oppermann gear, condition perfect; £22 10s.—73, Church St., Camberwell.

REXETTE, open frame, two-speed, exceptional order; £16; trial; write first.—Cumming, 89, Cromwell Rd., S.W.

TRICAR, 5 h.p., water-cooled, magneto, two-speed, new 1908, splendid order; £30.—Dr. Blomfield, Robertsbridge, Sussex.

BARGAIN (£27).—6 h.p. latest spring frame Rextette, two speeds, wheel steering.—D., 79, Camberwell Grove, London.

4½ h.p. De Dion Engine Tricar, forecarriage very good condition; bargain, £25.—Chapman and Co., Ltd., Augustus St., N.W.

6 h.p. Twin Antoine, Chater frame, bucket seat, Oppermann gear, Peter-Union tyres; £22 10s.—73, Church St., Camberwell.

SEVEN Tricars for sale, liberal exchanges with magneto motor cycles.—Particulars, Halifax Motor Exchange, Westgate, Halifax.

RELIABLE Humber Tricar, chain drive, powerful, splendid tyres, handsome forecar; photo; £13, offers.—72, Walmsley St., Hull.

REX Tricar, 6 h.p., twin, almost new, bucket seat back, Palmers, lamps, spares; any trial; £23, or offer.—50, Crown St., Lowestoft.

PHENIX Tricar, 3½ h.p. Minerva engine, Chater-Lea two-speed gear, in excellent running order; £30.—Hudson, Sarraff Hall, Rickmansworth.

LAGONDA, 10-12 h.p., water-cooled, three speeds and reverse, good condition, perfect running order; £45, or offer.—H.M., 10, Church St., Enfield.

BARGAIN.—Must be sold within next fortnight, 6 h.p. twin Rex tricar, good as new.—Write full particulars, Sulby, engineers, 10, Old Town, Clapham.

9 h.p. Riley Tricar, splendid condition, three speeds and reverse; £60; motor cycle or lower power tricar part payment.—785, High Rd., Leytonstone.

3½ h.p. Raleigh Tricar, water-cooled, coach-built, two speeds, two new tyres, car back wheel and tyre; £25.—Crosland, 8, Heaton Rd., Huddersfield.

5-6 h.p. Rextette Tricar, two bucket seats, coach-built, torpedo back, lamps, spares, tools, good order; bought 4-seater; £25.—Setchell, Dockyard, Sheerness.

PHENIX Trimco, 4½ h.p., coach-built, chain drive, two speeds, free engine, very fast, grand condition; £25, or offer.—29, Montford Place, Kennington, S.E.

TRICAR, 4½ h.p., Phoenix coach front, two-speed and free, handle-bar control; £18; wanted, motor bicycle, cash adjustment.—83, Hawkhead St., Southport.

BARGAIN.—3½ h.p. Humber, fan-cooled, large clutch, in grand condition, lately overhauled; take gent's push cycle and cash.—Silvey, 18, Lonsdale Rd., Barnes, S.W.

5-6 h.p. Sarolea, Chater, three speeds, clutch, wheel control, tyres new, perfect, ready for touring; trial, appointment; £38.—Randall, 102, Martin's Rd., Shortlands.

6 h.p. Quadrant Tricar; what offers? sale, or exchange lightweight, or three-speed ordinary and cash.—For particulars write, Cartledge, Park Grove, Knaresborough.

DE DION Tricar, 6-8 h.p., two-speed, coach-built, water-cooled, 760 car tyre back, perfect order, lamps, wheel steering; trial.—Lister, Kaye Cottage, Mortimer.

QUICK Sale Wanted.—5½ h.p. 1907 Magneto Rex, Whittle, two speeds, tools, accessories, spares, complete, perfect; £25; appointment.—32, Bartholomew Rd., N.W.

THREE-WHEELED Eagle Motor, for one, 4½ h.p. De Dion engine, two speeds, water-cooled, handle starting; offers.—Potter, 21, Leicester Grove, Blackman Lane, Leeds.

HUMBER 3½-4 h.p. Tricar, free engine, air-cooled, handle starting, nearly new tyres, just overhauled, go anywhere; £25, or near offer.—Harris, Empire Palace, Hackney.

6 h.p. Rextette, good condition throughout, recently overhauled, and in first-class running order; £29, genuine bargain; owner buying car.—Butt, Orchard Cottage, Bourton, Dorset.

3½ h.p. Rover Tricar, free engine, handle starting, absolutely perfect, thoroughly reliable, excellent climber; £20; motor cycle part payment.—619, Lea Bridge Rd., Leyton.

TRICAR, 5-6 h.p. 1906 Rextette, cost (including spares) £120, insurance policy; £25, or nearest offer; or part exchange push bicycle; full particulars supplied.—Doctor Owen, Criccieth.

TWO Bargains.—4½ h.p. Humber Tricar, two speeds, w.c., tyres good order, £16; 5½ h.p. Rextette, two speeds, w.c., coach-built, tyres good order, £22 10s.—17, Milnrow Rd., Rochdale.

TRICARS.

SPECIAL EXCHANGE ALLOWANCES.
GARAGE ROOM REQUIRED.

4½ h.p. W.C. ROVER, two speeds, wheel steering	£22 10
4½ h.p. W.C. BRADBURY, two speeds, open frame	£29 10
Ditto ditto fine condition	£35 0
5½ h.p. W.C. REXETTE, two speeds, open frame	£27 10
Ditto ditto one of the best	£35 0
5 h.p. W.C. HUMBER, two speeds, open frame	£33 0
4½ h.p. PHENIX TRIMO, H.T. magneto, two speeds	£27 10

Cash offers considered.

CARS.

1908 16 h.p. REMO, four-cylinder, Bosch magneto	£185 0
10-12 h.p. Two-cylinder BRUSH, detachable tonneau	£49 10
8-10 h.p. Two-cylinder FORK, detachable tonneau	£39 10
6½ h.p. HUMBERETTE, two-seater, blue	£39 10

All have three speeds and reverse.

3 WE HAVE JUST PURCHASED
4 of a Ton of Brand New PERFECT Motor Cycle Covers. Best make. All sizes. 17/6 each. New Clincher A Won Covers 17/6, Tubes 4/11.

1909 REXES. 1909.

All models in stock. Liberal exchanges.

"POPULARS."

1909 T.T. TRIUMPH	£46 0
1909 4 h.p. N.S.U. de Luxe, a beauty, New	£48 0
1908 3½ h.p. N.S.U., magneto, spring forks	£30 10
1909 3½ h.p. REX Tourist, done 50 miles.	Offers.
1908 T.T. TRIUMPH, nearly as new	£34 10
1908 3½ h.p. REX DE LUXE	£27 10
1908 3½ h.p. Tourist REX, New	£29 0
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1908 3½ h.p. Magneto REX Racer	£29 10
1907 3½ h.p. Magneto REX	£21 0
3½ h.p. Two-speed PHELON AND MOORE	£22 0
3½ h.p. Light, Low REX, long bars	£12 10
3 h.p. BRADBURY, low, 26in. wheels	£13 10
1906 3½ h.p. REX, spring forks, M.O.V.	£15 10
3 h.p. SINGER, belt drive, H.T. magneto	£19 10
3 h.p. ZEDEL, 26in. wheels, fine mount	£14 10
3½ h.p. ARIEL, very powerful, spray	£13 10
3 h.p. CLYDE; magneto, long bars	£15 0
3½ h.p. EXCELSIOR, H.B. control, torpedo	£9 10
3½ h.p. REX, handle-bar control	£11 10
3 h.p. HUMBER, spray, splendid climber	£9 10
2½ h.p. LLOYD'S, vertical, spray	£6 10
2 h.p. MINERVA, spray, goes well	£6 10
2½ h.p. WERNER, spray, light, low	£8 0
2½ h.p. Light ARIEL, low build	£8 15

Monster List on Application.

SIDE-CAR MACHINES.

1909 5 h.p. REX DE LUXE, done 50 miles.	Offers.
1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer Cords	£32 10
5½ h.p. Two-speed REX DE LUXE	£32 10
5½ h.p. REX DE LUXE, Roe clutch	£27 10
1909 Twin N.S.U., two speeds, New	£60 15
6 h.p. Twin REX and Forecar	£22 10
5½ h.p. Twin REX, new tyres, black finish	£17 17
5 h.p. Twin ZENITH Bicar	£19 0
6 h.p. Twin REX and Sidecar	£20 0
4½ h.p. Four-cylinder F.N., magneto	£28 10
6 h.p. Twin ANTOINE, ROM ignition	£17 10

Eight 5½ h.p. Twin REXes, spring forks, long bars, low frames, aluminium finish, blue lines, 26in. wheels. £17 17s.

Grand Sidecar machines. EXCHANGES.

EASY PAYMENTS.

5/- weekly and reasonable deposit secures any of these machines. All tested and ready for the road:

3 h.p. Lloyd's	£13 10	3 h.p. Quadrant	£10 0
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4 h.p. Antoine	£16 10	2½ h.p. Werner	£8 10
3 h.p. Humber	£10 0	3½ h.p. Werner	£13 10
3½ h.p. Rex	£10 10	1½ h.p. Thomas	£8 0
2½ h.p. Lloyd's	£7 10	2 h.p. Humber	£8 10
4 h.p. Atelier	£13 10	3 h.p. Bradbury	£10 10

100 AMAC and BROWN & BARLOW Carburettors. Liberal exchanges.

DE LUXE SIDECARS, 2½ in. tyres, everything of the best £6 0

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"LARGEST REX DEALERS"

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3½ h.p. Singer Tricar, magneto, two speeds, cover and belt, etc., tyres like new, in condition; sacrifice £21.—Motorist, c/o Mrs. Holt Rd., Fakenham, Norfolk.

30 Guineas.—Light tricar, 6 h.p., three speeds, excellent condition, smart appearance.—F. ticulars, Malton, 94, Customs, E.C., or Beccles borough Rd., Westcliff, Essex.

9 h.p. Eagle Tricar, De Dion, water-cooled, wheeling, two speeds, very comfortable, upholstered leather, very fast, will climb any hill; £42, or offer.—Newbold, 171, Normanton Rd., Derby.

4½ h.p. Tricar, water-cooled, wheel steering, coach-built, splendid condition, chain drive, three speeds, clutch, Michelins, as new, climb anything, lamp; £35; trial given.—404, High St. N., Manor Park.

PHENIX Trimco, coach-built, 3½ h.p., two speeds, tyres, Palmer cord rear, spare covers, tubes, gears, and full accessories; £30.—Apply, letter, J. Dentist, 7, Brockley Rd., or 80, Shaftesbury Ave.

KERRY Tricar, 3½ h.p., Anglian two speeds, front, just overhauled, everything in excellent condition, tyres nearly new, good climber; £20, or change for motor cycle.—Evans, 92, Ashbro Upper Holloway.

5½ h.p. Excelsior, fast, powerful, water-cooled, built, Mabon clutch, footboards, 26 by studded back, foot brakes, Watawata, trembler; condition new, £23, or 3½ h.p. cycle and cash.—ford Sq., Mile End.

5-6 h.p. Water-cooled Humber Tricar, wheel coach-built body, two speeds, free engine, clutch, Dunlops, car non-skid on back, three etc., a very reliable machine; genuine bargain, S. Fearn, Alfreton, Derbyshire.

REALLY Exceptional.—9 h.p. Genuine De Dion Tricar, inclined wheel steering, free engine, starting, two speeds, chain drive, bucket seat frame, do 40 an hour easily, climbs nearly every top gear; price for instant sale £35.—Alvaston Derby.

SIDECARS AND FORECARS.

NEW Sidecar, 26in. wheels, Palmers; £4 10s. gomery, 12, Gloucester Rd., Peckham, S.E.

MILLS-FULFORD Forecar, cost £14, nearly 10s., or useful exchange.—Wicks, 1ver, U.

MONTGOMERY Sidecar, good condition, new £4.—Marshall, 86, St. George's Rd., London, S.E.

SIDECAR, 26in. wheel, left side, good condition, 12s. 6d., lowest.—Markham, 91, James Rd. pool Rd., London, N.

SIDECAR, Montgomery flexible, good condition, Vindee; 7 guineas, or near offer.—Hinchfield, near Littlehampton.

RIGID Sidecar, for left side, upholstered in leather, fit any machine, with 26in. wheel; —Eagles and Co., High St., Acton.

FITEASY Sidecars, for narrow doors, whole retail.—Middleton and Co., Manufacturer son St., Newington Green, London, N.

SIDECAR and Twin Motor Cycle (less engine) £13 15s., separate offers, or exchange in dem.—108, Bennerley Rd., Battersea Rise.

NEW Sidecars for any make of motor cycle, 26in., or 28in. wheel, smart, good delivery stock; approval; £4 17s. 6d.—Farrar, Square F. ax.

MILLS-FULFORD Forecar, spring frame, class condition, fit any standard motor cycle; owner buying car.—Thomas, Fulwell Park, ham.

SIMPSON'S Sidecars are reliable, comfortable, entirely different to other makes; write prices are right.—Orchard Mills, Belinda St., Leeds.

TAKEN in exchange for our Halifax sidecar page 31. Mills-Fulford, £4; Montgomery, £4; coach-built, £4; Ariel, £3 15s.—Farrar, Square F. ax.

CHATER-LEA Sidecar, this year's model, built and cost £11 11s., sell £5 7s. 6d.; also water-cooled De Dion engine, etc., £6 5s.—F. G. Trollop St., Battersea.

SIDECARS, best value in England; competition inspection invited; prices £4 15s. and also two second-hand, price £4 each.—C. A. Edg Holloway Rd., London, N.

RIGID de Luxe Sidecars, enamelled and plastically sprung, everything of the best, machine, 26 by 2½ tyres, £6; cheaper quality 17s. 6d.; second-hand sidecars taken in exchange Motor Exchange, Westgate, Halifax.

THE One and Only Sidecar for you is the one none better whatever you pay, £5; no more; genuine Chater-Lea fittings used. We get for money. We're not one of the get rich quick and hang the customer. We treat everyone with we don't press you to buy, but come and have one, there's nothing to pay.—Oakleigh Motors, 1 Rosendale Rd., West Dulwich.

MOTOR TRICYCLES.

DE DION Tricycle, less engine, coil and accumulator, in grand condition; £4 10s., bargain.—Alfred only, Park House, Hitchin.

De Dion Motor Tricycle, two speeds, free, just overhauled, 2½ in. tyres, handle-bar controlled; £13; horn, pump.—274, Bramall Lane, Sheffield.

OTOR Tricycle for sale, Quadrant, 3½ h.p., magneto ignition, belt, Peter-Union tyres; cost £64; has run 200 miles; almost unsoiled, acetylene lamp; £20.—Apply to Mr. Hyde, The Garage, Motting, Eltham, Kent.

TRAILERS.

RAILER, splendid condition, Palmer tyres; best offer.—10, Coalpit Lane, Nottingham.

RAILER, good condition, 26 by 2½ Clinchers; bargain, £2.—West, White Hill, Hants.

VO Trailers: 30s. each; in good running order.—Deeming, Motor Garage, Atherstone.

CARS FOR SALE.

ALMER.—12h.p. Duryea, 3-cyl., epicyclic gearing, two speeds, reverse, good running order; £20.

ALMER.—8h.p. De Dion, 5-seater, two speeds, reverse, expanding clutches, engine under bonnet;

ALMER.—8h.p. Regal, tonneau, 5-seater, three speeds, reverse, good all through; £35.

ALMER.—12h.p. M.M.C., tonneau, 2-cyl., three speeds, reverse, 810 by 90 tyres, splendid condition;

ALMER.—12-16h.p. Panhard delivery van, 4-cyl., four speeds, reverse, solid tyres, very strong; £65.

ALMER.—18h.p. Prunel landaulet, 4-cyl., M.O.V., direct top drive, in magnificent order; £125.

ALMER.—40h.p. Lorraine-Dietrich, 4-cyl., magneto, splendid latest type car, do over 60 m.p.h.; £325.

ALMER.—12-14h.p. Humber, 4-cyl., tonneau, seats five, raked steering, push pedals; £85.

ALMER.—10h.p. Panhard, limousine, seats six, Centaure engines, four speeds, reverse; grand bargain,

ALMER.—16-22h.p. Germain tonneau, Roi des Belges, 4-cyl., M.O.V., Cape hood; £110.

ALMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen, six lamps; £145.

ALMER.—22h.p. Bleriot monoplanes, type Calais-Bover; delivery in eight weeks; 600 guineas; free on.

ALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Cars seen here any day, weekdays and Sundays before 2. Photos, details, per m. Easy terms arranged; exchanges entertained.

5.—Touring Car, 20h.p., 4 cyls., compulsory sale; great bargain.—283, Clapham Rd., S.W.

OVER, 6h.p., new 1907, little used, in splendid condition, Stepney, and spares; £70.—Dean, Carnforth.

p. Alldays, 2-seater, hood, lamps; £38; tri-car, motor cycle part.—14, Zermatt St., Chapeltown, Leeds.

h.p. Humberette, two speeds, re-upholstered and painted, good condition.—17, Milnrow Rd., Roch-

h.p. Decauville Car, in splendid condition; £40. or accept good motor cycle.—London House, Cradley

h.p. Star, tonneau, 2 cyls., excellent condition; £45; tri-car, motor cycle part.—20, Potterneton

4.—9h.p. Oldsmobile, latest type, wheel steering, detachable tonneau, grand climber, mechanism as new.—Below.

4.—7-9h.p. New Orleans, 2-cyl., detachable tonneau, Stepney, and fine lot accessories, splendid condi-

LLY and Co., Engineers, 10, Old Town, Clapham (Battersea 1781), offer above finest value in Lon-

M.C., 8h.p., single-cyl., 2-seater, three speeds, reverse, splendid order; £26.—Whittle, 406, Garratt

ENUINE De Dion Car, 6h.p., tonneau, two speeds and reverse, good order; £20; photo.—Evans,

ham, Watford, Herts.

p. 1908 Riley, 2-cyl., 2-seater, detachable wheels, with spare wheel, lamps, headlight, etc., condition

new; £89, bargain.—Below.

h.p. Oldsmobile, fitted with Dunlop tyres, good running order; £15.—Below.

h.p. Singer, 1907, 2-seater, 2-cyl., White and Poppe engine, gate change, excellent order; bargain; exchanges entertained.—Harold Lambert, 26,

ico Rd., S.W.

p. Humberette, three-speed, reverse, new tyres, side lamps, headlight, etc., splendid hill-climber, very

car, perfect all round; £32.—M. W. Groom, Tow-

h.p. De Dion-Regal, 2-seater, detachable dickey, latest type, exceptional condition, recently over-

d and re-painted; £38.—White, Regal, 1, Bedford Clapham.

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to all cash buyers from all the following goods for 7 DAYS ONLY.

£3 DOWN secures any of these. Balance 5/- per week.

2½ h.p. Singer, mag.	£8 1	2½ h.p. R. and P...	£9
3½ h.p. Rex	£10 1	3 h.p. Clarendon	£10
3½ h.p. Dux	£10 1	2½ Minerva, M.O.V.	£10
2 h.p. Rex	£6 1	2½ h.p. Humber	£6
3 h.p. Noble, M.O.V.	£8 1	2½ h.p. King	£9
2½ h.p. Whiteley	£9 1	3½ h.p. King	£9
2½ h.p. Stevens	£7 1		

FARRAR'S "HALIFAX" SIDECARS.

Each £4 17 6 Each.

Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

5 h.p. REXETTE, two speeds	£22 0
5½ h.p. REXETTE, two speeds	£25 0
3½ h.p. 1907 REX, Rom tyre	£16 16
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£35 0
3½ h.p. BROWN, M.O.V., fine goer	£13 0
4 h.p. ANTOINE, M.O.V., fine goer	£12 0
5-6 h.p. ROVER Tricar, splendid goer	£19 0
3½ h.p. BROWN, magneto, 26in. wheels	£19 0
1905 N.S.U. Lightweight, magneto	£23 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£26 0
1908 Magneto REX, single cylinder	£19 0
2½ h.p. 1906 REX M.O.V., spring forks	£15 15
REX DE LUXE, magneto, clutch	£27 10
5½ h.p. TWIN REX, a beautv	£17 17
2½ h.p. REX, M.O.V., spray	£12 12
6 h.p. TWIN REX and Sidecar	£22 10
6 h.p. REX DE LUXE and Sidecar	£32 10

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £19 19s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. Grips like the proverbial seaside landlady 33% cheaper than any other high-class belt. 5in., 9d. ¾in., 1/-. 7in., 1/3. 9in., 1/6 per foot. Delivery from stock. No waiting.

ENGINES.

2½ h.p. KING	£1 15 0
2½ h.p. STANDARD	£1 15 0
3½ h.p. AUTO-MOTOR	£2 5 0
2 h.p. QUADRANT	£1 10 0
2½ h.p. GEM	£1 10 0

SPECIAL BARGAINS.

Mills-Fulford Sidecar	£4 0
Montgomery Flexible Sidecar	£4 0
Rigid Sidecar, very good	£3 15
Mabon Clutch, almost new	37/6
1909 Amac or B. and B. Carburetter, H.B. control	27/-
3½ h.p. Quadrant engine sets	37/6
Osborne four-speed gear	£1 15
Osborne Free Engine Clutch	15/-
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6
Low frame with Roc clutch	£3 10
1909 Premier magneto, brand new	£4 0

Send for Price List of Accessories—Pounds Saved.

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All sizes, 17/6 each.

Genuine 1909 26 x 2in. and 26 x 2½in. Clincher Rubber Studded Covers. All brand new, 25/- each. Tubes with valves, all sizes 5/6 most free, no waiting.

High-class Machines Wanted. Cash Waiting.

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CARS FOR SALE.

ECLIPSE.—20-32h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £105.

ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

ECLIPSE.—16h.p. Pritchett and Gold, 4-cyl. tonneau, hood, pressed frame, perfect order; £80.

ECLIPSE.—12h.p. National, 3-cyl., 2-seater, hood, very good condition; £45.

ECLIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £52.

ECLIPSE.—6½ h.p. Swift-De Dion, 2-seater, Victoria hood, excellent condition throughout; £42 10s.

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £65.

ECLIPSE.—6½ h.p. Regal, 2-seater, three speeds, good as new; £36.

ECLIPSE.—6h.p. Vauxhall, 2-seater, three speeds and reverse, very good condition; £18.

ECLIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

ECLIPSE.—10-12h.p. Gnome landaulet, four seats inside, splendid order; £92 10s.

ECLIPSE.—9h.p. tonneau car, 1-cyl., in good running order; £25.

ECLIPSE.—6h.p. Humberette, 2-cyl., three speeds, good little runabout; £22 10s., bargain.

ECLIPSE.—7h.p. Pope-Tribune, 2-seater, £32.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 1135, Putney.

6 h.p. Oldsmobile, two speeds, reverse, good condition, very quiet; £10; exchange small engine and dynamo.—Bentley, Ludham, Norfolk.

6 h.p. Rover, 1906, grooved Dunlops, splendid condition, trial; sacrifice £47 10s., lowest; bargain, or exchange with cash.—61, Denmark Hill, Camberwell.

REGAL, 8h.p. De Dion engine, 2-seater, three speeds, reverse, excellent running order and condition, five lamps, spares, tools; £48.—4, Frances St., Woolwich.

£45.—6h.p. Wolseley, 2-seater, Stepney wheel, electric lamps, full kit tools, spares, etc., all in very good condition.—Hitchcock, 6, Coppergate Chambers, York.

O.T.A.V.—Several shop-soiled and second-hand, 5½ h.p. latest pattern; prices complete from £50 to £85.—Long Acre Autocar Co., 117, Long Acre, 5011 Gerrard.

RUNABOUT, 4h.p. Antoine, open frame, bucket seat, wheel steering, two speeds, clutch, handle starting £15, or exchange good motor bike.—Sinclair, Walton Rd., East Molesey.

6 h.p. Wolseley, Cape hood, bucket seats, perfect and splendid order, lamps, spare tyre and tubes; an examination and trial; a bargain, £55.—Schafer, c/o Donald, Wills Rd., Goldhawk Rd., Shepherd's Bush.

4-SEATED Car (Decauville), 2-cyl., cardan drive, direct drive on top, four speeds and reverse, Dunlop grooved tyres, two spare covers, non-skid on back, complete with lamps, in perfect running order; can be seen and tried any time during the next two weeks at 2 Rochester Rd., Earlsdon, Coventry.

1908 6-7h.p. Laurin and Klement (develops much more), 2-cyl., magneto, thermo-syphon, equal to new, little used (by myself only), smartest and most reliable 2-seater on the road, hood, spares; £120, or nearest offer; good allowance for motor cycle or tri-car.—Stanton, 619, Lea Bridge Rd., Leyton, London.

INSURANCE.

PLEASE Send for full covering Motor Cycle Policy from 18s. 6d. per annum.—Bass, Insurance Broker, Ongar.

INSURANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance Broker, Norwich; fire, 2s. 6d.; third party, 7s. 6d.; accidents, 15s.; please write for particulars.

FINANCIAL.

R.O.M. Tyre Shares.—50 £1 fully paid participating preference shares for sale at 45s. each, in the lot or would sell part. The increasing reputation of the company's tyres is phenomenal, and, considering the small capital of the company, the shares are likely to be worth a much bigger price by the end of the year.—Letters to D., 14, Dysons Rd., Upper Edmonton, Middlesex.

TOURING.

WANTED, a motor cycling companion for any tour, night; range, August to September; touring on moderate lines.—L.C.C., 51, Kensington Mansions, London.

BUSINESSES FOR SALE.

CYCLE and Motor Cycle Business for sale, exceptional position in large town commanding large district, at very low rent splendid opportunity for good man; satisfactory reason for selling.—No. 2,948, 17 Motor Cycle Offices, Coventry.

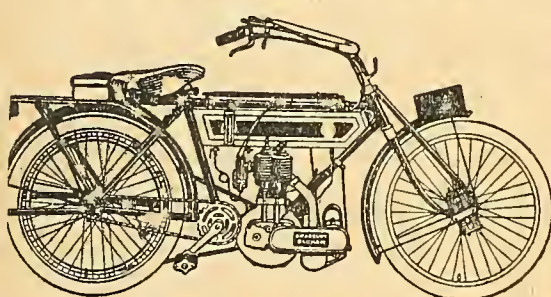
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UNITO Coupling, nearly new; 12s. 6d., or nearest offer.—W. n. Russell, 103, Auelentosan Terrace, Springburn, Glasgow.

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Just as every brick in a wall
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The Bradbury is built upon a
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rider. That is the BRADBURY
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£3 deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

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1908 Twin REX DE LUXE	£32
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BROWN AND BARLOW and AMAC Carburetter with handle-bar control. B. and B., 30/-; Amac from 29/-. Exchanges promptly made from stock.

TOP-CLASS SIDECARS to suit all makes. Beautifully plated, enamelled, and upholstered; to suit right or left side; three-bolt fastening, 2 1/2" tyre, &c.

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Enamelled Mudguards, complete with stays; 3 in. 2/11, 3 1/2 in. 3/6 per pair.	

100 GUARANTEED E.I.C. ACCUMULATORS; 20-hour 7/6, 25-hour 9/6, 50-hour 17/6.

England's Best Rubber Canvas Belting, with fastenings 1/2 in. 9d., 3/4 in. 10d., 1 in. 1/-, 1 1/4 in. 1/4 per foot.

NEW CLINCHERS	17
SPECIAL—NEW 26 x 2 COVERS ..	12
TUBES, 4/11 each. 26 x 2 1/2 " ..	13

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THE MOTOR CYCLE

Vol. 7. No. 334.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

THE TOURIST TROPHY RACE FUND.

AS announced in the last issue, the International T.T. Motor Cycle Race is to be held in the Isle of Man on Thursday, September 23rd, and will, we hope, be a most successful event.

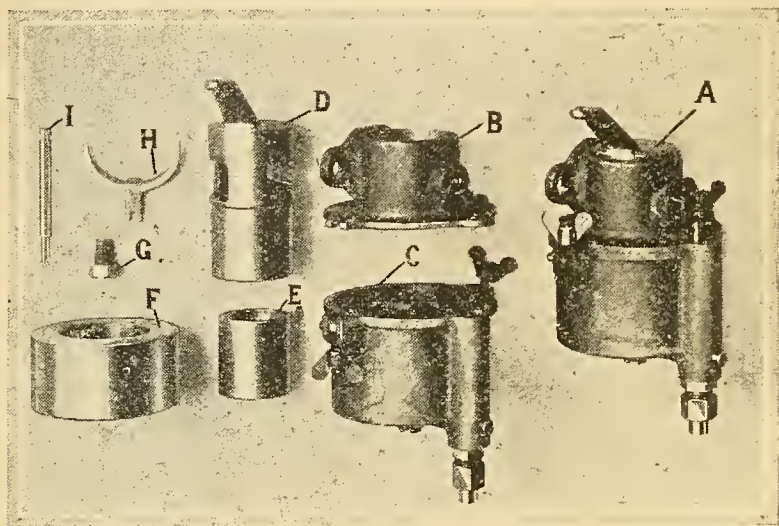
Readers will recollect that last year when the race was held the Royal Automobile Club held a car race about the same time. This resulted in the committee of the Auto Cycle Union being saved a considerable amount of expense in organisation. This year, however, there will be no car race; consequently, all the cost of organisation will fall upon the A.C.U., and the committee therefore respectfully invite all who are interested in motor cycling to subscribe towards a fund for defraying the expenses incurred in connection with the preparation of the course, conveying officials to the Isle of Man, and the sundry expenses which are unavoidable in the conduct and organisation of an important event like the Tourist Trophy Race. Last year *The Motor Cycle*, at the suggestion of the secretary of the A.C.U., Mr. F. Straight, opened a subscription sheet for motor cyclists, which was called the Tourist Trophy Shilling Fund. This was fairly successful, but nothing like so successful as it might have been. This year we hope that those interested in motor cycling, such as secretaries of clubs, will write to the A.C.U., 18, Down Street, Piccadilly, W.; for a subscription sheet. In addition to publishing the total amounts collected by hon. secretaries of motor cycling organisations, *pour encourager les autres*, *The Motor Cycle* will contribute 1s. for every £1 up to £100 sent in by club secretaries or others. Contributions should be addressed to *The Motor Cycle*, Coventry, before the date of the competition, the 23rd

prox. Readers who send for these collecting sheets should bear in mind that the T.T. Race is a competition promoted in the best interests of the pastime and with a view to improving motor cycles in general. Had there been no T.T. Races probably readers would not be riding such efficient motor cycles as they are doing now. Therefore, while collecting the nimble shillings for the fund, they are helping indirectly towards the production of the ideal motor cycle, and not, as many think, assisting manufacturers and the Club to hold a race for their own particular gain and glory. The two previous Tourist Trophy Races in the Isle of Man have been very sporting, and we hope the event will always remain so.

Motor car manufacturers, by assisting the Tourist Trophy Fund, will in reality be helping themselves, because the more motor cyclists there are in the country the more autocarists there will eventually be, for the simple reason that a motor cyclist is usually in his first stage of automobilism, and does not always remain a rider of a single track machine. In course of time many motor cyclists accumulate wealth, or rather sufficient of it to become ambitious enough to purchase a motor car, and it is quite reasonable to suppose that had they not adopted the pastime of motor cycling in the first instance they might never have become motorists at all. Car manufacturers would, therefore, not only assist the A.C.U. by subscribing, but, indirectly, help themselves. One or two car manufacturers we know see eye to eye with us, and have already done a considerable amount of work in the way of assisting motor cycle competitions of all kinds. Would there were many more such.

THE 5-6 h.p. A.C. TRICAR.

AMONG those people who are of the opinion that the tricar is not dead are Auto-Carriers, Ltd., Martell Road, West Norwood, S.E. Since we last described the interesting little vehicle, for the production of which they are responsible, their works have been considerably extended and the vehicle itself has undergone a good many improvements. The engine is now fitted with magneto ignition as a standard, the magneto being placed behind the engine and driven by means of a chain, which is placed in a protected position. By undoing one bolt the tension



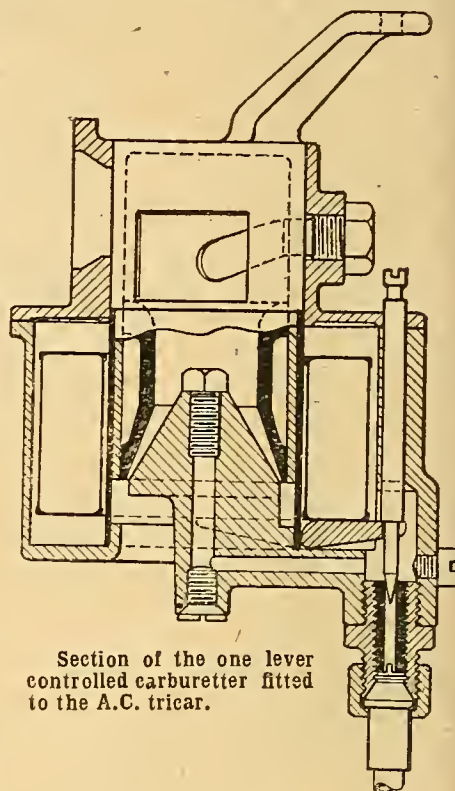
The A.C. Carburettor disassembled. The letters are referred to in the accompanying article.

of this chain can be altered. The carburettor, designed by Mr. John Weller, the designer of the Weller car which created a considerable amount of comment a few years ago, also calls for special attention.

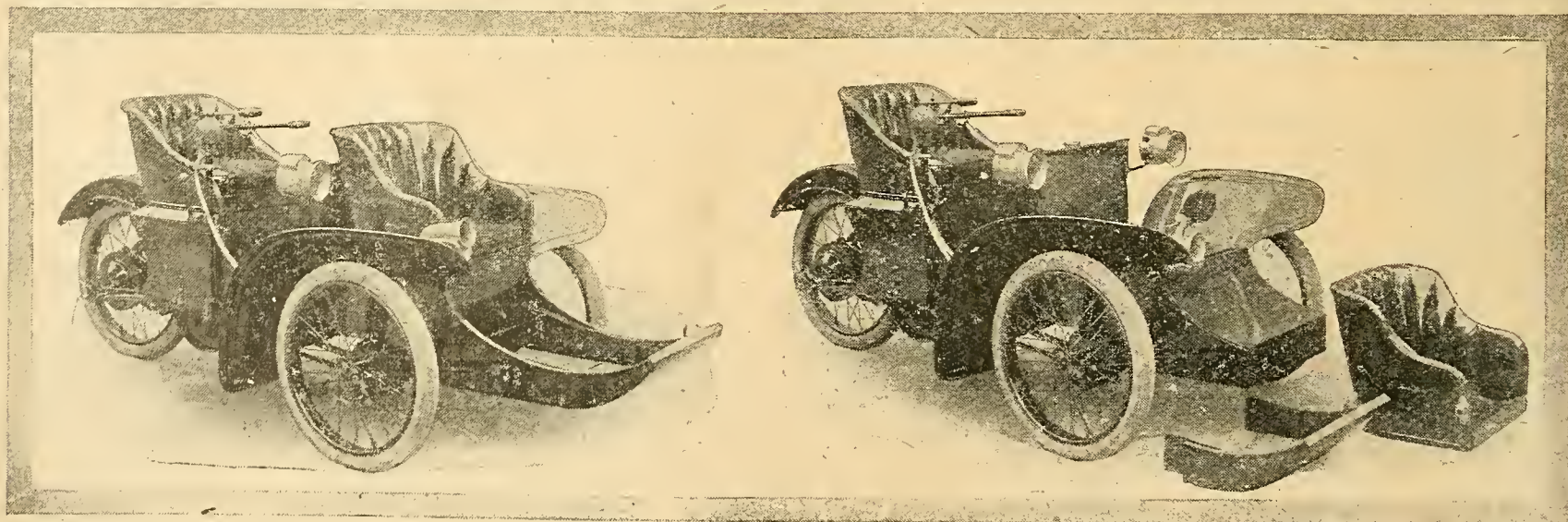
Referring to the accompanying illustration, the complete carburettor is represented by A, and it will be seen that the upper portion B is attached to the lower portion, or float chamber C, by means of wing nuts. When the wing nuts are removed and the carburettor dismantled, all the parts fall out into the rider's hand, therefore nothing more accessible can be imagined. The throttle D is of the sleeve variety, and to detach it from the upper portion of the carburettor B it is only necessary to remove the set-screw G. In the lower part of the carburettor the choke tube E is inserted. This is a driving fit, and consequently its

position relative to the sleeve D can easily be altered. The float F is an annular one. The needle I reposes in a recess provided for that purpose in the outer casing of the float chamber, while the Y-shaped fitting H, which serves as a balancing arrangement, merely rests at the bottom of the carburettor with a needle between the fork at the end. The level of the petrol can be altered by an ingenious device consisting simply of a screw in which is the valve seating, which reposes immediately above the petrol union. The carburettor works extremely well, and, being controlled by one lever, is of the simplest type possible.

These are the chief alterations in the A.C. tricar, and, after going through its mechanical details, we were taken for a short run in this interesting little vehicle. It runs very silently, is comfortable, has a large steering lock,

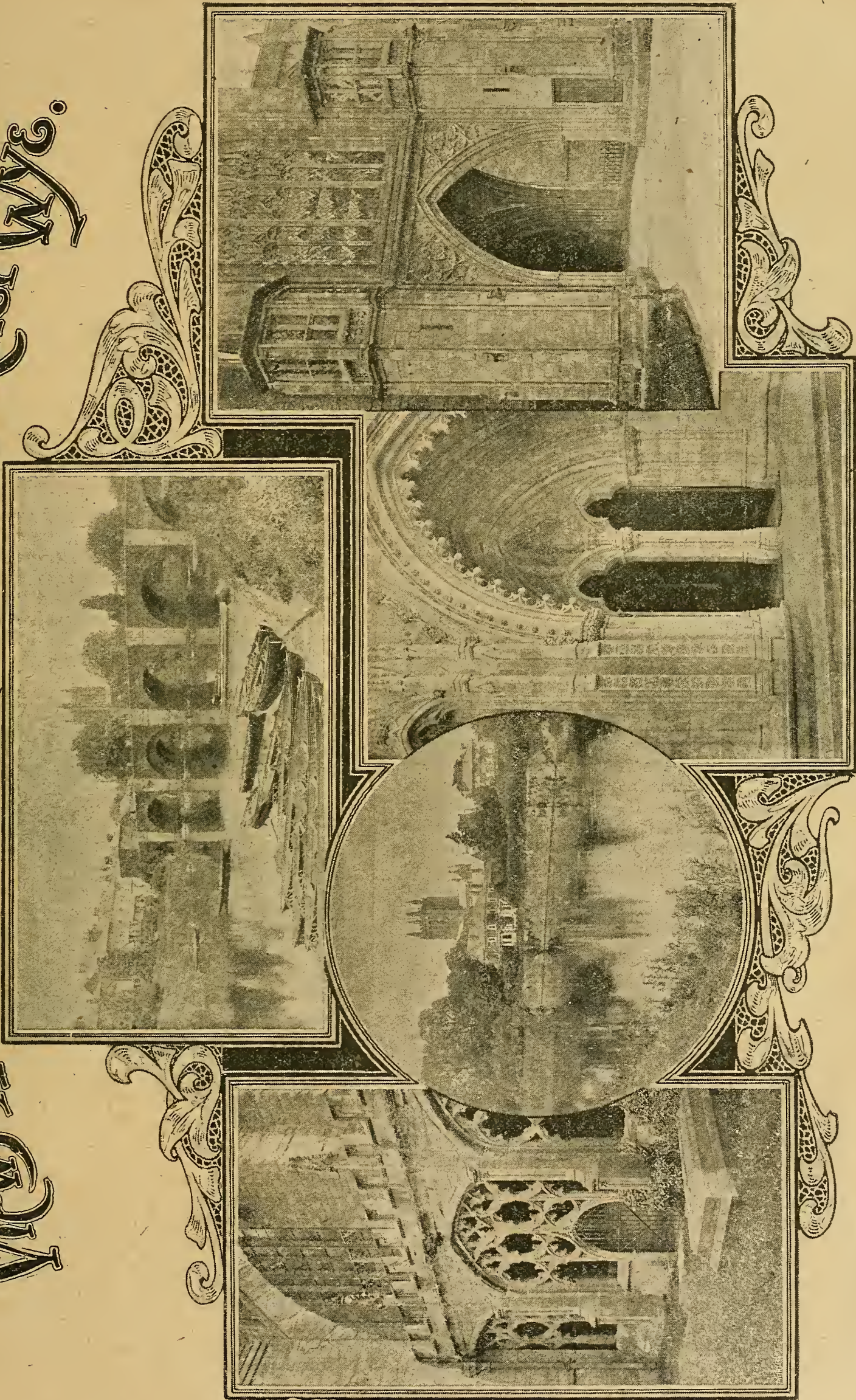


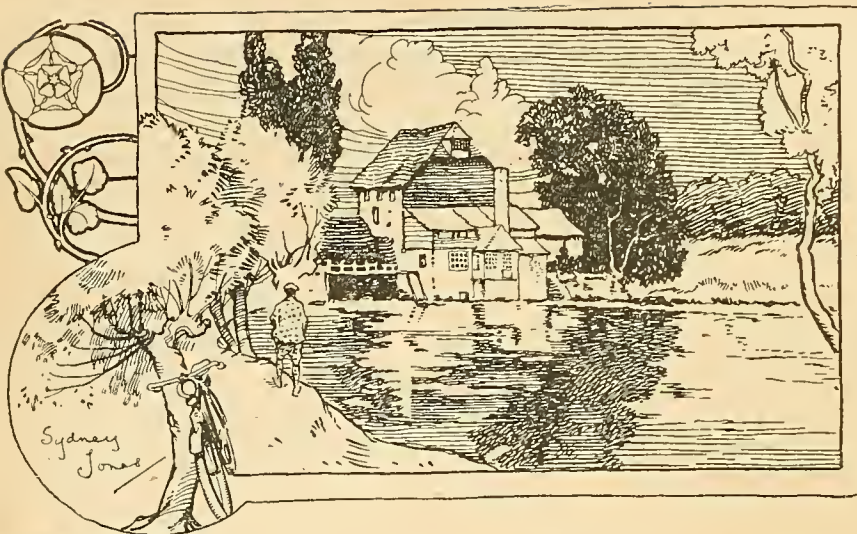
and is decidedly a good hill-climber. It was first of all taken up College Road to the level of the Crystal Palace, which it ascended almost entirely on the top speed. It was then put at Jasper Hill, gradient 1 in 5, which it surmounted on the low gear without any sign of a falter. That the A.C. tricar is a practical touring vehicle we are quite confident. Though the engine is air-cooled, the excellent fan-cooling system works admirably. Many of our readers may not be aware that the A.C. tricar is very largely used for commercial purposes. Machines of this type are driven about London by inexperienced youths, and the reports of their running are excellent. The non-stop performances of the three A.C. tricars in the last Quarterly Trial constitutes a record.



The latest pattern A.C. tiller-steered tricar. The two illustrations serve to show how easily the pleasure pattern tricar can be transformed into a three-wheeled runabout with luggage-carrier at the front.

Views of Hereford Cathedral & the River Wye.





Touring with a Sidecar.

A bad skid was experienced soon after leaving, owing to a kind and considerate market gardener refusing to keep to his correct side of the road, compelling me to apply brakes sharply to avoid a collision, but fortunately no damage was done.

We spun merrily along through Bramber and Steyn- ing, and near Petworth encountered a herd of bullocks, which gave us rather an exciting time, being very difficult to pass, but after this incident we quickly made Petersfield, Botley, and Southampton, and crossed Red Bridge into the New Forest, through which we had a delightful run, arriving at Bournemouth at 7.30. After spending a day or so amongst these lovely surroundings, a start was made for South Devon on the following Wednesday morning at 9 o'clock. Rain greeted us at Wimborne, but only proved to be a shower, and we continued our way to Blandford and Sherborne, where petrol was taken in. A prophet had warned me that the hills between Yeovil and Honiton would give me a trying time, but, thanks to my excellent low gear, I experienced no trouble whatever in surmounting them with passenger aboard, although the climbs out of Crewkerne, Yarcombe, and Chard I found to be tough customers. At the summit of one hill I noticed a small hostel called the Windwhistle Inn—a name that struck me as most appropriate, as unfortunately we had been

TOURING with a sidecar is fine sport! I had made up my mind to dispense with the services of the railway company for my 1909 holiday, being the possessor of a 1909 5 h.p. two-speed geared twin Vindex motor bicycle and a Mills-Fulford castor wheel sidecar. My experiment was a great success, and will undoubtedly be repeated. A packed railway carriage on a broiling hot day is not exactly the most ideal mode of travel. As it is necessary to take a considerable amount of luggage when one has a lady passenger, this was my first consideration, and in order to minimise weight I had a box constructed of flaxite, a light fibre material as used for the manufacture of dress trunks, which, with three coats of paint and one of varnish, has proved to be all one could desire, and moreover fairly inexpensive. This was securely bolted at the rear of the sidecar to tubes attached to the base as per illustration, and, in order to carry a spare supply of petrol and lubricant, a board was clipped to the sidecar frame underneath the seat, to which a tin box was secured, just large enough to take a half-gallon can of petrol and a quart of lubricating oil. I was more than once thankful for carrying the latter when I found my oil tank empty amongst the Somerset hills and several miles from a town. A half-plate camera was securely packed with its full complement of slides in the case fixed to luggage-carrier, the stand being strapped to the inside tube of sidecar, a couple of spare inner tubes and a cover completing the outfit.

A Hill at Lewes causes a Stop.

Everything being in apparent good order, my wife and I left Eastbourne at 6.30 one fine morning last month, but trouble commenced early, as for some unaccountable reason the machine was not pulling at all well on the hills, and much to my surprise refused to climb School Hill, Lewes, on the low gear (9 to 1), although the engine appeared to be firing perfectly. As matters did not improve, a stop was made at a Hove garage, where it was found that the back hub was excessively hot, and after breakfast had been discussed the rear wheel was removed from the frame and the trouble quickly found, as the cones had tightened themselves and made the axle practically a fixture. In fairness to the machine, I think I should add that this was probably caused by towing a heavy broken-down tricar and passengers a distance of nine miles the previous week-end. The wheel was soon replaced, and after adjusting the low speed, which had been slipping slightly, we left Hove at 1.30 in better spirits, hoping to reach Bournemouth before nightfall.



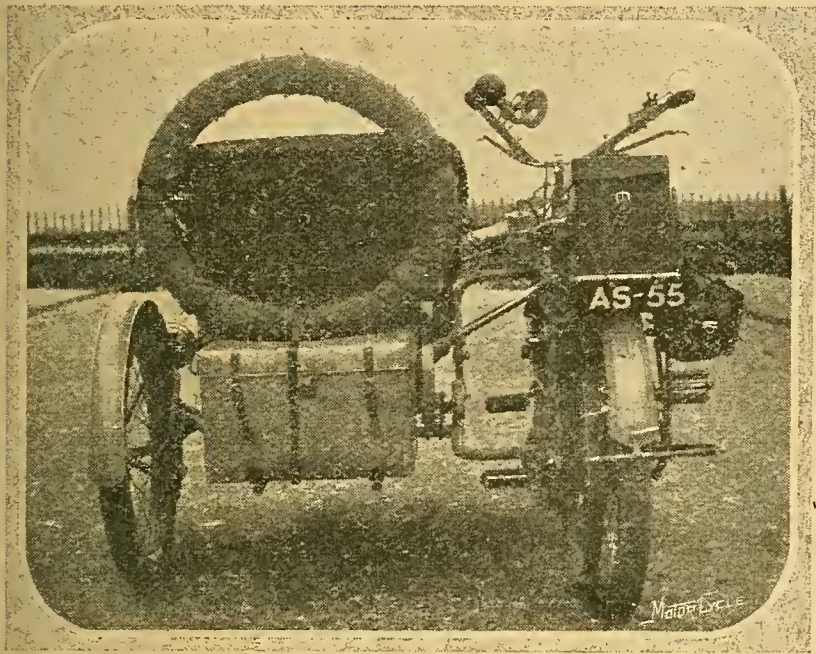
The writer with his V.S. sidecar combination.

bothered with a strong headwind, and to hear it whistling and screeching through the trees at this spot was most uncanny. We were not long in reaching Honiton, and the ever faithful city of Exeter was passed through at 3.15. Our next stop was Dawlish, where we were glad of a cup of tea and a short rest. There is a steep climb out of this town and a bad descent into Teignmouth, but journeying *via* Newton Abbot we reached our destination—Marldon, a small village near Torquay—at 6 o'clock.

Touring with a Sidecar.—

Here we spent an enjoyable week, the steep hills and narrow winding lanes and bad road surfaces thoroughly testing machine, sidecar, and gear. I might here mention that, curious as it may seem, at each place I stopped in Devon to replenish the petrol tank a measure was an unknown thing, and one young mechanic at Honiton informed me that "Us always measures it near enuff with a stick." I do not suggest that all garages in Devon act in the same easy-going fashion, but can vouch for the fact that I saw it used at three in different parts of the county.

The return journey was commenced in fine weather, and with the machine running as well as ever we left



Equipped for the tour.

Marldon at 6.30 in the morning, experiencing a delightful ride over Little Haldon into Exeter, Honiton being reached at 8.20. Here we halted for breakfast,

or at least a second one, leaving well satisfied with the Dolphin Hotel, where we were served both quickly and well. After Honiton we were again amongst the hills, but had a capital non-stop run through to Sherborne, where petrol was taken aboard. Bournemouth was reached at 2.45 after a really excellent run of 125 miles.

The Last Stage of the Tour.

We spent a couple of days at Bournemouth, continuing our way home on the morning of the third day. We sped through the New Forest, and soon found ourselves at Petersfield. The scenery onwards to Steyning is particularly fine, and I was tempted to make several stops to expose a plate. The surroundings of Midhurst and Stopham are especially attractive. We arrived in Brighton before three, and here met a friend, who accompanied us the remainder of our journey to Eastbourne, where we halted at 4.30 after a no trouble run. My wife and I voted it the best and cheapest holiday we ever spent, and I have nothing but praise for the machine, gear, and sidecar. Our tyre troubles were nil, so I may be permitted to mention the equipment. The front wheel and sidecar were shod with ordinary Peter Union covers, which have not punctured once in 2,500 miles, and show but little wear. The back tyre is a Michelin non-skid light car tyre (650 by 65 mm.), which completed 800 miles without trouble, and it is the only tyre that I have yet found to stand the strain of a 5 h.p. engine and sidecar. The 1in. Stanley Dermatine belt was also faultless. In conclusion, I can most thoroughly recommend the Vindec-Mills-Fulford combination to anyone requiring a reliable and speedy sidecar outfit, and wish to add that I am in no way interested in any one of the products mentioned, but my experience may be of service to others, as I well remember the troubles I had with another passenger outfit in my novitiate.

ERNEST U. REDWAY.

THE BRITISH MOTOR CYCLE RACING CLUB.

THE fifth of the successful series of racing events held by the British Motor Cycle Racing Club will take place to-day (Wednesday, August 18th) on the Brooklands Track at 3 p.m. As the competition season is drawing to a close, two important events only will figure on the programme. These are:

1. RECORD TIME TRIALS.—Distances, one kilometre and one mile. Flying start. Each member will be allowed one trial over the above-mentioned distances, and best performances will be noted for the under-mentioned engine sizes: Class A, for engines not exceeding 275 c.c. Class B, for engines not exceeding 344 c.c. Class C, for engines not exceeding 500 c.c. Class D, for engines not exceeding 750 c.c. Class E, for engines not exceeding 1,000 c.c. Certificates officially certifying the best performance made in each of the above classes will be given. The Club gold medal will be awarded in each class for the best aggregate performances made during the season at these meetings. In the event of world's record being established, a Brooklands' certificate will be issued.

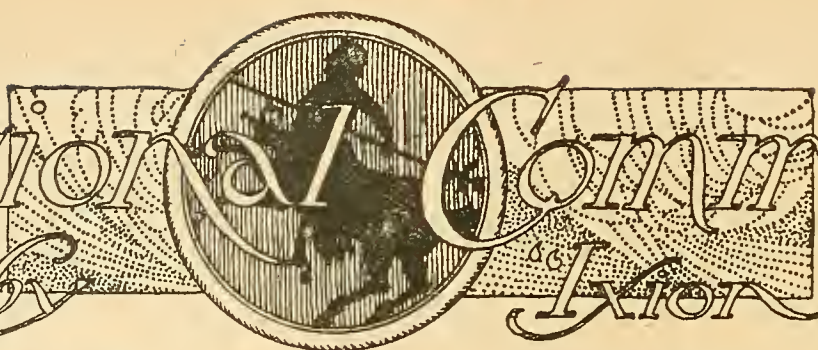
2. ONE HOUR'S RACE.—Four classes. Class B, machines with engines not exceeding (lightweight not exceeding 110 lbs.) 344 c.c. Class C, machines with

engines not exceeding 500 c.c. Class D, machines with engines not exceeding 750 c.c. Class E, machines with engines not exceeding 1,000 cc. First prize in Classes C, D, and E, a silver cup each, presented by Messrs. A. G. Forster, W. Krause, and W. H. Wells. Class B (lightweights), silver cup presented by Mr. A. J. Wilson. Second and third prizes, silver medals. Certificates to all finishing the ride recording distance. Five starters in each class to be the minimum for a cup to be awarded.

It is proposed to hold on Saturday afternoon, October 9th, at 3 p.m., a two hours' record race for all classes, giving members an opportunity of putting up performances of fifty miles, 100 miles, and two hours. The distances and times are as follows: Fifty miles, 53m. 20s.; 100 miles, 1h. 56m. 17s.; two hours, 103 miles 280 yards. Silver cups for the best performances in each class, and silver medals for standard time and distance will be awarded.

Motor cyclists who have been experiencing belt troubles should write to the Continental Tyre Co., Clerkenwell Road, E.C., who will be pleased to send gratis a section of their new motor cycle belt.

Occasional Comment



A Case of Overhauling.

An illuminating sample of the obstacles which beset the path of the epistolary diagnosis came under my notice this week. A rider asked me to look at his machine, informing me that it was running badly, and that he fancied the carburetter was flooding a little, but that otherwise everything was A1. When we set about the machine in company, I found ample explanation of bad running. The choke tube of the Longuemare carburetter had been lost, and the vaporiser reassembled without it, so that the engine was receiving a huge excess of extra air. The magneto contact breaker was full of small brass filings, and investigation proved that a small screw in the contact breaker had been broken, and that its base was ploughing up the face of the end-plate of the armature. The crankshaft was so badly out of truth that the flywheels were rubbing against the side of the crank case, which explained the enormous compression in which the owner had rejoiced. The magneto chain had an enormous amount of backlash. When we are in a position to reassemble the machine, I daresay other minor derangements will be brought to light, but I have said sufficient to show that no newspaper adviser is necessarily to blame when he fails to cure a complicated case of trouble by letter post. I may add that the machine in question is a very old one, which has been badly handled by colonial repairers.

Smash-proof Brakes.

I wonder how many motor bicycles go through a year without a tumble? I am not speaking exclusively of sideslips and collisions, but include every form of fall, including blowing over when on the stand and being dropped during careless handling. I fancy very few machines attain their first birthday without a fall of some sort. When we look at the machines of to-day, we notice that most of them are provided with footrests, which, by reason of their protruding position, take the brunt of every fall. So far so good. We notice also that the better of the two brakes (the back belt rim shoe brake) is almost invariably mounted on one of these footrests, and mounted in such a way that a bent or broken footrest deprives the rider of his main brake. These things ought not so to be. It is good to save vital portions of the mechanism by protruding footrests, but it is distinctly bad when a bent or broken footrest leaves the rider with but a single brake, and that brake fitted to comply with an obsolete law, and being itself useless to all intents and purposes. The foot brake, at any rate, ought to be so made and fitted that only a very bad smash indeed could disorganise its working. The same applies to the control of many variable gears and free engines. I saw a machine last week which had been rendered absolutely unrideable by a very insignificant tumble indeed. All that had

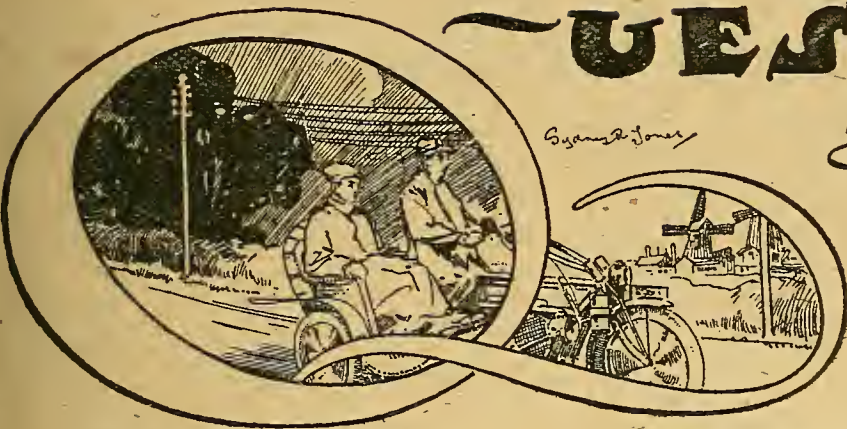
happened was that a flat-footed stand had been let down on an uneven road, and the machine had toppled over when the rider brushed against it in lighting his pipe. But as it happened the footrests carried a rather flimsy and complicated control set for the operation of a two-speed gear and free engine, with the result that the machine could not be driven on either gear, and had to be shamefully carried to its destination in the guard's van. Bad design, gentlemen! We want more makers who ride. Or, if I were in the trade, I should be rather inclined to pay a high salary to the biggest duffer of a motor cyclist I could find amongst my customers to ride one of my machines in all weathers, and see how many weak points his driving and treatment could discover in it.

Dust-excluding Carburetters.

With the knowledge that dust has a good deal to do with carbon deposits, several correspondents have written me on the subject of dust-excluding carburetters. Gauze protection is, after all, only a makeshift, and not very satisfactory at that. It certainly excludes dust, if it is of fine mesh, but the air apertures have to be enlarged in area to atone for the obstructing wires, and the gauze holds the dust it arrests, and needs very frequent wiping down with a brush or rag dipped in petrol. A carburetter may be protected from choked jet or jammed slides simply by a wise choice of its position on the machine. The real need for protection arises from the rapidity with which road dust enters the engines, pits the valves, grinds the piston rings, and is deposited in carbonised incrustations on the cylinder head. These mishaps occur no matter where the carburetter is set, and, owing to them, there is a need and a demand for a protected carburetter. Werner Frères and the Rex Co. tried to solve the problem years ago by putting their carburetter inside the tank; the idea was good, as the air orifices could be placed in a very sheltered situation indeed, but it has since been discarded, and the devices were highly inaccessible. I believe the correspondent who suggested on page 554 that a pipe be carried neatly out of sight from the air intake to the centre of the handle-bars was on the right lines. A funnel or airscoop could be quite unostentatiously fitted in some such fashion as this, and would only collect "dusty air" when riding in the wake of some other dust-raising motor. I heard an amusing retort on this point last week. A motor cyclist complained to the makers of his carburetter that it would not work when full of dirt. They replied that it could not construct a carburetter that would work when full of dirt. He replied that this was not what he wanted; he would be quite content with a carburetter which could never under any circumstances get full of dirt! There is a thought in that. [Why not use the large diameter frame tubes to convey the air?—Ed.]

QUESTIONS

AND REPLIES



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Clutch Slipping on Steep Hills.

?

I have a Mabon clutch on my 3 h.p. Triumph. This slips badly on steep hills. I have tightened it up by the spring, and have regulated the oil supply. What should I do now? What oil should be used?—J. P. W.

You are evidently oiling the clutch excessively. If you inject too much oil, or if the oil is too thick, the clutch will not grip on steep hills, and the remedy is to clean it out with paraffin. Often it is only necessary to inject a small quantity of paraffin to thin the oil and cure the slipping.

Avoiding Police Traps.

?

Kindly let me know the best way to get from Ealing to Derby. I do not wish to go through Warwickshire, or any district infested with police traps. I was thinking of going through St. Albans. Which is the best way to St. Albans from Ealing? Would you kindly let me know of any police traps there may be on the route you suggest from Ealing to Derby?—R.W.

We suggest the following route: Ealing, Harrow, Bushey Heath, Elstree, St. Albans, Luton, Bedford, Higham Ferrers, Kettering, Market Harborough, Leicester, Loughborough, and Derby. We do not know of any police traps on this route.

Carbon Deposit causes Pre-ignition.

?

I have used a 1908 3½ h.p. N.S.U. and sidecar for 1,500 miles. Lately it has started backfiring. It runs about 500 yards, then stops, the engine backfiring of its own accord. I have had the machine examined at a garage, but the people could not find the cause. They have fitted a new Bosch plug, but there is very little improvement. They say the magneto is working correctly and the carburetter in good order. What can possibly be wrong? Even after stopping there is no trouble in starting. I am eagerly awaiting your opinion.—C. D. J.

All we can suggest is that the cylinder head and piston are covered with carbon deposit, which becomes incandescent after the engine has been running some time, and thus causes excessive pre-ignition. If cleaning the cylinder and piston does not effect a cure, as we imagine, have your magneto carefully overhauled to see that the cam and contact-breaker mechanism are not excessively worn.

A Variable Gear for a Pedalless Machine.

?

Would you kindly let me know whether there is on the market a variable pulley which automatically adjusts itself to the load, within limits, that would prove a useful and satisfactory fitting on my 1908 Triumph. I am in the habit of riding my machine fitted up so as to get maximum comfort out of it. The pedal gear I have completely removed and replaced with spring footboards, and I often carry travelling kit on the carrier. With a gear of 4½ to 1 I get on excellently, although this does not give me much margin on hills of 1 in 7, which I occasionally come across in the Bath district. My weight is about eleven stones.—C.S.

An automatically variable engine pulley is made by the Lloyd Motor Engineering Co., 132, Monument Road, Birmingham. This device we proved to be quite satisfactory on the occasion of a trial some months ago.

Putting a Motor Cycle out of Action.

?

I notice in a recent issue of *The Motor Cycle* an account of a machine being stolen out of a shed at the back of the owner's house. I have made arrangements for keeping mine in a locked-up shed in an hotel yard, and to guard against any such theft as mentioned above, could you suggest any precaution? Of course, anything done to the machine that is universal would be useless. Could you or the Bosch Co. tell me of anything I could do to the magneto to put the same out of order, something simple? Or would it be possible to obstruct in some way the flow of petrol to the carburetter, say by a small screw in some way that of course would have to be taken out every time the machine was required for use?—F.H.

Of course, the best thing you can do is to insure the machine against theft. You can easily put the magneto out of action by connecting the switch screw by means of a fine wire to the spring holding on the brass cover. You can easily arrange this so that it could hardly be noticed. There are many other more obvious methods of putting the machine out of action, such as taking the wire off the high tension terminal, or if you use a detachable fastener, why not remove the belt altogether from the machine each time you have finished with it?

Pedal Starting. Sidecars.

?

I have a 3½ h.p. Triumph, but do not appreciate running alongside it and then jumping into the saddle. (1.) Would it be possible to start the bicycle while sitting in the saddle if I had a Roc clutch, Mabon clutch, or a Gradua gear fitted? Which is the best? (2.) I am thinking of getting a sidecar. Would a two-speed gear be necessary to take about 25 stones? (3.) Is the Lowen sidecar better than the Montgomery? Having two wheels do you not think the former less liable to skid? Would a sidecar necessitate a car licence?—P.G.

(1.) None of the devices mentioned allow of pedal starting while back wheel rests on the ground. The Nala, V.S., and N.S.U. permit of pedal starting. (2.) A two-speed gear would be necessary to get any real pleasure out of the machine in a hilly district. (3.) Whether you have a one or two-wheeled sidecar is a matter of personal choice. Both are good, but we may mention that a rigid pattern sidecar will not skid. No extra licence is required for a sidecar unless you use a two-wheel one, which will convert your machine into a four-wheeled vehicle.

Weak on Hills.

?

I have a 3 h.p. Bradbury with Longuemare carburetter. The machine has good compression, and goes well on the level, but will not climb hills as it pulls up. The plug also gets sooted up quickly. The engine runs best with the air lever wide open and the throttle fully open, but if I attempt to close the throttle a little the engine slows down directly. Can you please give me some tips?—B.W.P.

It looks very much as if the flow of petrol to the carburetter is partially obstructed, or may be some foreign matter has got into the carburetter. If you take off the feed pipe and dismantle the carburetter you will be able to verify this. When the carburetter is clean if the engine fails on hills it may be due to you using too high a gear, or to wrong manipulation of the control levers. If you partly close the throttle without closing the air lever also, naturally the engine will stop. On hills try closing the air lever gradually immediately you notice the engine slowing down. This will enrich the mixture and enable the engine to pull better.

Magneto Ignition.

Q (1.) I have a Fulmina magneto, which has been in use for two seasons and given great satisfaction. But I think the spark is not so "vicious" as it once was, and, although there is a lot of magnetism about, I think it possible that it would be an improvement to get the magnets remagnetised. Does the lessening of spark point to this want? (2.) Also can you explain to me why the position of armature which produces a spark with the least movement of the armature is not the position of maximum spark? That is, in the former position, and when the wheel of armature is turned ever so slightly, a spark is produced at the plug. But in this position if the armature is revolved as rapidly as possible, the spark will only jump about $\frac{1}{8}$ in. Retard from this position about $\frac{1}{8}$ in., and the spark will jump a gap of about $\frac{1}{4}$ in., but has to be moved twice as fast to produce a spark at all at the plug.—S. B.

1.) Gradual lessening of the spark seems to indicate that the magnets will soon require to be remagnetised. (2.) The magnetic field is distorted while the armature is in motion. At the extreme limit of range the spark tends to become weak, and the distortion is such as to move the point on which the maximum electrical effect can be obtained in a backward direction; consequently it is quite possible that there is one point at which the $\frac{1}{8}$ in. spark can be produced with very slight movement, whereas there is another point further back at which a much stronger spark will be obtained, but only when more rapid rotation is given to the armature. For a detailed explanation we refer you to "Motor Cycles and How to Manage Them."

Improving an Old Pattern Machine.

Q (1.) I have a Raleigh with 3 h.p. Fafnir engine, which is running very well, but is not too comfortable on rough roads. Would you advise me to have the engine fitted on to another frame in order to get the extra comfort when riding? If so, what frame would you suggest? (2.) There is, I think, a slight leakage of compression by the large nut, which connects induction pipe to engine. After running for some time I notice quite a quantity of oil on the outside of the nut. This seems as if there is leakage of oil past the piston rings. If, when I examine the rings, I find them bright all round, may I presume that rings are all right? (3.) The inlet valve is ground well in, both surfaces being bright and clean. There is an asbestos washer on the underside of the valve seating, but not one above where the nut holds the inlet valve down. Should there be one in this latter place? If so, what kind? What tension should the spring on the inlet valve be, and how should it be tested? My inlet valve, when spring is fully compressed, opens a good deal more than $\frac{3}{16}$ in.; is this right?—C. R.

(1.) A new modern frame of low design, with spring forks, would make

things much more comfortable for you. We suggest the Chater Lea frame, and should advise you to correspond with the Chater Lea Manufacturing Co., Ltd., 116, Golden Lane, E.C. (2.) Perhaps you are oiling a little too freely. Probably if you fit a copper and asbestos washer at the top of the inlet valve, the leakage will cease. If the rings are bright all round, you may be quite sure that they are satisfactory. Even if they are a good fit when the engine is excessively oiled, the lubricant will sometimes get past the rings. (3.) There is no fixed rule for the strength of the inlet valve spring, but the makers of the engine would supply you with a spring most suitable. Likewise, the correct opening of the inlet valve can only be determined by experiment. $\frac{3}{16}$ in. is too much for a fast running engine, and you would most likely obtain much better results with a $\frac{1}{8}$ in. opening.

A Loss of Power on Hills.

Q I have a 3 h.p. (Birmingham) Quadrant, surface carburetter and accumulator ignition. On a level road the machine runs well at a moderate speed (eight to twelve miles per hour) with spark lever advanced halfway, throttle open a little, and air lever just open. For



Like a penny in a cheese! The inlet valve head of a reader's machine having snapped off, fell into the cylinder, and was jammed through the piston on the upward stroke. This is an old trouble, but latter day engines usually have a stop to prevent the valve head entering the cylinder in case of breakage. We regret to have to admit however, that there is a modern appearance about the piston illustrated.

quite a slight incline I have to give more gas and more air and advance the spark, or the engine slows down. But for a steep hill, even quite a short one, full throttle and corresponding air generally fail to take me up without pedalling, i.e., the engine seems to lose power and sometimes stops quite suddenly or begins to misfire. Similarly on the level, if I advance the spark fully, for speed, it generally misfires in the same way. I have cleaned out the carburetter and enlarged the air inlet to same, so as to facilitate vaporising, and I have fitted a variable pulley

(L.M.C. Auto-varia) to improve hill-climbing, but there still seems to be this loss of power. The cylinder and piston are in perfect condition, and the compression is as good as one could wish for, so the loss is not there. Is it that my weight—14 stones or a little over—is too much for a 3 h.p. engine, or is there anything wrong with the adjustments? The engine generally starts quite easily, even when cold, by running a few yards, with spark lever advanced halfway, but will not start firing at all if the spark lever is put back, as usually recommended. I never have any trouble with premature ignition or backfire, even when the engine is hot.—G. A.

If you have a surface carburetter we ascribe some of your trouble to this. The surface carburetter being designed to work with a lighter spirit than is now sold to the public, it may be necessary to let a little fresh spirit into the carburetter from the tank every time you want to start or restart. Another thing you might turn your attention to is the adjustment of the contact-breaker. Note whether the cam or any of the parts are worn. The fact that the engine misfires at speed and runs regularly at slow speeds seems to indicate that the contact points should be adjusted closer together. Bear in mind that the tension of the valve springs and the correct opening of the valves are important.

Tyres on Lightweights.

Q Will you kindly say if you consider the $1\frac{1}{2}$ in. tyre, fitted generally to lightweight cycles, big enough for rough roads, or would you recommend 2 in. for greater comfort, and, if so, is there any counterbalancing disadvantage? Will the $1\frac{1}{2}$ in. rim of, say, the Moto-sacoché take a 2 in. tyre? Would a spring seat-pillar be a better device for rough roads, or do you think either necessary.—W. B. L.

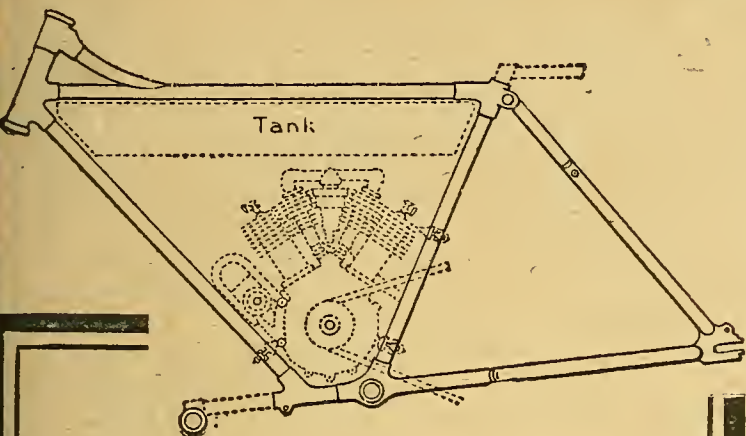
For greater comfort and extra reliability we should recommend a 2 in. tyre. The only disadvantage is a slightly increased liability to side-slip and slightly reduced speed. Probably a 2 in. tyre will not fit $1\frac{1}{2}$ in. rims; it depends on the make of tyre, so we suggest you write the makers of the tyre you refer to. A spring seat-pillar with a large size spring saddle would, of course, be of advantage.

READERS' REPLIES.**Misfiring at High Speeds.**

Regarding "S. N.'s" enquiry, page 582, when the engine seems to trip itself up at the higher speeds, especially downhill, it is usually due to weak valve springs. A washer about $\frac{1}{16}$ in. thick, tried first on exhaust and then on the m.o. inlet valve, to pack up and stiffen the springs, often works wonders.—J. M. OLIVER.

The 1d. Edition of "The Autocar."

Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.



'What's in a frame?'

So far as a motor cycle is concerned, and particularly a lightweight, we can truthfully answer—**EVERYTHING!** Instance the case of the

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Muswell Hill, N.
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They show practically no signs of wear, though they have run close on 1,000 miles; also their stability on greasy roads is marvellous.

The machine I rode was a 5 h.p. twin Rex, two speed model—total weight of myself and machine, 302 lbs.

I hope shortly to be competing in the Six Days' Trials, when I shall use the same pair of tyres, and hope to be as successful as I was in the London-Plymouth.

Yours faithfully
(Signed)
E. O'HAGAN

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THE TOURIST TROPHY RACE FUND.

INTERESTING PASSENGER MACHINES.
(ILLUSTRATED).**A Frame Missing.**

On the 8th inst. the shop of J. Horner and Co., 21, Store Street, Tottenham Court Road, W.C., was entered and a new 1909 $3\frac{1}{2}$ h.p. Rex de Luxe motor cycle frame. No. 20398 removed. The above firm will be glad of information which will lead to its recovery.

Six Days' Trial.

The A.C.U. Committee has sent a donation to the Stafford Infirmary as a slight recognition of assistance given to one of the competitors in the recent Six Days' Trial who met with an accident and was well looked after by the officials there. A donation has also been sent to the Shrewsbury Borough Police Fund, in appreciation of the valuable assistance rendered by the police officials at Shrewsbury during the Trials.

Imports of Motor Cycles.

135 motor cycles were imported last month of the value of £3,578, and parts value £4,799, total £8,377, as compared with £7,775 in July last year. The value of the imports during the seven months ended 31st July was £43,737, representing £27,202 worth of complete machines, and £16,535 worth of parts. The imports during the corresponding period of 1908 were valued at £43,982, and in 1907 £58,033.

Exports Booming.

128 British-made motor cycles were exported last month of the value of £4,388, and parts value £2,376, a total of £6,764, compared with £4,314 in July, 1908, and £4,645 July, 1907. The great increase in the exports of motor cycles and parts during the seven months ended 31st July will be seen from the following figures:

	1907.	1908.	1909.
Number—	392	475	701
Value—	£13,864	£16,172	£24,202
Value of parts—	£16,913	£12,627	£18,898
Total—	£30,777	£28,799	£43,100

Re-exports of Foreign Motor Cycles.

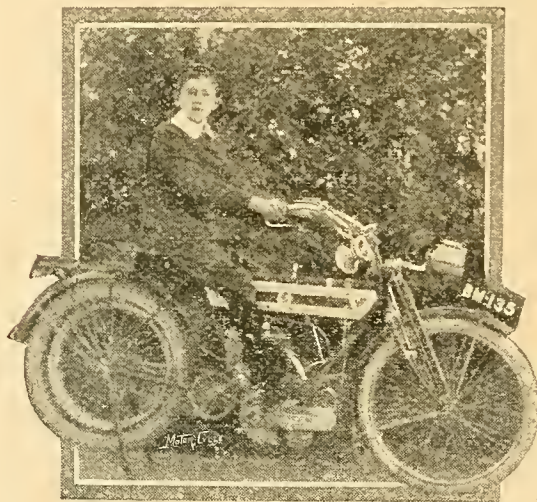
Forty-nine motor cycles of foreign make were re-exported from this country during July, the value being £297. Parts were valued at £2,314. The total value of re-exports during the seven complete months of 1909 was £12,137, parts representing no less than £10,389 of that amount.

The Wigan Police.

At the Wigan Police Court on the 5th inst. a motor cyclist was fined 5s. and costs—£1 4s. in all—(licence endorsed) for recklessly and dangerously driving a motor cycle in the main part of the town. A constable's estimate of the speed was twenty-five miles per hour.

Inland Revenue Tax Exemptions.

It will be remembered that in the last issue we published a newspaper report of a police court case in which Mr. T. Buckworth, of Reform Street, Crowland, was summoned for using an unlicensed motor cycle at Crowland on July 5th. The summons was issued at the instigation of Superintendent Burton, of Spalding. Defendant claimed that he was exempt as he used his motor cycle solely for business purposes. He produced a copy



Master Crawley, of Bedford, is only just old enough to hold a driving licence, but he can manage a Triumph with the greatest ease, and his father frequently sends him on journeys of over one hundred miles.

of *The Motor Cycle* in court giving particulars of correspondence which passed between the R.A.C., A.C.U., and the London authorities on the subject of exemption. The Chairman of the Bench said the majority were of the opinion that the case should be dismissed. Superintendent Burton was not satisfied with this decision, and asked the Bench to state a case, and we were informed later that the superintendent had decided to lodge an appeal. As far as we can see there is no particular reason why a superintendent should go out of his way to spend the ratepayers' money on deciding knotty legal problems which have already been fairly well discussed elsewhere. We have been in correspond-

ence with Mr. Buckworth all along in connection with the case, and recommended him some time ago to become a member either of the A.C.U. or M.U., and we now understand from Mr. F. Straight, secretary of the A.C.U., before whom the whole of the facts have been laid, that the committee of the Auto Cycle Union has decided to recommend the R.A.C. Legal Cases Committee to defend the case if an appeal be lodged.

The Tourist Trophy Race.

Seven entries have already been received for the T. T. Race in the Isle of Man on the 23rd prox. As the whole of the expense of arranging the event will fall upon the shoulders of the A.C.U. this year, motor cyclists are asked to contribute. See this week's leading article.

Foreign Tourists visiting England.

When touring in some continental countries British motorists may use their own numbers, but foreigners visiting this country have to re-register their machines and obtain new numbers, and are also subject to the Inland Revenue licence. What encouragement for foreign tourists to visit these shores!

Passenger Vehicles.

Two very interesting passenger motor cycles are illustrated and described in this week's issue of *The Motor Cycle*. One is the A.C. tricar and the other the Chater Lea motor cycle and sidecar. The detail improvements in the former bring it right in the forefront of passenger vehicle design, while in the latter we have the last thing in sidecar outfits with chain transmission including a three-speed gear and free engine clutch. Those who contemplate the purchase of an up to date passenger motor cycle should not fail to read both these articles.

What will Win?

Opinions are divided as to the chances of a single-cylinder against the twin-cylinder machines in the T.T. race. Although in the two previous races single-cylinder machines have averaged a better speed than the multitis, it must not be forgotten that the limited allowance of petrol did not permit the machines to make their best showing. This year, with unrestricted petrol allowance, it is asking a lot for a single of 500 cubic centimetres to beat a multi-cylinder of 750 cubic centimetres—but we shall see. A well-known rider has estimated that this year's winner will average fifty miles an hour.

pen Hill-climb at Barnsley.

The annual open hill-climb at Barnsley for the Littlewood Trophy takes place on the 11th prox. Mr. F. Scolah is the secretary, his address being 49, Park Road, Barnsley.

The Sidecar End-to-end Record.

The identical sidecar driven by Mr. Olsson on the occasion of his establishing the End-to-end sidecar record is to be seen at the V.S. company's premises, 178, Great Portland Street, W. All motor cyclists interested are welcome to examine it.

Motor Cycle Thefts.

The police have informed a reader who was unfortunate enough to have his mount stolen the other day, that motor cycle thefts are rapidly on the increase. Motor cyclists, therefore, should take steps to see that their machines are either locked or are stored in safe places.

Police Traps.

Police traps are in operation between Inverness and Nairn, and from Forres to Nairn. There is a measured mile on the Elgin side of Forres, in which several motorists have been caught.

In Warwickshire, near Coventry, there is a trap between Gibbett Hill and Cannon Hill.

Two miles out of Nairn, east and west on Glasgow-Nairn road. Every day between the hours of 12 noon and 4 p.m.

More Kindness Unrewarded.

Another motor cyclist informs us that he acted the Good Samaritan on the 4th inst. four miles from Barnet, to a rider of a motor bicycle and sidecar with lady passenger who were stranded through the accumulator being exhausted. Our correspondent's name is G. Bennett, of 85, Sumatra Road, Hampstead, N.W. He is a member of the A.C.U. and the North-west London M.C.C., and knows the number of the sidecar belonging to the person who borrowed the accumulator. This registered number has been sent us in confidence, and we hope the offender will not compel us to draw other motor cyclists' attention to his discourtesy in retaining a borrowed article lent him with the sole idea of assisting him out of his trouble.

New Club for French Motor Cyclists.

There has been just established in France a club for motor cyclists, which is to be known by the name of the Motocycle Club de Paris. The address is 34, Rue Marbeuf, Avenue des Champs Elysées. Members are divided into two categories—active members, who pay an annual subscription of 25 francs, and honorary members, whose subscription is 15 francs. After the list of founder members has been completed, an entrance fee of 5 francs will be charged, except for members of the Touring Club de France. Its object, of course, is the encouragement of the pastime of motor cycling, and the club will organise weekly runs under the leadership of a member of the committee, and an important annual competition, to which the title is to be given of "The Grand Prix de France des Motocyclettes."

The Jarrott Cup Competition.

F. Mussell's name should be added to the list of gold medal winners in the M.C.C. London to Land's End and back run.

Inter-club Team Race.

At the New Brighton Tower Grounds last Saturday, at the N.C.U. (Liverpool centre) championships, a motor cycle team race between the Liverpool Motor Club and the Manchester M.C. was included. Three thousand spectators watched the proceedings. The race was over a distance of two miles, and the team representatives were: Liver-

pool. In one of the heats C. Lenty sustained a nasty fall which resulted in a broken collar-bone and severe facial injuries. A. J. Moorhouse, of Manchester, made an attempt on the mile motor cycle track record, covering the distance in 1m. 9 $\frac{3}{4}$ s., beating record by $\frac{1}{4}$ s.

A Risky Experiment.

A motorist in France, who was found to be using false registration numbers for the purpose of deceiving the authorities, has been sentenced to two months' imprisonment, and the motorist from whom he copied the number without permission has been successful in securing damages against the offender.

Motor Cycle Racing at Norwich.

At the annual meeting of the Norwich Amateur B.C. last Saturday, witnessed by 4,000 spectators, a five miles race for motor cycles was won by P. V. Wallis (J.A.P.); time, 7m. 14 $\frac{3}{4}$ s. R. O. Clark (F.N.) was second. Harry Martin attempted the one-mile flying start record, and covered the distance in 77 $\frac{1}{2}$ s.—10s. better than previous best for the track. He also lowered W. Hodgkinson's five-mile record by 3 $\frac{1}{2}$ s., his time being 6m. 55 $\frac{3}{4}$ s.

An Exciting Adventure.

A most unusual accident occurred last week to a Coventry motor cyclist touring in Scotland. He was riding in company with three other motor cyclists beside Loch Ness at 11 p.m. when the petrol tank stopper came unscrewed and some petrol was jerked out and ignited by the lamp. The whole tank at once caught fire, and the rider had just time to drop the machine on its right side. The petrol spilt out, and blazed for threequarters of an hour before any of the quartette could get near enough to the machine to put out the flames. When they did manage it, however, it was found that the tank was only leaking in one top corner, and the engine was started again at about 1.30 a.m. Despite the fact that the saddle had all gone, as well as the toolbag behind, the handlebar grips, and control wires, the machine was ridden to Glasgow by way of Ballaculish and Glencoe.

FUTURE EVENTS.

- Aug. 18—British M.C.R.C. Fifth Race Meeting at Brooklands. Start 3 p.m.
- Aug. 21—Coventry and Warwickshire M.C. Open Hill-climb for Motor Cycles.
Class I. Full Touring Machines.
Class II. T.T. and Special Machines.
- Aug. 27 and 28—Essex M.C. 24 Hours' Ride. Woodford to York and back.
- Aug. 30-31—Muratti Trophy Open 400 Miles Reliability Trials in connection with the Ulster Centre M.C.U.I.
- Aug. —A.C.U. Annual Race Meeting.
- Sept. 1.—Entries close for the Tourist Trophy Race on Sept. 23rd.
- Sept. 4—M.C.C. Members' Petrol Consumption Trial. Start 4 p.m.
- Sept. 5—Mont Ventoux (France) Hill-climb.
- Sept. 19—Semmering Hill-climb (Austria).
- Sept. 23—THE TOURIST TROPHY RACE FOR MOTOR CYCLES IN THE ISLE OF MAN.
- Oct. 2—Race meeting at Brooklands.
- Oct. 9—Proposed Two Hours Record Race at Brooklands organised by the British M.C.R.C.

pool—C. Lenty (3 $\frac{1}{2}$ T.T. Triumph), F. C. Jones (3 $\frac{1}{2}$ Rex Speed King), G. H. Owens (5 Peugeot), and E. F. Baxter (5 Rex). Manchester—H. Reed (5 Dot), O. Thomas (5 Peugeot), W. Heaton (3 $\frac{1}{2}$ Rex), and A. J. Moorhouse (T.T. Triumph). Two rounds were decided, each team winning four races. In the decider Jones (Liverpool) opposed Reed (Manchester), the last-named winning easily. Manchester thus won by the odd

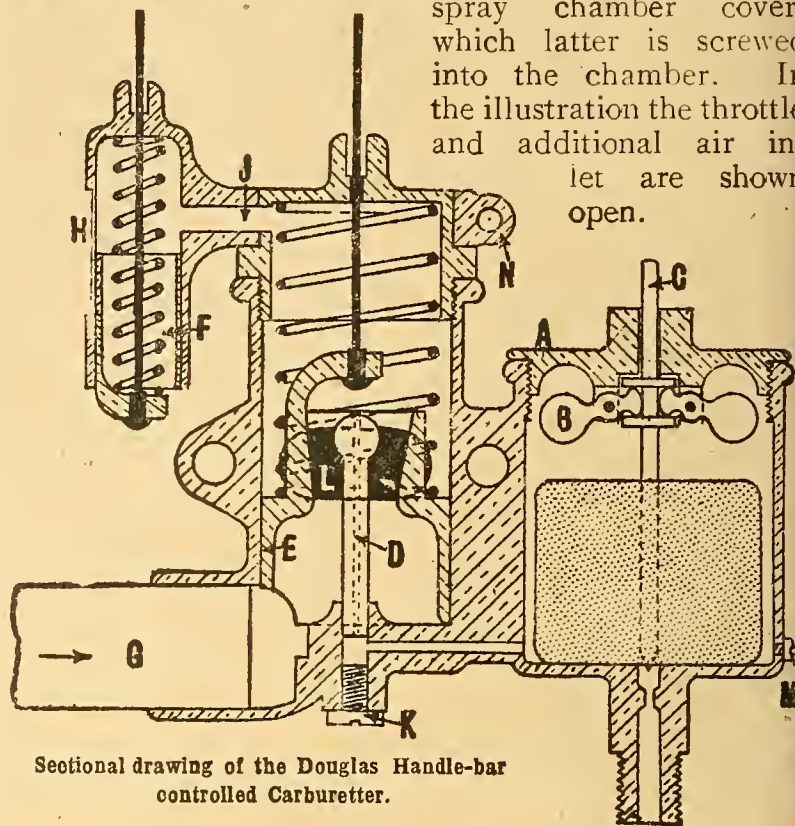


The Manchester Team which beat Liverpool at New Brighton on Saturday last by one point only.

THE DOUGLAS CARBURETTER.

THE special carburetter used on the $2\frac{3}{4}$ h.p. horizontally opposed Douglas engine is of the single jet type, with the air and throttle openings controlled by means of the usual handle-bar levers and Bowden wires. It is shown in section in the accompanying line drawing. The lid of the float chamber A, which carries the needle valve balance weights B, can be taken off for cleaning and adjusting purposes by means of the nut on the float chamber lid. As will be seen, the needle C and float are of the usual pattern. The jet tube D has a round top, and the petrol is drawn by the suction of the engine over the piston throttle E through the outlet hole. The throttle E, as will be noticed, is cone shaped, and as the piston throttle rises and falls to close and open the orifice, the space around the jet tube is varied, so causing a variable suction on the petrol, or a variation in the depression in the carburetter, which conduces to easy starting, and a constancy in the quality of the mixture. G is the main air inlet, and additional air can be admitted by opening the piston throttle F, which gradually uncovers a hole H $\frac{7}{8}$ in. deep by $\frac{3}{16}$ in. wide in the side of the chamber. The additional air passes along the passage J to the inlet pipe opening L. The jet D can be cleared by a piece of fine wire after removing the screw K at base. Another screw M can be removed for clearing the passage

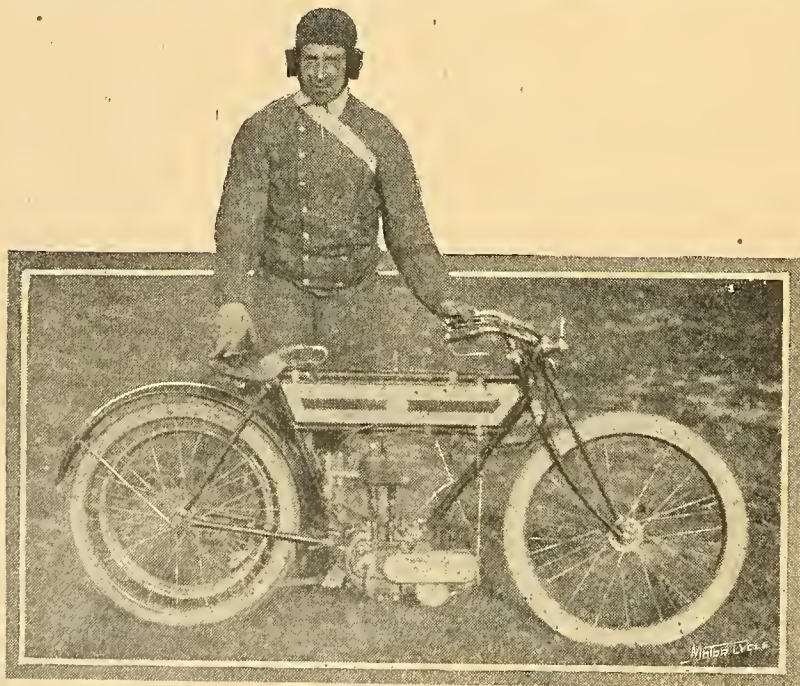
between the float and spray chambers. The carburetter parts are readily dismantled, a small screw and clamp N securing the additional air chamber to the spray chamber cover, which latter is screwed into the chamber. In the illustration the throttle and additional air inlet are shown open.



Sectional drawing of the Douglas Handle-bar controlled Carburetter.

THE MURATTI TROPHY TRIALS.

In connection with the Muratti Trophy Reliability Trials on the 30th and 31st insts., the Ulster Centre M.C.U.I. are giving gold medals to all riders securing ninety-five per cent. of full marks during the two days,



Motor cycle races at New Brighton on Saturday last. A. J. Moorhouse ($3\frac{1}{2}$ h.p. Triumph) who reduced Harry Rignold's one mile record for the track by one-fifth of a second. Rignold's time was 1 min. 8 $\frac{3}{4}$ secs.

and a silver medal to all who secure ninety per cent. The holder of the trophy is Mr. J. Stewart, Belfast, and should he succeed in winning it this year it will become his own property.

The title of the firm of Hayes, Fenn, and Co. has been altered to A. G. Fenn and Co., 27, Mortimer Market, Tottenham Court Road, W.C.

THE IRISH END-TO-END RECORD.

Mr. C. E. Murphy, of Cootehill, a member of the Ulster Centre M.C.U.I., was to make an attempt on the Irish End-to-end record yesterday, his machine being a $3\frac{1}{2}$ h.p. T.T. Triumph. We hope to give full particulars of the ride in our next issue.

EARLY ENTRIES FOR THE T.T.

Last week, seven entries had already been received for the T.T. Race, which augurs well for its success. The entries are:

- Triumph Cycle Co. ($3\frac{1}{2}$ h.p. Triumph) (holders).
- H. Reed (5 h.p. Dot) (holder of the twin trophy).
- Norton Mfg. Co. ($3\frac{1}{2}$ h.p. Norton, 496 c.c.)
- Noel E. Drury (5 h.p. J.A.P., 680 c.c.)
- W. H. Wells (5 h.p. Indian, 744 c.c.)
- W. H. Wells (5 h.p. Indian, 744 c.c.)
- S. C. Perryman (5 h.p. Norton, 742 c.c.)

Pullman's "Fireking" fire extinguisher has been introduced to quell an outbreak at the beginning. It consists of an ornamental metal tube 14 in. long by 2 in. in diameter, which is secured to the frame tubes of a motor bicycle by means of spring clips. In case of fire the contents of the metal tube are thrown with a forcible sweeping motion into the base of the flame, and the makers assert that neither the gas nor powder evolved from it are harmful to either machine, body, or clothing. An important point is that extinguishers used in actual motor fires will be filled free of charge; thus the first cost is the only cost. The circular says that leading fire insurance companies allow a substantial rebate off premiums when machines are fitted with the "Fireking" extinguisher. It is sold by R. M. Pullman and Bros., London Road, Norbury, S.W.

The Motor Union and Military Motor Cycling.

THE immediate response to the paragraph under this heading which appeared in *The Motor Cycle* of July 28th shows that a very large number of members of the motor cycle section of the Motor Union are not only willing to assist at military manœuvres, but are also in many cases specially qualified to do so. Of those who offered to assist at the Army manœuvres in September next a large number have already undergone a considerable amount of military training, and, in addition to this, have gained a knowledge of the country whilst touring on their motor bicycles, which is hardly to be found in



Officials of the Notts. and District M.C.C. Petrol Consumption Trials measuring the precious fuel. Dr. Ed. Bigg, the donor of the prize, is holding the measuring glass.

the non-motoring civilian. Motor cyclists will therefore welcome the statement of the Army Council that they are considering at the present time "a scheme for utilising in connection with national defence the

services of individuals, who, though not forming part of the military forces of the crown, might yet be able in time of national emergency, owing to special aptitudes, to assist the military forces." The exact conditions which shall govern the organisation of this Technical Reserve have not yet been fully elaborated, and it is therefore premature at the present time to discuss the details of the scheme, but the Army Council consider that much valuable experience, both from a military point of view and from the point of view of the individuals who may ultimately be willing to enrol themselves in the Technical Reserve, will be gained if a limited number of civilian motor cyclists take part in the forthcoming Army manœuvres in September next. Should this experiment prove successful, it is probable that the Army Council will put forward a definite scheme which shall enable all those motor cyclists who are willing to place their machines at the disposal of the country in case of national emergency an opportunity of obtaining the necessary military experience. The Motor Union will therefore be glad if all motor cyclist members who would be interested in such a scheme will communicate with the secretary, in order that a register of such members may be kept, and in order that they may be communicated with at a later date. For the present experiment the Union received many times the requisite number of offers. Those finally selected have been chosen either in view of special qualifications which they would seem to possess or in order to ascertain the respective merits, from a military point of view, of the different types of machine which they propose to use. Those selected include a tricar and motor bicycles ranging from light 3 h.p. engines to a heavier make of 9 h.p. It will be interesting to see which prove the more serviceable in the manœuvres.

ENTRIES FOR THE COVENTRY & WARWICKSHIRE HILL CLIMB.

A LARGE and representative entry has been received for the above club's hill-climb next Saturday, at a venue which will be announced to competitors on Friday. Only two classes have been included, and will be noticed that the entries are very evenly divided:

CLASS I. For motor bicycles in full touring trim, and fitted with an efficient silencer, spring front forks, two brakes, metal motor cycle mudguards at least 3½ in. wide, touring saddle, standard size roadster motor cycle tyres, toolbag with tools weighing not less than 5 lbs., stand, and motor cycle horn. Limit capacity, single-cylinders 500 cc., and twin-cylinders 750 cc.

L. Norton (3½ Norton)
W. H. Wells (4.9 Indian)
L. Cooper (3½ Triumph)
Eg. Samson (3½ L.M.C.)
Geof. Smith (3½ Triumph)
Lee-Evans (4.9 Indian)
W. Barnes (3½ Zenith Gradua)
E. Stanley (3½ Premier)
Boy W. Walker (3½ Premier)
D. Teage (3½ Premier)
Frank White (5 Rex)
C. Bagshawe (5 Rex)
Lord (3½ Rex)
Winslow (5 Rex)
Smith (3½ Triumph)
W. Applebee (5 Rex)
Marshall (3½ Triumph)
Creyton (3½ Triumph)
A. Gorton (3½ Rex)

S. Davis (3½ Rex)
W. Jones (1½ Wolf)
W. H. Bashall (3½ Zenith Gradua)
R. H. Edwards (3½ Triumph)
R. T. Exshaw (3½ Zenith Gradua)
R. M. Brice (3½ Brown)
H. Bevir (3½ L.M.C.)
E. S. Myers (3 Scott two-stroke)
T. H. Tessier (3½ Bat-J.A.P.)
P. Baker (2½ Elec. Minerva)
R. N. Corah (3½ Corah)
W. W. Douglas (2½ Douglas)
Eli Clarke (2½ Douglas)
T. Peck (3½ Rex)
J. Leno (3½ Premo, two-stroke)

CLASS II. For all Tourist Trophy and other special or racing models. Exhaust pipes and silencers to be fitted.

J. L. Norton (3½ Norton)
A. Mackenzie Cott (7-9 King-J.A.P.)
W. H. Bashall (7-8 Bat-J.A.P.)
J. T. Bashall (3½ W.H.B.-J.A.P.)
T. Silver (3½ Quadrant)
F. W. Barnes (3½ Zenith Gradua)
G. E. Stanley (3½ Premier)
H. G. Potts (3½ T.T. Triumph)
F. C. Bagshawe (5 Rex)
A. G. Fenn (3½ Triumph)
F. A. Applebee (5 Rex)
O. C. Godfrey (3½ Rex)
J. C. Smyth (3½ Rex Speed King)

J. P. Le Grand (3½ Rex)
W. A. Jacobs (3½ Rex)
W. O. Bentley (3½ Rex Speed King)
J. Marshall (3½ Triumph)
W. F. Newsome (3½ Triumph)
A. V. Sumner (5 T.T. Vindec)
H. D. Teage (3½ Premier)
Geof. Smith (3½ Triumph)
E. Kickham (7 Leader-Peugeot)
R. T. Exshaw (3½ Zenith Gradua)
J. W. Waring (8 Minerva)
G. Jones (6-7 Bat-J.A.P.)
W. W. Douglas (2½ Douglas)
F. C. Wood (4 two-speed N.S.U.)

Weighing will take place from 11 a.m. to 1 p.m. The start of the competition is at 3 p.m. A special committee of scrutineers will inspect the machines in Class I., and any found to depart from the rules will be relegated to Class II.

MOTOR CYCLISTS AND OLYMPIC GAMES.

If there were any competitors in the 1908 Olympic Games who have ever competed under A.C.U. rules on a motor cycle will they kindly communicate with the Editor?

CLUB NEWS.

Eastern District M.C.

The competition for the President's Trophy was run off on the 8th inst. Winner, J. Babbage, $4\frac{1}{2}$ h.p. Minerva twin; second, F. W. James, $3\frac{1}{4}$ h.p. Cottereau-Minerva.

Cardiff M.C.

A reliability trial for cars and motor cycles will be held to-day (Wednesday) and Saturday next, the 21st inst. The start will be at 2.30 from the Power Station, Newport Road, to Newport, turn up Waterloo Hill, Stow Park to Bassaleg, and back to Cardiff and Newport main road at Tredegar Park. The latter portion will be repeated until such time as the timekeeper shall think fit.

Middlesbrough and District M.C.C.

The above club will hold a twenty-eight hours' run on August 28th and 29th to London and back. The committee hope that all clubs affiliated to the Northern League will send a team of three riders to compete. Competitors will start at three o'clock on Saturday afternoon, and are due back in Middlesbrough at 7 p.m. next day. As the time is rather short, the committee would be much obliged if any club would be willing to check the competitors at Barnet about 5 a.m. on the 29th inst.

Sheffield and Hallamshire M.C.C.

The first final of a series of monthly bogey hill-climbs arranged by the above club took place on the 7th inst. Competitors were allowed six ascents to be run any time during the three weeks previous to the final, which latter in this case was postponed for one week owing to bad weather. The award, the club rose bowl, is taken by D. Bradbury ($3\frac{1}{2}$ h.p. Norton), whose nett time was $31\frac{1}{2}$ s. T. Durant ($3\frac{1}{2}$ h.p. J.A.P.) comes second with 33s., and T. Dover ($3\frac{1}{2}$ h.p. Triumph) third with $33\frac{3}{4}$ s. T. Dover made fastest time in $33\frac{3}{4}$ s., T. Durant coming second with 34s., and Bradbury third with $36\frac{1}{2}$ s. As the handicapping committee have now some data to work on the August event should see some very close finishes.

Nottingham and District M.C.C.

The above club held a petrol consumption test on the 14th inst. for the gold medal presented by Dr. Ed. Bigg. The competitors had to run over a twenty-two miles course three times, and to complete each circuit in and between a



Nottingham and District M.C.C. Petrol Consumption Trial. A group of competitors.

minimum and maximum time of 1h. 10m. to 1h. 20m. At the completion of the sixty-six miles the amount of petrol consumed was measured, and the result worked out as per table annexed:

		Gross weight.	Capacity.	Petrol used.
			c.c.	pts. ozs.
1.	G. Brough (5-6 Brough)	348	662	2 15
2.	W. Reilly ($3\frac{1}{2}$ Triumph)	356	476	2 10
3.	F. B. Johnson ($3\frac{1}{2}$ Humber)	424	487	4 18
4.	J. Fairburn ($3\frac{1}{2}$ C.C.R.-Smith)	320	452	3 9 $\frac{3}{4}$
5.	L. A. Nolan ($3\frac{1}{2}$ Triumph)	324	476	4 0
6.	C. H. Sewell ($3\frac{1}{2}$ Triumph)	312	476	4 5
7.	A. E. Lole (5-6 F.N.)	388	463	5 3
	F. Garratt ($2\frac{1}{2}$ N.S.U.)	280	not given	3 8

J. King (5-6 F.N.) retired; two nuts missing, crank case.
G. H. Pearson ($2\frac{1}{2}$ Bentinck) retired; broke belt fastener twice.

Total weight in lbs. of rider and machine \times Capacity of engine in cubic centimeters

Formula used:

Petrol consumed in ozs.

Distance, sixty-six miles.

Barnoldswick M.C.

A most successful hill-climbing competition took place on the 10th inst. at Salterforth. The hill is situated midway between Colne and Skipton just off the main road, and it is an ideal venue for a competition of this nature. Results 1, James Windle; 2, W. Holden.

Hull and East Riding A.C.C.

The Reliability Competition, to be held on Saturday next the 21st inst., will be over the following route: Hull (Haworth Arms), Beverley, Driffield, Bridlington, returning via Carnaby, Lissett, Beeford, Brandesburton, Leven, Long Riston, Skirlaugh, Coniston, Sutton, Stoneferry, and Newland. Entrance fee, 2s.; start 2.30 p.m. Awards: 1st prize, given by Mr. Geo. Wade, patron; 2nd prize, medal presented by Mrs. Crawford; 3rd prize, 1 gallon motor oil. No prize will be awarded if less than four starters (the competition being declared void), no second prize if less than six, and no third prize if less than thirteen. The committee earnestly hope that all members will enter this competition, as the success of all competitions depends upon their being well supported. One of the conditions is that the machines and accessories used must be the bona-fide property of the riders.

A hill-climbing contest will take place on Saturday, the 28th inst., at High Hunsley, South Cave; meet at 2.30 p.m. at South Cave Station. The competition will be divided into the following classes: Class I., for motor cycles with engine of a bore and stroke not exceeding 76×76 mm.; pedalling allowed. Class II., for motor cycles made in 1905 or earlier and with any size (single) cylinder; pedalling allowed; any question as to the age of any machine will be settled by the inspecting committee. Class III., open for any single-cylinder motor cycles; pedalling not allowed; entrants in Classes I and II. are eligible to compete in this class. Class IV., for twin-cylinder motor cycles; pedalling not allowed. Class V., for passenger motor cycles; pedalling will be allowed if machines are not fitted with a two-speed gear. There are three awards in each class.

Sutton Coldfield A.C.

The above club held a hill-climbing competition on Saturday last on a steep hill rising from the Severn valley at Coalport near Shifnal. This hill, which is on a semi-private road controlled by toll gates at each end, is rather difficult to negotiate. It commences immediately the toll gate is passed with a bend to the right, followed directly by a sharper curve to the left over a bridge spanning the G.W.R. line; then comes an easy bend to the right and a stiff stretch of about 1 in 8, then a long pull for about 200 yards. The most difficult point to negotiate is about two-thirds of the way up. This consists of a miniature Devil's Elbow on a gradient of about 1 in 8. All the motor cyclists had to switch off for this; in fact, it would be impossible to get round it on a motor bicycle without reducing speed.

H. Rem Fowler was strongly fancied as winner of the motor cycle class, and, judging by the way he took the hairpin bend, and the speed at which his twin Rex picked up afterwards, we quite thought he had made fastest time. However, Fowler had a little trouble at the start with the mixture, and therefore, although he travelled well when he passed us he did not get up speed so quickly as the $3\frac{1}{2}$ h.p. Premo—a new comer, fitted with an experimental two-cycle air-cooled engine, made by the Premier Motor Co., Birmingham. This machine, ridden by J. Leno, ascended in 1m. 16 $\frac{3}{4}$ s., as compared with Fowler's twin Rex, which was $\frac{3}{4}$ s. slower.

The other competitors were R. Pritchard ($3\frac{1}{2}$ h.p. Rex) time 1m. 37s.; H. Smith ($3\frac{1}{2}$ h.p. Triumph), 1m. 41 $\frac{3}{4}$ s. (who rode a punctured rear tyre from the bend to the summit); S. Smith (5 h.p. Norton), 1m. 42s.; H. R. Lane ($3\frac{1}{2}$ h.p. Triumph), 1m. 45s.; and A. Manning Lomax ($3\frac{1}{2}$ h.p. Triumph), 1m. 46 $\frac{3}{4}$ s. The competition was supposed to start at 3 p.m., but owing to failure of the electrical timing arrangements it was nearly five before the competition started, although a fair amount of practising was indulged in during the somewhat tedious wait.

Six competitors drove cars, varying in power from a 4 h.p. Sizaire and Naudin to a 40 h.p. F.I.A.T., the fastest time being 1m. 35s. made by Mr. Kirk's 15 h.p. Talbot. Motor cyclists were requisitioned to take the competitor times up and down the hill, and generally keep the timekeepers in touch with one another.

News.—

Great Yarmouth and District M.C.C.

In the 200 miles reliability run held last month, F. G. ley, riding a $3\frac{1}{2}$ h.p. Brown was placed seventh with twenty-three marks lost. His correct place was second, losing four marks only. His checking card had been signed wrongly, and a figure 3 was taken for 5. He completed the journey without any mechanical or tyre trouble.

Essex M.C.

Country forms have now been issued for the twenty-four hours' ride from Woodford to York and back, and it is expected that a large number of members will make an effort to win the Palmer Tyre Cup. Gold and silver medals are being offered to all competitors completing the journey within schedule time. The route, which is not a very difficult one, is *via* Cambridge, Huntingdon, Grantham, Doncaster,



Jack Scriven, a well-known and successful Yorkshire motor cyclist on his Twin-cylinder Rex.

Doncaster, and York. The start takes place from the Castle Hotel, Woodford, at 7 p.m. on Friday, August 27th, and finish at the same place at 7 p.m. on Saturday the 28th. Arrangements are being made previous to the start at the Castle Hotel at 5 p.m. Will those who would like to be present

please let the secretary know. On the 29th a number of members are going for the 200 miles standard medal, leaving headquarters at 8 p.m.

Motor Cycling Club.

A petrol consumption trial for standard types of touring machines is to be held on the 4th prox., starting at 4 p.m. Meet at the Bull, Gerrard's Cross, main Oxford Road, between Uxbridge and Beaconsfield. Three classes have been arranged. I., for single-cylinder bicycles, II., for multi-cylinder bicycles, III., passenger machines (including cars but not trailers). Shell spirit at the rate of 1 pint for 300 lbs. total weight, increasing to $1\frac{1}{2}$ pints for 600 lbs., and to $2\frac{1}{4}$ pints for 1,200 lbs. in the passenger class, irrespective of size or type of engine, due allowance being made for all intermediate weights, will be supplied to the competitors. Multi-cylinder machines in Class II. over 150 lbs. in weight will be allowed thirty per cent. extra spirit. The driver covering the greatest distance on the spirit allowed shall be declared winner in his class. Entries close on the 30th inst. to the Trials hon. sec., Harry G. Bell, 52, Station Road, Finchley, N. Fee 2s. 6d.

Leeds M.C.C.

The official results of the hill-climb held on the 7th inst. are published below. The following qualified to ride in the final:

Class I. (for single-cylinder full touring models).—1, P. H. Cockcroft ($3\frac{1}{2}$ h.p. Triumph), X; 2, A. B. Hughes ($3\frac{1}{2}$ h.p. Triumph), $\frac{1}{5}$ s.

Class II. (for single-cylinder T.T. and racing models).—1, W. D. Shaw ($3\frac{1}{2}$ h.p. T.T., Triumph), X; 2, F. Mackay ($3\frac{1}{2}$ h.p. T.T. Triumph), $\frac{1}{5}$ s.

Class III. (for twin-cylinder machines, racers allow $7\frac{1}{2}$ % to touring models).—1, Fred C. Bagshaw (5 h.p. Rex Speed King), X; 2, A. H. Hyde (7 h.p. Vindec-Special), $8\frac{3}{5}$ s. (received $7\frac{1}{2}$ % allowance).

These riders were again despatched up the hill with a view to attempting to improve on their respective times, and the result worked out as follows: 1, J. A. Mackay ($3\frac{1}{2}$ h.p. T.T. Triumph), $1\frac{2}{5}$ s. faster, silver cup and gold medal; 2, W. D. Shaw ($3\frac{1}{2}$ h.p. T.T. Triumph), $\frac{2}{5}$ s. faster, silver medal; 3, A. B. Hughes ($3\frac{1}{2}$ h.p. Triumph), $\frac{2}{5}$ s. faster, bronze medal.

Fastest time of the day was made by F. C. Bagshaw (5 h.p. Rex).

In his now famous ride from John-o'-Groat's to Land's End, we are informed, Mr. Vivian Olsson used only one Shamrock $1\frac{1}{2}$ in. belt, which gave every satisfaction. This speaks exceedingly well for the belt, as all users of motor cycles and sidecars fitted with this type of transmission can fully appreciate. The Shamrock Excelsior tyres also behaved in an exemplary manner, although the roads, especially over the Grampians, were excessively loose.



Scenes at the manoeuvres of the Austrian Volunteer Motor Cycle Corps, described on page 594 last week.

(1.) Studying the map.

(2.) A despatch carrier.

(3.) An officer delivering instructions.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Lubrication.

[4197.]—I see that "Oile" [letter 4058] in *The Motor Cycle*, has made some interesting experiments with regard to the amount of lubrication which shows that the majority of machines are over-lubricated. I had a similar machine last year and oiled as per instructions, and found that the valves pitted very quickly, and the rings choked up with carbon. I then used Wilburine, and actually did forty-five miles per pump, and perhaps I could have done more, but did not like to risk it. I am now riding a 1909 similar machine and dose it every thirty miles, which is as much as I dare do in this county (Devon). The result is that I have done over 1,200 miles without grinding valves or clearing the cylinder, and the compression is quite as good as ever.

TEMERAIRES.

The Quarterly Trials.

[4198.]—As a competitor in the last A.C.U. Quarterly Trials may I be allowed the space to make a few remarks relative to the eccentric manner of awarding marks.

Having punctured about half-way on the return journey I was out of the running, and quite prepared to find marks deducted accordingly, but was much astonished to find one mark deducted for brakes in my case (I was riding one of the three N.S.U. lightweights) and full marks awarded the other two identical machines (with the exception that one of them was minus any kind of lining to its brake shoes).

I notice towards the end of the list a 6 h.p. machine, which failed on both Dashwood and Rectory Hills, and arrived in a very dirty condition, owing to leaky oil pumps, received thirty-five marks for reliability!

I also note a machine which lost marks for silencer in the previous trials this time gains full marks for the same silencer.

Perhaps some of the readers of your most excellent paper can furnish a satisfactory explanation, and greatly oblige

W. J. AKERMAN.

Standard Machines in Competition.

[4199.]—In the issue of July 28th I see that "Ixion" refers to the Trump-J.A.P. machine, made by me, and on which I have had some success at Brooklands.

With reference to his statement *re* standard machines, I think, perhaps, the following details about my machine would be of interest.

The engine is a standard 85×85 plain bearing 4 h.p. 1909 J.A.P. As regards the compression, this is exactly the same as all the standard 4 h.p. J.A.P. engines supplied by John A. Prestwich. There are no extra exhausts drilled in the cylinder, and I use the same silencer on the track as I do on the road. With the same engine I have obtained a non-stop in the Quarterly Trials—in fact, all my road work is done on this engine, as it is the only one I possess.

It might also interest your readers to know that my weight is over fifteen stones—which I think speaks very highly for the efficiency of the engine and machine.

Should "Ixion" at any time care to examine my machine either before or after a race at Brooklands, I should be pleased to let him do so, in order that my statements may be verified.

FRANCIS A. McNAB.

[4200.]—Whatever Mr. W. A. Jacobs [letter 4173] may say about the Speed King Rex model, I must emphatically state that O. C. Godfrey's machine on which he won a Sutton Bank was not a tourist motor cycle. The greenes amateur could see the racing saddle, short handle-bars, and drilled lugs, all designed to get the rider up the hill at highest possible speed. There were others.

I hold no brief for any make of motor cycle. There can be no disputing the fact that the touring amateur supports the motor cycle industry. He has had to pay bitterly for the evolution of the motor cycle, and is entitled to the respect and fair treatment of the trade. Instead of that we find him continually blinded and led astray by rival manufacturers, who seek only to extract his cash from him. Some of them give fair return for this consideration, and some do not.

Trade riders and "shamateurs" should be in a class apart in every public event. It would not do to exclude them, they are clever and daring riders generally and are good sportsmen. But the average rider who is in competition with them will find he has no chance to win. W. E. HOLMES.

Transmission on Motor Cycles.

[4201.]—I am exceedingly pleased to see the letter signed "Waiting" in the issue of August 4th on the subject of chain transmission, which I trust will open an interesting and enlightening discussion on this subject.

Many others noticed the splendid condition of all of machines fitted with chain drive at the conclusion of the Six Days' Trial this year.

Before I decided to introduce the Indian motor cycles in this country fitted with chain drive, I became thoroughly convinced that this transmission was not only more economical, but gave far better results than the belt drive, although the makers were quite willing to fit the belt drive, and in fact do so whenever their customers desire it. I also remembered the successful manner in which the Phelon and Moore chain-driven machines went through the Six Days' Trial year after year, ridden by Mr. Moore and Mr. Milnes, as well as J. Crundall's successes on the track with the old chain-driven Humber. J. Van Hooydonk, one of the pioneers of the motor industry, remarked, when I showed him the chain-driven Indian, that I had made no mistake in that particular machine; he was convinced many years ago that it was the correct drive for a motor cycle.

A Renold chain costs no more than a first-class belt, and I believe with reasonable care will outwear two of the latter. If a friction grip either on the engine-shaft or on the coupling shaft be used in connection with the chain so as to avoid a slight slip when starting, there is absolutely no jar on the engine or undue wear on the tyres—in fact, it is smoother than a tight belt.

A paragraph in one of the London daily papers referred to the last Brooklands meet, which says, "W. H. Barkley was coming well to the front, and had his belt not broken would probably have altered the results of the finish." Very significant considering the fact that a chain-driven machine actually won the race.

W. H. WELLS.

[4202.]—Why do some readers periodically ask that question, "Why do our best makers continue to use the belt drive, when the chain is so much more mechanical,"

The subject has been well threshed out in *The Motor Cycle*, and ninety-nine per cent. decide in favour of the belt account of—(1) smoothness of drive, (2) absolute silence, (3) ease of repair, (4) cleanliness and many other advantages. The objections are (1) dirty (and always will be until completely enclosed in an oil bath case), (2) much more jerky than a belt, (3) prone to transmit more vibration to the rider, (4) difficult to repair, (5) almost impossible to keep at the correct tension, and (6) should the engine jam a bad spill is inevitable.

I may say the above is not written without experience. I have not ridden in a light suit or flannels on a chain-driven motor cycle I once owned, but on my motor bicycle with rubber drive I daily ride a short distance in white flannels in the summer months, and never get "speckled." Still, there is another outstanding objection to the single-gear chain-driven machine, also the shaft-driven motor bicycle, and that is the inability to rapidly alter the ratio of gear. This defect does not seem to be generally appreciated by riders who clamour for something better than the belt, but if "Waiting" had seen one of the A.C.U. Six Days' Trials competitors pushing his 5 h.p. chain-driven bicycle up Bird's Nest simply because his gear was fixed, he would not be so anxiously waiting for all machines to have chain transmission. With an adjustable pulley and two belts of different lengths one can change gear in two minutes, and ride in all districts in absolute comfort without any necessity to "push." Let me explain, however, that I do not consider the belt by any means perfect; still, having tried all kinds of transmission, I am convinced which is best at present.

SEVEN YEARS' EXPERIENCE.

Reliability and Road Shocks.

[4203.]—*Re* "Ixion's" comments on the so-called recent reliability trials. I am quite in accord with his remarks as to where reliability comes in where the rider has time practically every day to replace nearly any defect which a machine is likely to develop. Personally, I should be very sorry to have a machine when I set out on a 1,000 miles ride with the prospect of an hour's tinkering every day. *Re* letter 4168. Is not Mr. McGow confusing road shocks with mechanical vibration? I find that when travelling slowly the inequalities of the road make themselves very evident, and when accelerating to high speed the vibration through the footrests, which is mechanical, is greatly augmented. I can with pleasure recommend an N.A.B. spring rider as highly conducive to comfort, being a most efficient shock absorber, care, when ordering, being taken to state rider's weight.

H. P. LEWIS (CAPT.)

The Actual Horse-power developed on the Road.

[4204.]—The subject of the horse-power of motor cycles, and the method of computing same by a brake test, at a certain number of revolutions per minute, has recently occupied itself upon my consideration, and compelled me to ask myself the question, "Does the average motor cycle engine develop these number of revolutions on the road?" So for curiosity I set to work and made a calculation of the speed it should be travelling if, on the level, I allowed my engine to develop the standard number of revolutions per minute.

Taking the standard of an average Triumph, with 26in. wheels, geared 4 to 1, the h.p. of which is calculated at 100 r.p.m., I find that the formula runs,

$$26\text{in.} \times \frac{2}{7} \times 1,800 \times 60$$

$$4 \times 12 \times 3 \times 1,760$$

It works out at about $34\frac{2}{3}$ —roughly, 35 miles per hour (considerably above speed limit).

A little calculation will show us that to run at 20 m.p.h. in the above gear the engine must not make more than 30 r.p.m., which means, not $3\frac{1}{2}$ h.p., but 2 h.p. or less.

The N.S.U. singles are geared $4\frac{1}{2}$ to 1, and their h.p. is calculated at 1,500 r.p.m., but with 26in. wheels this works out at 1,500 r.p.m. at about 25 m.p.h.

The power of climbing hills is therefore all the more doubtful with a high top gear, which doubt is very greatly intensified if the machine is very literally a heavyweight. A top-speed gear, such as the N.S.U., is therefore almost imperative, but in my opinion the reduction should be not less than 50%, even for a top gear of $4\frac{1}{2}$ to 1.

JOHN HODGKIN (REVD.)

Most any gear can be used with an adjustable pulley.—ED.]

Absurdities at Horsham.

[4205.]—I should like to point out an absurdity which exists in Horsham. At the commencement of a narrow street leading to the Brighton Road there is a small dilapidated sign bearing a legend to the effect that a five-mile limit is imposed. Further up the street there is another notice suspended about the level of the eaves of the houses, which a policeman told me bore the same words. If one looked up, there was a danger of running into somebody, and if looking (as one should do) straight ahead the notice could be easily missed, especially as the earlier one is nearly illegible.

I would also take this opportunity of calling the attention of the police authorities to the fact that their plain clothes officer on the trap outside Reigate might be instructed to ask for licences in a civil manner, not as though every motorist was a convicted criminal.

ARTHUR PENNINGTON.

The Wear of Motor Cycle Engines.

[4206.]—I see your contributor "Ixion" makes some remarks regarding this year's ultra-efficient single-cylinder engines. I entirely agree with him, but I do not think he has pointed out the chief disadvantage of such engines. I refer to the rapidity with which they lose tune. I have possessed many motor cycles, but my last single-cylinder of very well-known make required returning to the makers about every three months or even less for a new gudgeon pin and even piston to be fitted. This, doubtless, was partly caused by overheating on hills as pointed out by "Ixion."



R. S. Osborne negotiating Steep Hill, Lincoln, on a $3\frac{1}{2}$ h.p. machine, fitted with Osborne variable pulley and sliding back wheel. The gradient is 1 in 4.

I also read a paragraph regarding Mr. Hugh Gibson's fine ride during one week, in which you state his machine pulled well at the end of 1,500 miles; but ought this to be remarkable? Surely the "life" of a first-class engine in the hands of an expert driver ought not to go in a distance which, as far as a car of good make is concerned, would merely run in the bearings.

The motor cycle is in the majority of cases the poor man's motor, and should, therefore, at least equal the wear of a car. We do not have racing engines on our touring cars although by doing so we should at first obtain more power and speed. They are unsuitable for touring, and so, in my opinion, and I think that of many others, is the present ultra-efficient single-cylinder cycle engine.

I am now riding a twin-cylinder motor cycle, but am anxiously awaiting a single-cylinder engine which will not wear abnormally or overheat on these Devonshire hills.

DOUGLAS J. HOBGEN.

A Savage Fine and the Result.

[4207.]-I am sure you will sympathise with me in the following:

On the 9th of last month I took a quiet drive to Brighton—my first and last—and, to my surprise and disgust, I received a notice, at a week's later date, that proceedings would be taken against me for exceeding the speed limit between certain milestones outside Handcross.

Ye gods! what a charge! I can truly say a more careful driver it would be impossible to find. My machine—a Phelon and Moore fitted with Cowey speed indicator—went through all villages on low gear and half-compression, and my average speed through ten limits was not more than 8 m.p.h. However, being a member of the A.C.U., I placed the summons with our solicitor, who dealt with it at Haywards Heath on the 28th ult., and to my surprise and disgust I received a letter from him saying I was fined £5 and £1 2s. 2d. costs.

Putting my speed at about 20 m.p.h., how unjust, how wicked! If this sort of thing continues it will be absolutely impossible for one to motor. This has cost me, with solicitor's fees, £7 3s. 2d. I regret to say I have now sold my machine for half its cost, and hundreds more will follow suit should they motor Brighton way. My advice is, dear pals, keep away from Brighton. I have given up motoring until there are different laws from those now in force. But your journal will always find its way to a constant reader.

ARTHUR F. JEFFERIES.

Secondary Brakes.

[4208.]-Referring to "Ixion's" comment on the subject of secondary brakes, in the issue of the 4th inst., we should like to point out that, properly fitted, the Bowden front rim brakes as supplied by us are in every way suitable and quite powerful enough for any motor cycle on the market. We find, however, that in some cases a licensee, presumably with the object of effecting a small economy, will use levers and shoes wholly inadequate in conjunction with our Bowden wire mechanism. In many cases these levers and shoes are those used for pedal cycles, and it is not surprising that botched up jobs of this kind should often prove unsatisfactory.

We ourselves this year have had enormous trouble in adapting our front rim brakes to front forks of apparently every conceivable design. Of late there has been a veritable craze for change in the matter of front fork design, and of course when the average designer conceives a front spring fork the very last thing he thinks of is how a brake is to be fitted to it. It is to be feared he too often relies upon the ready adaptability of the Bowden wire mechanism to get him out of his trouble, but we need hardly say there are limits to that as there are to most things.

E. M. BOWDEN'S PATENTS SYNDICATE, LTD.

A Plea for Surface Evaporation.

[4209.]-"No. 13's" experiences in the recent A.C.U. trials leads me to ask one or two questions. Let me first say that I am a comparative novice at motoring. Last October I invested in a $3\frac{1}{2}$ h.p. Excelsior tricar, with M.M.C. engine and surface carburetter.

Now I have had a lot of experience and fun with this machine, but after I had once got used to her (why do motorists always say "her" when referring to their machine?) I found that I could do 27 m.p.h. on a good road with two up, and take hills of 1 in 12 and 1 in 10 at a good speed. The engine was an excellent starter, and after a warming up on the stand one push at the pedals was enough. The speed on good roads was only limited by the amount of gas and spark advance I gave her, and she always came home. The variations of gas and air were infinite, and one could crawl or fly as wanted.

After a while I thought I would sell and get something a little more powerful, but I found that a possible buyer always condemned the machine and refused to buy because she had a surface carburetter. I therefore fixed a spray, and was told that if I did so I should get more power. I find now that she is not a whit more powerful, and not as ready at starting, and that the speed is not as easily regulated, while there is more tendency to overheat. Now, with the old carburetter, let the day be never so muddy and the rider well splashed, the engine hummed away, and did not mind at all. Same in dusty weather—I never had to get off to clean the carburetter, and never had an involuntary stop, and, moreover, did not use as much petrol.

I am constrained to ask if the modern carburetter is an advance on the old surface; is it worth the price? Look at the small pipes subject to vibration and liable to fracture, the trouble of tickling it from time to time, choking of jet, and the fact that each one has to be adjusted to its particular machine, I am inclined to doubt it. True, you have to warm up the surface to get the best results, but does the same hold good with the modern ones? Then, if the machine was not festooned with controlling wires, as with the present-day handle-bar control, and the trouble of moving levers placed conveniently on the tank is, I think, not exaggerated. If "No. 13" had been fitted with a surface carburetter would not have required any paraffin.

To conclude, is not one of the most expensive and unsuccessful cars (Lanchester) of to-day fitted with a surface (wick) type? If it is good enough for cars, why not for motor cycles? The surface, in my opinion, is a "no trouble" kind, and that is the kind the average motorist wants—one that always does its work without any fuss being made about it.

CYGNUS

[There is a good deal to be said for our correspondent's argument. Bulk and weight were the chief things which condemned the surface type carburetter on motor cycles. That the battery space is seldom required, it might be said, but someone to try an efficient type of surface or wick carburetter on a motor cycle. Carbonisation of piston would doubtless be greatly reduced, owing to the majority of the dirt and dust being left in the bottom of the carburetter, as riders of early types can testify.—ED.]

Sunday Competitions.

[4210.]-I quite agree with "The Wandering Worrier" (letter No. 4178), and am sorry he has written over a *de plume*. The following is a copy of the offending paragraph which appeared in the *R.A.C. Journal* of the 13th: "The question of the holding of motor cycle competitions on the highway on Sunday has been brought to the notice of the committee of the A.C.U. It wishes to state that it strongly deprecates the practice, and it appeals to clubs to refrain as far as possible from promoting competitions on Sunday, particularly on the highway."

Evidently the A.C.U. is not allowed by "Anti-Humbug" and others to make any suggestions, or intimate its views or wishes in matters which affect motor cycling generally. It is a pity so many affiliated members have recently appeared to take a delight in restricting the A.C.U. at the slightest provocation. Surely motor cyclists are sportsmen enough to recognise a governing body in a proper manner. If "Anti-Humbug" and other members of his club consider they derive no benefit from being affiliated to the A.C.U. let them dissolve, but first let them also consider how many members would be likely to resign if such a solution took place.

I should like to ask "Anti-Humbug" if the competitions held by his club are really better supported when held on Sunday than if they were held on Saturday; also is it really impossible for him and the majority of the other members to meet at headquarters at, say, three o'clock on Saturday afternoons? Further, is a reliability trial run in a business-like manner, and in a way likely to attract good entries when the riders do not wear armlets, when no timekeepers are arranged for at the destination, etc.? It amounts to nothing. Because the club insists on holding its competitions on Sunday no notices or results are published in the press, and events cannot be properly organised.

ANTI-HUMBUG NO.

SUMMARY OF OTHER CORRESPONDENCE.

"BL 239," who is a motor cyclist with a scattered medical practice, wishes to hear from any qualified man who rides a motor cycle and would become a *locum tenens* from August 28th to September 11th. Any qualified gentleman wanting a fortnight's holiday with payment for his services should write to "BL 239," c/o The Editor, *The Motor Cycle*, Coventry.

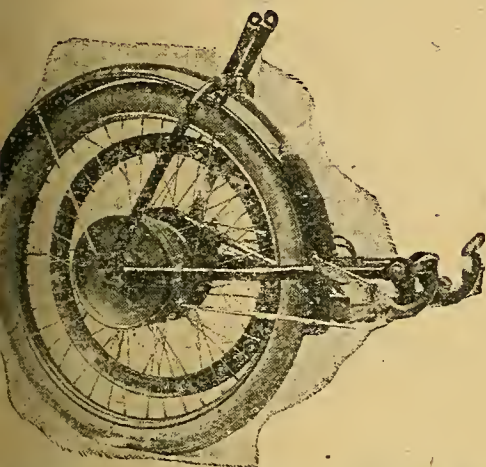
EXPERIENCES WANTED.

"H. S." (West Kensington) would like readers' experiences with Triumph, Matchless, and Bat single-cylinder machines, including T.T. patterns.

"AM 1015." Roc twin, especially as to ease of starting with handle.

YOU MUST HAVE

a two-speed gear for pleasurable riding. The ROC has by far and away the largest sale in the world. It is adaptable to all makes of machines. The ROC combinations, live axle, clutch, and two-speed gear with hand starting (car-control), is not only a necessity for passenger work, but is the greatest luxury imaginable for solo use. The time for conversion only occupies a few days from receipt of machine. Riders who have once tried the Roc system would never think of setting out on holiday without it. In the latest type the Roc gear box is mounted on a ball race which gives a remarkable smoothness in running. The same device is incorporated in the well-known 4 h.p. single to 5/6 h.p. twin ROC military models. Write for booklets.



A. W. WALL, LIMITED,

ROC MOTOR CYCLE WORKS,

Aston Road and Dartmouth Street, BIRMINGHAM.



GRIPS!

WHEN OTHER NON-SKIDS FAIL.

THE SCOTT

NON-SKID MOTOR
CYCLE COVER,

'The alternate steel and rubber studded tyre.'

BRITISH MADE
and

Unsurpassed for strength and durability.

WILL NOT SKID ON WET OR DRY ROADS.

Constructed with rows of alternate steel and rubber studs, which cannot tear out or damage cover by rust—in short, it is a "perfect" tyre, which reduces the risk of puncture and side-slip to a minimum, and makes motor cycling a pleasure on all roads.

Agents—Harrod's Stores, Brompton Road, S.W.
Hunt's Stores, 104, Newgate Street, E.C.
Bond, Euston Road.
Reid & Evans, New North Road, EXETER.
McLaren and Cox, High Street, N. FINCHLEY.
E. Young, London Road, NOTTINGHAM.
F.N. Motor Agency, 106, Great Portland St., W.

MAKERS—

J. LIVERSIDGE & SON, LTD.,

(Estab.
1858.)

196, Old St., E.C.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, two lines. Name and address must be counted. Thus—

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

LARGE STOCKS!

NO "CROCKS"!

AT THE

PREMIER WORKS.

The following have all been EXAMINED at our Works. Any machine may be had on APPROVAL.

Second-hand Machines in Stock.

SINGLE-CYLINDER.

REX Tourist, 1909, magneto, 3½ h.p., good as new	£34 0
TRIUMPH, 1907, magneto, 3½ h.p., good condition, perfect running order	£26 0
VINDEC, 3½ h.p., magneto, Truffault forks, just overhauled, re-enamelled, and plated	£25 0
VINDEC, 3½ h.p., magneto, Truffault forks, two-speed gear, perfect order	£25 0
N.S.U., 2½ h.p., magneto, two-speed gear, 1907	£21 0
N.S.U., 3½ h.p., magneto, 1908, perfect	£22 0
ROC, 3½ h.p., magneto, clutch, good order	£14 0
CLARENDON, 3 h.p., low Chater-Lea frame, handle-bar control, attractive mount	£14 0
REX, '06, 3½ h.p., good order	£10 0
REX, '05, 3½ h.p.	£9 0
LINON, 3½ h.p., very good order	£8 0
EXCELSIOR, 2½ h.p., very powerful	£8 0
MINERVA, 2½ h.p.	£6 10
WERNER, 1½ h.p., running order	£4 0

TWIN-CYLINDER.

REX DE LUXE, 5 h.p., 1909, like new	£42 0
N.S.U., 4 h.p., magneto, 1908, two-speed	£34 0
ROC-PEUGEOT, magneto, 5 h.p., 1908	£35 0
ROC, 1909, run 300 miles only, special bargain	£41 0
REX, 1906, splendid condition	£15 0
REX, 1906, excellent order and condition	£14 0
KERRY, 5 h.p., low saddle, handle-bar control	£17 0
FAIRY Lightweight, 1909, ridden 200 miles	£24 0
MOTO-REVE, very little used	£25 0

TRICARS, ETC.

LITETTE, 1908, water-cooled, grand order and condition	£45 0
CHATER-LEA tricar, Garrard engine, excellent machine	£10 0
HUMBERETTE car, fine bargain	£30 0

WE SUPPLY ALL MAKES OF MOTOR CYCLES. EXCHANGES. DEFERRED PAYMENTS.

BOSCH PLUGS.

BOSCH PLUGS.	Our	BOSCH.
BOSCH PLUGS.	Price,	BOSCH.
BOSCH PLUGS.	3/-	BOSCH.
BOSCH PLUGS.	—	BOSCH.
BOSCH PLUGS.	—	BOSCH.

ALL OUR GOODS ARE SENT ON APPROVAL

Premier Motor Co., Ltd.,

ASTON ROAD, BIRMINGHAM.

Telephone 4310. Telegrams, "Primus, Birmingham."

NUMBERED ADDRESS

For the convenience of advertisers, letters addressed to numbers at "The Motor Cycle" When this is desired, 2d. will be charged for and three stamped and addressed envelopes for forwarding replies. Only the number with the advertisement. Replies should be addressed to "The Motor Cycle, Coventry"; or if it is added to the address, then to the number "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," other parties are advised of this upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision of the goods is three days. For all transactions of £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and money orders should be made payable to Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and answer to their enquiries are requested to silence as an indication that the goods advertised have already been disposed of. Advertisers often receive enquiries that it is quite impossible to reply by post.

MOTOR BICYCLES FOR

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

TRIUMPH Motor Cycle, 1907, splendid condition; trial allowed; handle-bar control.—Atkinson's Motor Garage, Belford, Northumberland.

MOTOR Bargains.—4 h.p. Roc, 1908, single; 5 h.p. Rex de Luxe, 1907, £25; both for sale. 3 h.p. Singer, £16; all magnetos; 3 h.p. Rex, 3 h.p. Phelon-Moore, perfect, all guaranteed. Offers considered.—Walker's Cycle Works, Farnham.

SECTION II.

York and Lancashire.

CROSS for Triumphs in Rotherham; standard; latest improvements.

DOUGLAS, Lincoln Elk, Norton, and cycles in stock.—Gourlay, Fallowfield.

3½ h.p. Fine Riley Motor Cycle, £15; 3 h.p. Dion, £13.—20, Potternewton Lane.

2½ h.p. Singer, magneto, £8, or good price for little cash.—27, King James St., Salford.

£6.—2½ h.p. Minerva, good condition, with brake.—16, Uncle St., Longsight, Manchester.

4 h.p. Kerry for sale, cheap; want 2½ h.p. vertical engine.—Hough, 45, Zeeland St., Bolton.

WOLF Lightweight, 2 h.p., stand, tools, new; £17 10s., cost £22 10s.—220, Farnham.

TRIUMPH, 3½ h.p., magneto, 1907, bought little used; £27.—1, Prospect Terrace, York.

3½ h.p. Kelecom; any trial; all spares and particulars; £14, lowest.—37, Peet St., Wigan.

REX de Luxe Twin, magneto, Roc clutch, perfect condition; £25.—Parker, Rochdale.

4 h.p. Bicycle, splendid working order, hauled; must sell; £10, offer.—16, G. Wigan.

1908 Triumph, Clincher tyres, lamp, h.p. spares, absolutely perfect; £30.—17, Blackburn.

1909 Bradbury, now last month, perfect sacrifice £38.—215, Barnsley Rd., Barnsley.

1908 Phelon and Moore, 3½ h.p., magneto, spare tube, valves, lamp, horn.—Foster St., Bolton.

1909 Rex, 3½ h.p., new; quick sale, acceptance; no offers.—Cochrane, Victoria, Manchester.

DOUGLAS, 1909, 2½ h.p., twin-cyl., new; miles only; take £26.—Cochrane, Victoria, Manchester.

3½ h.p. Quadrant, spring forks, perfect; new, fast, powerful; bargain, £14.—St., Blackpool.

In answering these advertisements it is desirable to mention "The Motor Cycle."

FOR BICYCLES FOR SALE.

J.A.P., fast, and good hill-climber, tyres as w; £10, or offers.—Marshall, 6, Whitby Av., Lane, York.

PH, 3½ h.p., magneto, handle-bar control, new ition, all accessories; sacrifice £27.—23, Organ Lane, Lancashire.

oe, 1909, perfect condition, lamp, tools, all plate, not ridden many miles.—Johnson, 319, Rd., Sheffield.

riumph, new condition, lamp, generator, horn, ls, belts, perfect, particulars; £34.—Cochen row-in-Fitness.

S.U. Lightweight, magneto, in excellent con- ition; bought May, 1909: £16.—A. Rathbone, wtown, Wigan.

p. Vindec, two-speed, free engine, spares, new mer cord on back; £36; any trial.—Nuttall, Farnworth, near Bolton.

COL.—Triumph and Douglas motors in at Hitchings, 74, Bold St., the sole agents. ety of accessories at lowest prices.

IONLESS Douglas, the best lightweight on market and British made; send for list and s.—Hitchings, Ltd., 74, Bold St., Liverpool. s for Douglas and Triumphs.

NGS, Ltd., specialise in Douglas lightweight or cycles. Inquiries receive prompt and attention.—74, Bold St., Liverpool.

Motor Cycle, splendid condition, low position, board engine, footboards: £12 10s., cheap.—aes St., Wardleworth, Rochdale.

o-Reve, 1909, latest model, all grey finish, forks, perfect condition, spare belt, etc.; sale.—Tether, West Dock St., Hull.

S.U., handle-bar control, etc., everything in ct order; £22, or offers; ride 50 miles to J. Whitehead, 34, Clyde St., Oldham.

lords, vertical engine, spray, £6 19s. 11d.; Coventry Eagle, vertical engine, long dle, £5 19s. 11d.—Halifax Motor Exchange.

11d.—1½ h.p. Thomas, spray; 3½ h.p. Rex, belt e. Amac handle-bar control, £8 19s. 11d.—or Exchange, Westgate, Halifax.

ED List of second-hand Rex motors, and list of tricar and motor cycles on applica- s Motor Exchange, Westgate, Halifax.

mph, T.T., perfect condition; sell £40, or ge either 1908 Triumph, magneto, J.A.P. all twin, and cash.—Fawcett, Ripon Rd.,

bought car, will accept reasonable offer for cycle, F.N. engine, accumulator ignition, Palmer tyres, perfect order.—Lawson, Bur-

eds.

N.S.U., large pan seat, footboards, rub- lt, double-note horn, 2½ tyres, good run- 20, or exchange lower power and cash.—Leeds.

in Peugeot, Truffault spring forks, Rom breaker, rubber belt, tyres good, fine ma- 28, Dock St., Leeds.

ier, delivered three weeks, fine machine, , £38; 2½ h.p. lightweight Howard, fast ew, £12; arrange exchange 1909 Phelon- Darley, near Leeds.

Motor Cycle, twin-cyl. Peugeot engine, mag- netion, spring forks, Roc clutch, with two- practically new condition; a bargain at Garage, Briggate, Leeds.

ior, 3½ h.p., 1909 model, ball bearing en- stable pulley, Druid spring forks, only oiled; 59 guineas.—The British Cycle y, Ltd., 143, Berry St., Liverpool.

phs, standard and clutch models, 2½ h.p. S.U. lightweight; deliveries from stock; and machines; write before buying else- en Engineering Wks., Huddersfield.

2½ h.p. genuine Minerva, spring forks. n 800 miles, any expert examination, £16 mph motor cycle, 2½ h.p. Minerva engine, elled, £7.—186, Derby St., Bolton.

, accumulator ignition, thoroughly over- ebrushed, new Brown and Barlow carbu- ar control, tyres, belt, last May; genu- S.—Scott, 137, Westbourne Av., Hull.

Motor Cycle, magneto ignition, 20 inch inch wheels, girder forks, stand and car- with accessories; a bargain at £18; con- y new.—Bridge Garage, Briggate, Leeds.

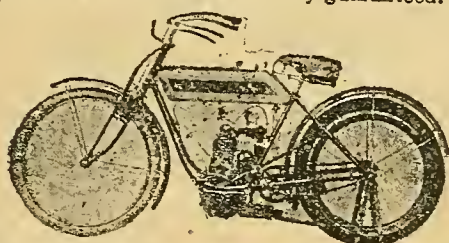
Druid spring forks, two-speed gear, engine, magneto, complete set of spares er cord back tyre, new August, 1908.—Thompson Yates Laboratory, University,

otor Cycle, 3½ h.p., 1908, magneto, han- trol, in splendid condition, with lamp y little used, tyres as good as new; any H. Taylor, Gorse Lane, Mawdesley, near

6 Chater-Lea throughout, spring forks, Sarolea twin, Bosch magneto, adjust- ch, car tyre on back, specially built for st Montgomery coach-built sidecar, £8 St., Hull.

"CORONET" SIDECARS, MODEL A, £4 17s. 6d. CASH.

Built of best weldless steel tubing, luxuriously up- holstered, and beautifully sprung on double C springs. Attached in three minutes; no side slip; fit either right or left side. Fully guaranteed.



3.6 h.p. REX Lightweights, magnetos, B. & B. carburetters, handle-bar control, splendid hill- climbers. £17 17 0 or exchange.

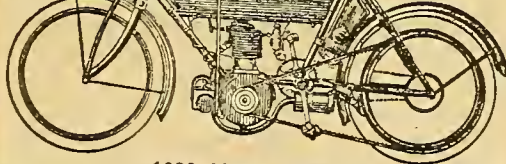
ALL OUR MACHINES ARE TESTED.

1909 3½ h.p. HUMBER, new	£45 0
1908 WOLF Lightweight, nearly new	£13 10
1909 3½ h.p. REX, two speeds, new	£52 10
1908 3½ h.p. REX Tourist, new	£29 10
1908 3½ h.p. N.S.U., brand new	£32 0
1909 3½ h.p. TRIUMPH, Continentals, new	£48 0
1909 3½ h.p. TRIUMPH, Palmer cords, new	£49 0
1908 3 h.p. REX, magneto	£17 10
1909 3½ h.p. BRADBURY, nearly new	£35 10
1909 4 h.p. ROC, two speeds, magneto, nearly new	£37 10
1908 2 h.p. MOTO-REVE, magneto	£25 0
1908 3½ h.p. N.S.U., magneto, nearly new	£25 0
1908 3 h.p. N.S.U., magneto, smart	£22 10
1908 3½ h.p. REX Tourist, magneto	£25 0
1907 3½ h.p. REX, magneto, 2½ in. tyres	£13 10
3½ h.p. THOS. SILVER, magneto	£18 10
5 h.p. Twin ROC, Roc clutch, magneto	£29 10
5½ h.p. REX DE LUXE, magneto, Roc clutch, handle starting	£27 10
4 h.p. Twin N.S.U., magneto, two speeds	£22 10
4½ h.p. Twin MINERVA, magneto	£22 10
3½ h.p. TRIUMPH, 1908	£35 0
3 h.p. QUADRANT, cost £45	£6 15
4 h.p. ANTOINE, M.O.V., 26 in. wheels	£12 10
5 h.p. Twin REX, and Sidecar	£19 19
3½ h.p. REX, 1906, 26" wheels, spring forks	£12 12
3½ h.p. REX, 26" wheels, handle-bar control	£11 10
3 h.p. FAFNIR, 26" wheels, handle-bar control	£9 10
2½ h.p. MINERVA, M.O.V., low	£8 15
2 h.p. MINERVA, M.O.V., smart	£8 15
3½ h.p. REX, cost 50 guineas	£8 15

Send for list of other bargains—best, biggest, and cheapest stock. Cash buyers receive special quotations.

£2 10s. and a push cycle secures—

2 h.p. HUMBER.	2 h.p. PIEPER.
2 h.p. WERNER.	2 h.p. LIBERTY.



1908 3½ h.p. N.S.U.'s.

81X, brand new, packed in crates, as received from makers, fitted with magnetos, 26 in. wheels, stand and carriers, tool boxes and tools. List price £46. Our Price £32—or near offer, or exchange.

TRICARS.

4 h.p. STEVENS, fan-cooled, powerful	£12 12
4½ h.p. REX, fan-cooled, free engine	£13 13
5½ h.p. REX, open frame, two speeds	£29 10

CORONET ADJUSTABLE PULLEY.

The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade.

CARBURETTERS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,
CHARLES STREET, off Square Road,
Phone 1062. HALIFAX. 2 minutes walk from Station

MOTOR BICYCLES FOR SALE.

3½ h.p. Triumph, late 1908, carefully used, excellent condition throughout, studded tyres, Shamrock belt, all spares, tools, horn, lamp, and generator; would ride 50 miles to probable purchaser; no offers; £33.—Mayfield, Wigan Lane, Wigan.

7-8 h.p. Twin Minerva, new January, 1909, absolutely perfect, only run 400 miles, splendid sidecar machine, £32; 3 h.p. 1906 Bradbury, splendid running order, £15; cash offers and exchanges considered on above. — Harry Fielding, St. George's Sq., Hebden Bridge, Yorks.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Rd., Old Trafford.

SPECIAL.—5 h.p. twin Dot, Druid spring forks, tri- note horn, Cowey speedometer, Mabon clutch, adjustable pulley, R.O.M. tyre back, Lucas King of Road Projector, toolbag and spares, H.B. control, exceedingly low and fast machine, finished grey, very smart; too powerful for owner; new April, 1909; cost nearly £60, accept £40; seen any time by appointment.—Heywood, 86, Clyde Rd., W. Didsbury, Manchester.

SECTION III.

Canarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

WHAT Offers?—Gear driven Singer, good order.—Phipps, Llanfyllin.

3½ h.p. Rex Motor Cycle, spares, in good going order; £15.—Apply, Freeman, High St., Holywell.

N.S.U., 3½ h.p., 1909 model, magneto, spring forks, handle-bar control, only run 500 miles; offers.—Moss, Wem.

3½ h.p. Rex, perfect, £8; 1½ h.p. Minerva, perfect, £3, or exchange; both can be tried.—S. Marshall, Stoneway, Briggworth

2½ h.p. Quadrant, vertical, low, Brown-Barlow, Dun- lops, plated rims, hand brake, excellent condition; £5 10s.—Radford Motors, Stafford.

5½ h.p. Twin Rex, spring forks, equal to new, low, very powerful, perfect; 16 guineas, lowest; ap- praisal with pleasure.—Hallam, Baths, George St., Buxton.

6-8 h.p. 4-cyl. Binks, handle starting, clutch, foot- boards, large roomy seat, everything in good order; what offers?—E. O. Williams, 2, Brynhaul, Rhowbin, Wrexham.

6 h.p. N.S.U., Rom tyres, Premier seat-pillar, foot- boards, adjustable pulley, stand, carrier, spare Rich- tubes and parts, new condition; £32 10s.—Hunt, Tix- all, Stafford.

TRIUMPH, 1909, run 800 miles, Palmer cords, £42; new model Humber, successful in Six Days' Trials, single speed, £40; N.S.U., 3½ h.p., £18; Triumph, 1906, grand order, £20; also new Triumphs and Humber in stock.—Oswald Parker, Melbourne, Derbyshire.

DOUGLAS Lightweight, British made, twin cyls., magneto, spring forks, a revelation in comfort, ease of starting, power, and reliability, absolutely vibra- tionless; write for list.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

TOM WOODMAN'S 7 h.p. V.S.; £45 cash only.—Peterborough.

3 h.p. Singer, chain drive, tip-top order; £12.—Clarke, Highbury Place, Abbott's Lane, Coventry.

3½ h.p. Magneto Rex, B. and B., handle-bar control; £20.—Morris, 111a, London Rd., Leicester.

PHOLON-MOORE, 1908, handle-bar control, new non- skid, spares; £37.—Davies, Sholebroke, Stretford.

4½ h.p. Minerva, new condition, with accessories; price £25.—Bent, 99, King Richard's Rd., Leicester.

3½ h.p. Rex, 1908, magneto, but little used, and in per- fect order; £24.—Holmes, Spencer St., Leaming- ton.

3½ h.p. Minerva, in good running order, Watawata belt; £2 10 guineas.—No. 2,978, The Motor Cycle Offices, Coventry.

3 h.p. Raleigh-Fafnir, H.B. control, electric horn, etc., guaranteed reliable; £15.—Nicoll, 83, Queen's Walk, Nottingham.

3½ h.p. Singer, magneto, Palmer cords, long handles, very reliable; genuine bargain, £14.—Morris, Photographer, Bourne.

4 h.p. Hobart, magneto, just overhauled, grand sidecar machine; £16 10s.; exchange lightweight.—Clarke, Church St., Eastwood, Notts.

5-6 h.p. N.S.U., French grey, dual ignition, two-speed free, Amac, spare non-skid, two headlights, leather coat, spares; £25; photo.—The Elms, Etton, Market Deeping.

1908 6 h.p. N.S.U. and Montgomery flexible sidecar, Albion clutch, spring forks, handle-bar control- led, excellent condition; 29 guineas.—Jays, 210, Mar- tin St., Leicester.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

MOTOSACOCHE, spring fork attachment, New Departure hub, horn, stand, perfect order; £16 10s.—Whitwell, Oakham.

1 1/2 h.p. F.N., new 1908, magneto ignition, non-skid tyres, spare tyre, tube, belt, valves, etc.; £20.—Orton-Smith, Harborne, Birmingham.

MOTOR Cycle, twin Rex, 5-6 h.p., spring forks, low built, very powerful; £16; trial given.—Young, 64, Tilton Rd., Small Heath, Birmingham.

TRIUMPH, 3 1/2 h.p., new May, 1909, scarcely used, owing to illness; £40, or nearest offer; trial allowed.—R. P. Seal, Centre View, Cogenhoe, Northants.

3 h.p. Hobart, low frame, 26 in. wheels, Amac carburetter, spares, etc., splendid, new condition throughout; bargain, £12 10s.—Abbott, 229, Court Oak Rd., Harborne, Birmingham.

2 3/4 h.p. Minerva, Chater-Lea, Palmers, new cyl. and piston, rebushed throughout, very fast and reliable; £12 10s., with accumulators and tools.—Saunders, 50, Alexandra Rd., Northampton.

3 1/2 h.p. Rex, footboards, pan seat, good order, £12; **3 1/2 h.p. Minerva**, inclined engine, frame, tank, etc.; £7; **2 1/2 h.p. De Dion** engine, £2 10s.; exhaust-driven fan, 10s.—Martin, Harrowby Rd., Grantham.

MOTOR Cycle, Continental record breaker, 4 1/2 h.p., very low, fast, powerful, specially built for sidecar, magneto, two-speed gear, Whittle belt, complete with all accessories and many spares; £20.—53, Tennant St., Birmingham.

6 h.p. N.S.U., late 1908, and new Millford sidecar, magneto, spring forks, two-speed, free engine, fan-cooled, new tyres and tubes, Lomax non-skid, guaranteed perfect; cost £75, bargain £37 10s.—3, Goldsmith Rd., King's Heath, Birmingham.

1908 6 h.p. N.S.U., two-speed gear, long handle-bars, magneto, lamp, generator, horn, all tools, complete, climb anything, terrific speed, splendid passenger machine; too powerful for owner; any trial; £30 cash; exchange Triumph.—Dallaway, fruiterer, Cape, Smethwick.

APPROVAL Anywhere.—1906 5 h.p. Twin Kerry, £16 10s.; 1907 4 h.p. Hobart, magneto, £17; 1905 2 1/2 h.p. Werner, £8 10s.; 1906 3 1/2 h.p. Quadrant, £12 10s.; 1907 twin Rex, £14 10s.; all in perfect and reliable condition.—C.C.R. Motor Wks., Ford St., St. Ann's Well Rd., Nottingham.

TRIUMPH, 3 1/2 h.p., new June, 1908, perfect condition, Palmer cord tyres, punctureproof bands inside, two bags of tools, spares, etc., Palmer cord cover and tube, magneto parts, tube case, Whittle belt, lamp, and horn, valve complete, plugs, magneto chain, etc.; £34.—Farmer, Willes Rd., Leamington Spa.

MINERVA, 3 1/2 h.p., and sidecar, Chater-Lea, free engine, two-speed, B. and B. carburetter, H.B. control, new car tyre back, Palmer front, large Brooks and back rest, Lucas lamp, large horn, wallets, quantity spares and tools, perfect going order; cost £55; must sell; nearest offer, £23.—Bennett, Builder, Bradford St., Birmingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

TRIUMPH, Palmer cords, run 150 miles only as new; 40 guineas, no offers.—Charlish, Bungay.

MOTOSACOCHE, in perfect order and condition; must sell; offers invited.—37, Searle St., Chester-ton, Cambs.

5 h.p. Twin Peugeot Motor Cycle, Chater-Lea, also sidecar, equal new; £30 the lot.—80, Cromwell Rd., Luton, Beds.

3 1/2 h.p. Kerry Motor Cycle, in good running order, excellent hill-climber, tyres good; price £8.—H. F. Hitchcock, Rattlesden, Suffolk.

1909 Humber, two speeds, free engine, not done 500 miles, perfect as new, all spares; must sell; £32.—Storey, 3a, Bridge St., Cambridge.

6 h.p. Twin J.A.P., Palmer cord tyres, perfect, new lin. belt, low built, engine brand new Easter, 1909, a sound machine, and cheap at £25, or exchange magneto single.—Wallis, grocer, Hills Rd., Cambridge.

5 h.p. Twin-cyl. Vindec Special, two-speed gear and free engine, Cowey speed indicator and mileage, spring forks, magneto, tyres unpunctured, bought June this year; cost £66, sell £44.—The Ashes, Stowmarket.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1908 5 h.p. Rex de Luxe, two speeds, Roc clutch, free engine, handle-bar control, condition as new, spares, lamp, together with sidecar, £35, complete.—Jotham, St. Mary St., Cardiff.

MOTOSACOCHE (1908), dry cell ignition, Druid spring forks, lamp, horn, stand, tools, carrier, etc.; £17, no offers; excellent condition.—Akers, 28, High St., Newport.

QUADRANT, 3 1/2 h.p., spring forks, long bars, foot-rests, Whittle, new studded tyre, two accumulators, spare valves, all accessories, free engine clutch (not fitted); approval, deposit, £16.—Lancefield, 128, Caerleon Rd., Newport.

WAUCHOPE'S

ROCK BOTTOM VALUE.

There is a grand distinguishing feature of characteristic excellence in ALL the goods associated with the name of

WAUCHOPE'S

OF 9, SHOE LANE, FLEET ST., LONDON, E.C.

which marks off that establishment as being one where the best interests of the cyclist and motorist are not only receiving paramount consideration, but are, further, most

ABLY AND BRILLIANTLY CONSERVED.

No one to whom motor cycles possess any meaning, or for whom they have any interest, can have failed to note with the liveliest satisfaction that in

MAKE, STYLE, AND CONDITION.

the various models to be had from Wauchope's are

MODELS AND TRIUMPHS

in more than name only. But there is something behind these facts, which claims the attention of the wheeling populace, and makes the name of

"WAUCHOPE'S"

a spell to conjure withal. And this "something" consists in the fact that you can bring your present machine to

9, SHOE LANE, LONDON, E.C.

and have its

FULL MARKET VALUE

duly placed to your credit, just as if it were so much hard cash, handed out straight from the pocket. We have doubtless made big strides in the way of

COMMERCIAL PROGRESS

since Esau carried through his famous transaction in barter, away back in the days when the world was young; but the

BARTER BY WAUCHOPE'S

is something positively unique. For example: You are the possessor of a machine of which in course of time you have become weary. It is perhaps more "in your road" than otherwise, and you would willingly get rid of it if you could do so

ON FAVOURABLE TERMS.

Well, your course, in order to the prompt accomplishment of that object, is

SIMPLICITY PERSONIFIED.

Either call on or write Wauchope's, and you will be offered a selection of guaranteed Machines, comprising such standard names as the

TRIUMPH LIGHTWEIGHT, F.N., RHEON AND MOORE, VINDEC, WOLF LIGHTWEIGHT, VINDEC "SPECIAL," BAT, REX, DOUGLAS, MINERVA, MOTO-REVE, MATCHLESS, QUADRANT, ARIEL, MOTOSACOCHE, PREMIER, etc.,

from which your field of choice is practically unlimited. You need have no fear that your second-hand machine will be ignored; and you may absolutely

TRUST WAUCHOPE'S

to give you the fullest cash credit for your present machine. If you are a lady or gentleman of shrewdness, you will perceive, without persuasion, that at WAUCHOPE'S you are dealing in no ordinary emporium. On the contrary, you are bestowing your confidence where it will be esteemed, and pursuing your enquiries where they will meet with every consideration and courtesy. You will find that

WAUCHOPE'S

are able to serve you to the full bent of your expectation and necessity, under what is conceded everywhere to have proved itself.

A PERFECT ADMINISTRATION.

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9, Shoe Lane, Fleet St., LONDON, E.C.

Telephone 5,777 Holborn. Telegrams. "Opificer, London."

MOTOR BICYCLES FOR

I HAVE the following motor cycles in stock, give immediate delivery:

3 1/2 h.p. Triumph; £48.

3 1/2 h.p. Premier; £45.

3 1/2 h.p. N.S.U., nearly new; £37.

3 1/2 h.p. Triumph, nearly new, £43.

ROC, two-speed, late 1908; £27.

3 1/2 h.p. N.S.U., magneto; £21.

3 1/2 h.p. Brown; £16.

3 h.p. Quadrant; £10.

2 h.p. Minerva; £9.

PUSH Cycles taken in part payment for above.—Robert Brown, Castle St., Ca

TRIUMPH, 1908 model, splendid condition, non-skids, spares, horn, and lamp; £15, Temple St., Swansea.

SECTION VII.

Gloucester, Oxford, Buckingham, Wilts, and Hants, and Channel

WHITE-POPPE, 3 1/2 h.p., with Ariel, £15, no offers.—3, Essex St., Rea

3 h.p. Rex, very little used, £15; also weight, new, take £18.—Eastleigh, C

3 1/2 h.p. Humber Tricar, water-cooled coach-built; £21, or nearest.—Barn Windsor.

3 1/2 h.p. Motor Cycle, magneto, Palmers, £15 10s., nearest offer.—154, Sou Reading.

F.N., 4-cyl., 5-6 h.p., new June, 1908 would exchange for 3 1/2 h.p. Triu Mortimer.

3 1/2 h.p. Humber, chain driven, clutch covers, running order; £10.—Ken ton, Bristol.

4 h.p. Antoine, spring forks, B. and B. running order; £12, or nearest.—St., Windsor.

1909 Triumphs in stock; cash instalment.—Kerridge, Triumph Agent, 9 a St., Alton, Hants.

VINDEC Special, 3 1/2 h.p., magneto, excellent condition, reliable; £30 Lodge, lateley, Hants.

FOR Sale, Minerva, 2 h.p., new ignition back tyre, engine perfect, and powerful condition; £8.—Forden, Berke

2 3/4 h.p. Minerva, 1905, low seat, long good tyres, two belts, spring for justable; £12.—R. G. Judd, Cocum, Hants.

5 h.p. Twin Kerry, in perfect condition, hauled, new Palmer cord tyres, must sell; a bargain, £18.—A.L., Hotel Me mouth.

VINDEC, 5-6 h.p., with Mills-Fulford sidecar, nearly new; must sell; £4 for Douglas and cash.—Beard, St. N Gloucester.

1 1/2 h.p. F.N., 1908 model, as new, £20, also 3 h.p. Chater-Lea, very low £10, or exchange and cash for small ca Hill, Hants.

1909 3 1/2 h.p. Vibrationless Rex, cost all best spares, month ago, £46, must sell; what offers? sacrifice Whitehead, Kenward, Slough.

TWIN N.S.U., magneto, in perfect condition, also sidecar to match same, Mill wheel; sacrifice the combination £30, —Motorist, 426, High St., Cheltenham

2 3/4 h.p. 1905 Minerva, good reliable machine, long bars, new tyres, two belt Advance adjustable pulley; owner gets R. G. Judd, Cocum, Barton Stacey, H

1909 8 h.p. Bat, new April, little use series and spares, in perfect condition, many extras; cost £70; owner getting lowest, £45.—G. Watkins, Castle, Coom

1908 N.S.U., 3 1/2 h.p., spring forks, foot carrier, new Clincher non-skid cord on front wheel, Powell and Ham spares; £21, or nearest offer.—H. L. I ton St., Oxford.

6-7 h.p. Roc, twin Peugeot engine, 8 guenare, N.A.B., studded 2 1/2 light, large, £1 1s., horn, spares, adjustable pulley; sacrifice £25.—S. ley Wintney, Hants.

OR BICYCLES FOR SALE.

p. Rex, B. and B., new June, tools, spares, mirror, latest machine, as new; £32.—Butt-nham Green Terrace, Chiswick.

Motor, Minerva engine, new Dunlop tyres, running order; £6, to be seen any time.—Mildford St., Gray's Inn Rd., W.C.

H, 1909, in exceptionally good condition, and used; £38, with spares and accessories.—Leby, Loom Lane, Radlett, Herts.

ex (1907), in really good condition, spring, Palmer cords, lamp, and horn; £15.—Rage, 418, Romford Rd., Forest Gate.

HAM—4h.p. Roc, magneto, free engine, two-excellent condition, £22; also 2½h.p. Kerry, new's Cycle Stores, 96, West Green Rd.

Luxe, 1907, twin, 5-6h.p., magneto, Roc spring forks, spring seat-pillar, spare belt, £28, or offer.—Matthew Lang, below.

Indec Special, magneto, Continental Model course tyres, Gloria belt, perfect condition; r.—Matthew Lang, 290, Ewell Rd., Tolworth,

—2½h.p. Humber, chain drive, spring seat, op, splendid condition; £5 10s.; appoint-trutt, Field Cottage, Dennetts Rd., S.E.

h.p., 1908 type, 24in. wheels, free engine, Chater-Lea sidecar, fine condition; offers, wglass, 96, Upper Richmond Rd., Putney.

ley Cycle, new Dermatine belt, back tyre and just been overhauled and enamelled French ories; what offers?—59, Stanley Rd., Ilford.

oine, magneto, spring saddle, and forks, foot-2, 2½ Palmers, now, £17; also 1½h.p. light, £4 10s.—Belbin, 199, Burges Rd., East

2½h.p. Singer, magneto ignition, chain drive, clutch, spring seat-pillar, spray carburetter, £5 10s.—rletcher, 13, Coolhurst Rd., Crouch

ttle 2½h.p. Kerry, sound condition, splendid g order, most reliable; only £9 10s.; bought ury.—Lewis, 88, Long Lane, Aldersgate St.,

uadrant, spring forks, magnificent machine, lutely perfect, specially selected engine, climb £16.—J.D., 58, Downs Park Rd., Dalston,

—2h.p. Minerva, Bowden exhaust lift, new k tyre, everything in good running order, seeing.—16, Upper Ground St., Blackfriars,

de Luxe, 5h.p., handle starting, Goodrich ed tyres, run 500 miles, medal London-perfect; £36, no offers.—19, Dollis Park,

H, 1908, guaranteed perfect, latest type en-machine unscratched, complete, accessories £34.—Eastern Garage, 418, Romford Rd.,

ghtweight Wolf, nearly new, spring forks, arcock-Excelsior tyres, lamp, horn, stand, ssories; price £18.—28, Howard Rd., Wal-

n Vindec, Truffault spring forks, handle-ontrol, magneto, new tyres, excellent condi-cessories; £20.—Thornton House, Frimley ey.

Cycle, 4h.p. Antoine, nearly new tyres, re-low frame; a bargain, £10, or exchange twin engine.—20, Pickering Place, West-e, W.

3½h.p., magneto, new belt, Palmers, stand, and numerous spares and tools, splendid any trial; £19 10s.—Clements, Nurseries, hley.

art, Chater-Lea, magneto, Amac carburetter, bar controlled, torpedo tank, footboards, very new; £23.—Eastern Garage, 418, Romford Gate.

ex, perfect, low, Palmer cord tyres, foot-ods, stand, carrier, and accessories; exchange over and cash, or sell £15.—Cross, 180, Liver-Islington.

Luxe, 3½h.p., Roc clutch, etc., and Mont-lexible de luxe (red) sidecar, only done 60 £60, what offers?—G. Wayenberg, 53, New London, S.W.

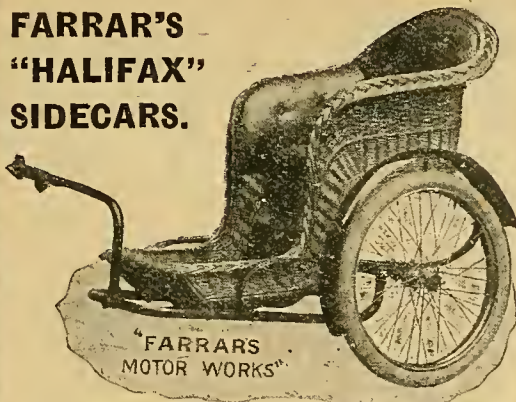
Dion, Roc clutch and two-speed gear, spring s, Chater-Lea fittings, handle-bar control, very must sell; £20, sacrifice.—17, Kenmure Rd., Hackney, London.

COCHE, 1909, magneto, in grand condition, ew, all tools, etc., or part exchange for 5h.p. eto, etc., or sell £20.—J. W. Lewsey, 80, l., Ponders End.

H, 1907, magneto, 1909, control and carbu-r, footrests, etc., excellent tyres, new belt first-class condition; £30, or offer.—169, Rd., Walthamstow.

n Peugeot, No. 6 Chater-Lea frame, condi-s new, bargain, £18; also Montgomery side-ered green, nearly new, £4 10s., no offers.—ictoria Rd., Romford.

FARRAR'S "HALIFAX" SIDECARS.



Each £4 17 6 Each.

Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

£3 DOWN secures any of these. Balance 5/- per week.

2½ h.p. Singer, mag.	£7 1	2½ h.p. R. and P...	£8
3½ h.p. Rex	£9 1	3 h.p. Clarendon	£9
3½ h.p. Dux	£9 1	2½ h.p. Minerva, M.O.V.	£9
2 h.p. Rex	£5 1	2½ h.p. Humber	£5
3 h.p. Noble, M.O.V.	£7 1	2½ h.p. King	£8
2½ h.p. Whiteley	£7 1	3½ h.p. King	£8
2½ h.p. Stevens	£6 1		

CASH OR EXCHANGE.

4½ h.p. PHOENIX TRICAR, two speeds..	£15 0
5 h.p. REXETTE, two speeds.....	£21 0
5½ h.p. REXETTE, two speeds.....	£24 0
3½ h.p. 1907 REX, Rom tyre	£15 16
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34 0
3½ h.p. BROWN, M.O.V., fine goer	£12 0
4 h.p. ANTOINE, M.O.V., fine goer	£11 0
5-6 h.p. ROVER Tricar, splendid goer....	£18 0
3½ h.p. BROWN, magneto, 26in. wheels....	£18 0
1908 N.S.U. Light twight, magneto.....	£22 0

3½ h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
3½ h.p. 1906 REX, M.O.V., spring forks	£14 15
REX DE LUXE, magneto, clutch	£26 10
4 h.p. TWIN REX a beautv.....	£16 17
3½ h.p. REX, M.O.V., spray.....	£11 12
6 h.p. TWIN REX and Sidecar	£21 10
6 h.p. REX DE LUXE and Sidecar	£31 10

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £18 19s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. Grips like the proverbial seaside landlady. 33% cheaper than any other high-class belt. 3in., 9d. 1in., 1/6. 3in., 1/3. 1in., 1/6 per foot. Delivery from stock. No waiting.

ENGINES.

1½ h.p. MINERVA	£1 5 0
2 h.p. QUADRANT	£1 10 0
2½ h.p. GEM	£1 10 0

SPECIAL BARGAINS.

Montgomery Flexible Sidecar	£4 0
Rigid Sidecar, very good	£3 15
1909 Amac or B. and B. Carburetter, H.B. control.....	each 27/-
3½ h.p. Quadrant engine sets	37/6
Osborne four-speed gear	£1 15
Osborne Free Engine Clutch	15/-
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6
Low frame with Roc clutch	£3 10
1909 Premier magneto, brand new	£4 0

CLINCHER TYRES.

All sizes, 17/6 each.

Genuine 1909 26 x 2in. and 26 x 2½in. Clincher Rubber Studded Covers. All brand new, 25/- each. Tubes with valves, all sizes 5/6 post free, no waiting.

High-class Machines Wanted. Cash Waiting.

E. FARRAR,

Albion Works, Square Rd., HALIFAX.

Telephone Nos.: Day, 919, Night, 10Y.

MOTOR BICYCLES FOR SALE.

3½h.p. De Dion, Roc clutch and two-speed gear, spring forks, Chater-Lea fittings, handle-bar control, very low built; must sell; £20, sacrifice.—17, Kenmure Rd., Mare St., Hackney, London.

24h.p. Minerva, spring forks, handle-bar control, non-skid back tyre, adjustable pulley, lamp, horn, stand, spares, splendid condition; £14.—Morris, 1, Robert St., Hampstead Rd., N.W.

3½h.p. Rex Motor Cycle and sidecar, two-speed gear, free engine clutch, ball bearing engine, good tyres, Bosch magneto, little used; £30, no offers.—71, Boston Rd., Boundary Rd., Walthamstow.

3½h.p. Jap, B.S.A., Amac carburetter, handle-bar control, adjustable pulley, Brooks B100 tyres, and condition perfect.—Harvey, 47, South Lambeth Rd., Vauxhall Station. Tel.: 3134 Hop.

3½h.p. Minerva, 1907, spring forks, Advance adjustable pulley, three accumulators, lamp, horn, all spares, etc., very little used; £20, or offers; after 7 p.m.—63, Hornsey Park Rd., Hornsey, N.

LONDON.—Bradbury Agency.—A. T. Stanton, 619, Lea Bridge Rd., Leyton (motor bus from City). Call and try the best British motor cycle. Any easy terms will astonish you. Apply for particulars.

4 h.p. Twin N.S.U., two speeds, 1in. belt, magneto, Autoclipse lamp, Price's stands, spares, tools, in perfect condition throughout; not a wreck; £18, best offer over.—93, Hessel Rd., West Ealing.

BEFORE Deciding on any motor bicycle or triar call on or write to Pullman Bros., London Rd., Norbury, London, who have the best selection of machines in London; motor bicycles from £4.

4 h.p. J.A.P., Chater-Lea, quite like new, Bosch magneto, handle-bar control, Druid spring forks, footboards, new non-skid and belt, lamp, horn, spares; £32.—Eastern Garage, 418, Romford Rd., Forest Gate.

N.S.U., 1908 3½h.p., magneto, handle-bar control, Lucas lamp, waterproof overalls, tyres, and everything fine condition and running order; £23, or offer; appointment.—B., 7, Elibank Rd., Eltham, Kent.

TRIUMPH, 1908, 1909 engine, January, gold medal hill-climb, new studded tyres and tubes, Premier cantilever seat, lamp, tools, bags, spares, perfect; £38.—Letters, Mead, Ingram House, Stockwell Rd., S.E.

2½h.p. F.N., on Chater-Lea fittings, F.N. carburetter, 26 by 2½ tyres, spring forks, Brooks 100-7, absolutely reliable; seen any time; must sell; £18, no reasonable offer refused.—Baker, High St., Ealing.

HUMBER Motor Bicycle, 1909 model, new three months ago, hardly ridden, magneto, two speeds, absolutely perfect machine; owner bought car; sale with accessories, £35.—53, Shirland Rd., Maida Vale, London.

1909 5-6h.p. 4-Cyl. F.N., latest type, new May, unsoiled, too fast for owner, carefully used, footrests, spares; price £40, cost £54, or exchange 1909 Triumph.—Write, A. Mackinnon, 18, Grassington Rd., Eastbourne.

RARA Avis. — 3h.p. Advance, variable gear, pulley, Palmers, Dermatine, footrests, stand, lamp, horn, carrier, spare new tyre and valves, perfect condition, and ready for touring; 10 guineas.—Rolf Goode, 163, Stockwell Rd., S.W.

24h.p. Clarke and Cluley, two belts, Longuemare, trembler, Bat spring forks, Sharpe's silencer, low saddle, non-skid back, lamp, horn, numbers, spares, all bearings just rebushed; bargain at £11.—Ronard, 29, Church St., Soho.

7-9h.p. Peugeot-Chater, perfect condition throughout guaranteed, fast, comfortable, footboards, Palmer front, non-skid back, two pulleys, two belts, spares, tools, Wants seeing; £23.—Mackintosh, 106, Loughborough Rd., Brixton.

3½h.p. N.S.U., 1908, two speeds, magneto, 24 wheels, new Michelin back, front little worn, new 1in. belt, unused inner tube, spares, etc., just overhauled, splendid order; 30 guineas; also Montgomery sidecar, very good condition, £2 10s.—Wauchope's.

3½h.p. White and Poppe, Palmer tyres, unpunctured, Longuemare, handle-bar controlled, Watawata belt, two brakes, complete, with all accessories, also sidecar, art cane, and Dunlop, unpunctured; £15 the lot; trials any time.—1, Gascoigne Rd., Barking.

A BARGAIN, only wants seeing.—3½h.p. Clyde, fast, powerful, reliable, Bosch magneto, B. and B. carburetter, Palmer tyre, plate and enamel like new, Lucas lamp, horn, bag, stand carrier, new motor saddle; sacrifice £12 12s.—12, Market Sq., Horsham, Sussex.

5 h.p. 1908 Twin Vindec Special, complete with Montgomery Modele de Luxe sidecar, new Michelin non-skid tyre on back wheel, engine in thorough order, new pistons, sidecar only used twice; cost £69, price £35 complete; trial by appointment.—Jarvis, Moreton Av., Harpenden.

TRIUMPH, 3h.p., B. and B. handle-bar controlled carburetter, Continental tyres, with Rich's detachable air tubes, only punctured once, two rim brakes, acetylene head lamp, horn, tools, and all accessories, little used, and in excellent condition; £20.—Burton, 150, High St., High Barnet. Phone, 250, P.O., Barnet.

CROYDON.—Motor cycles to suit all from £4 upwards; several powerful machines suitable for sidecar work; new Humber, two speeds, ready for delivery, Clincher studded tyres; new Arno, most comfortable machine; trials arranged; twin Minerva, magneto, with sidecar, cheap, second-hand: Quadrant, 3h.p., grand condition, £10, or near offer.—Moore's Presto Wks., Tamworth Rd.

MOTOR BICYCLES FOR SALE.

£16, must sell at once.—3½ h.p. Quadrant, spring forks, electric head lamp, Palmer cord, fitted with Mabon clutch, perfect condition, only ridden few miles since new.—Brown, ironmonger, Grand Parade, Haringay.

4½ h.p. Minerva Twin (October, 1908), spring forks, magneto, Amac handle-bar controlled carburetter, stand, carrier, spare petrol tank, tools, spares, headlight, horn; £28.—Eastern Garage, 418, Romford Rd., Forest Gate.

2½ h.p. Brown, vertical engine, just been overhauled, £10 10s.; 3½ h.p. Excelsior, M.M.C. engine, take sidecar, £10; 1½ h.p. Minerva-Quadrant, long bars, low position, perfect order, £5; 2½ h.p. J.A.P., light and low, very reliable, £10 10s.—128, High Rd., South Tottenham.

TRIUMPH, late 1908, magneto, machine almost new, very little used, Clincher tyres, rubber studded, unscratched, and unpunctured, Triumph adjustable pulley, handle-bar control, full kit tools, three note horn, brand new spare belt, everything of the best, fast and powerful, climb anything; any trial or examination; sacrifice 35 guineas; appointment.—101, South Norwood Hill, S.E.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

3½ h.p. Humber, 1909, two-speed, little used, perfect condition; £39 cash.—Senior, Holsworthy, Devon.

TRIUMPH, late 1907, little used, perfect condition, Clincher stud, spares; £25.—26, Union Rd., Exeter.

3½ h.p. Rex, spring forks, Longuemare, new tyres, perfect working order; £14, or nearest.—Radford, Pitt Farm, Uffculme.

4 h.p. Twin Presswell, £15; forecarriage, £3; together or separate, excellent condition.—2,984, *The Motor Cycle Offices*, Coventry.

3½ h.p. Riley, in good running condition; owner naval officer, ordered abroad; quick sale desired, £12, or near offer.—Veals, Waterloo St., Weston-super-Mare.

DOUGLAS 1909 2½ h.p. Lightweight, magneto, spring forks, self-sealing tubes, horn, spares, absolutely as new, not done 50 miles; any trial; £31 10s.—Moffat, 5, High St., Yeovil.

ROC, 4 h.p., free engine, two-speed gear motor cycle, new Palmer tyres and tubes, fitted spring forks, magneto, Military Model, property of a gentleman, machine is in perfect running order, and is a reliable one, £30, or near offers; 3½ h.p. Riley motor frame, tanks, wheels, tyres Palmers, complete, less engine, £4 10s., or offers.—Apply, Western, Uffculme, Devon.

SECTION X.

Scotland.

£14.—Rex, 3½ h.p., spring forks, and seat, two accumulators, Palmer tyre, almost new.—Gudgeon, Netherby, Ayr.

3½ h.p. Wolf, Amac H.B. carburetter, spring forks, low, splendid condition.—D. Scott, South Woodend, Castle Cary, N.B.

6 h.p. N.S.U., and sidecar, two-speed gear and free engine, also spares, including two tyres, all in first-class condition; will exchange with light machine and cash; trial given.—Wilson, Salsburgh, by Holytown, Lanarkshire.

5 h.p. Twin, Sarolea engine, Chater-Lea frame, Roc clutch, two-speed and free engine, together with Montgomery Model de Luxe flexible sidecar, bicycle in excellent condition, sidecar new; would be sold together or separately.—Can be seen by appointment at Helensburgh. Price £39.—No. 5,071, *The Motor Cycle Offices*, Coventry.

SECTION XI.

Ireland and Isle of Man.

2½ h.p. Peugeot Motor Cycle, Chater-Lea frame, £8; also twin 3½ h.p. Peugeot engine, with carburetter, and coil, £5.—Hadley's Garage, Donnybrook, Dublin.

TRICARS FOR SALE.

8-10 h.p. Rexette, two speeds, twin wheel, perfect order; £34.—255, Earlsfield Rd., Wandsworth.

4½ h.p. Rover Tricar, two speeds; best offer accepted; must be sold.—3a, Bridge St., Cambridge.

6 h.p. Litette, two speeds, Palmers, Michelins, first-class order; £35.—39, Hillfield Park, Muswell Hill.

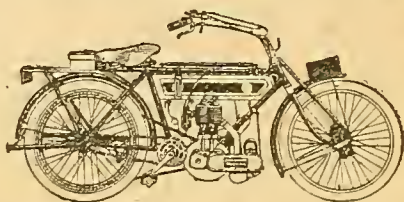
TRICAR, in excellent condition, to be sold; no reasonable offer refused.—Moor View, Barton Rd., Torquay.

6 h.p. Triette, 2-cyl., Clinchers, very fast, and new condition; £22 10s.—Sidney, 852, Garratt Lane, Tooting.

TRICAR, 4 h.p., magneto, two speeds, wicker seat, free engine; £25.—Taylor, 4, White Horse Lane, Stepney, E.

3½ h.p. Runabout for one, wheel steering, open frame, handle starting; £12.—128, High Rd., South Tottenham.

TWO Bargains.—4 h.p. Humber Tricar, two speeds, w.c., tyres good order, £16; 5 h.p. Rexette, two speeds, w.c., coach-built, tyres good order, £22 10s.—17, Milnrow Rd., Rochdale.

A Sign of the Times.**LARGE SALES OF**

the 3½ h.p.

Bradbury

And an unmistakable sign of the times, too. It shows that motor cyclists want the best, and, what is more, that they will have the best.

RECOMMENDATIONS

of users are the most frequent means of making sales, for when a man finds a good thing he is not slow to talk about it. Ask any rider of a **BRADBURY** what he thinks of his motor.

The **BRADBURY** is simple to control, and with a minimum of attention it will do everything a motor cycle should, and a good deal more than many are capable of.

You can put a **BRADBURY** 3½ h.p. at the stiffest hill, and it will surmount it with ease.

Send addressed envelope for the Bradbury Motor Booklet, giving hints to riders, and particulars of the Best British Built Motor Cycle.

Bradbury & Co.

Ltd.,

Oldham.

AWARDED 18 GOLD MEDALS.

TRICARS FOR SALE

PHENIX 5-6 h.p. Tricar, latest, coach-built, quick sale, £35.—Cochrane, Victoria Chester.

SELL or exchange for good motor bicycle car, almost new.—Jones, Garage, Be Hillhead.

1908 Rex Litette, 6 h.p. twin, water-cooled, two speeds, as new; £35.—406, G Wandsworth.

TRICAR, 5 h.p., water-cooled, magneto, 1908, splendid order; £30.—Dr. Blomfield, bridge, Sussex.

5 h.p. Water-cooled Tricar, in splendid condition, good hill-climber; sacrifice.—St., Gloucester.

3½ h.p. Excelsior Tricar, in perfect condition; gain; trial given.—Atkinson, 50, Lea Clapham Common.

3½ h.p. Minerva Tricar, very powerful, condition, new tyres; £16 16s.—99, Rd., Dalston, N.E.

4½ h.p. Minerva, twin, Trimco, coach-built, tyres, fine touring machine; £19 10s. Rd., South Tottenham.

3½ h.p. Raleighette, two speeds, water-cooled, car tyre back, new front tyres; £2 wheelwright, Stockport.

QUADRANT Carrette, 6 h.p., wheel speeds, splendid order; £20.—No. 2,984 *Cycle Offices*, Coventry.

5 h.p. Humber, open frame, two speeds; lightweight.—Hollinghurst, Castle Hill, Colnbrook, Bucks.

9 h.p. Riley, three speeds and reverse, no all wheels, perfect order; £35.—Maud Portland St., London, W.

PHENIX Trimco, 4 h.p., two-speed, machine, £30, offers; going abroad. Hampton Rd., Teddington.

5 h.p. Tricar, three speeds, perfect condition, rug, apron, etc.; £18, lowest.—Apply 35, Mosley St., Manchester.

SOCIABLE Tricar, seats side-by-side, hood and all accessories, cheap.—M. andra Rd., Hampstead, N.W.

REX, Tricar, 6 h.p., twin, almost new, back, Palmers, lamps, spares; any offer.—50, Crown St., Lowestoft.

3½ h.p., coach seat, free engine, H.B. Shamrock, excellent condition; £1 —68, Wellington Rd., Stockport.

6 h.p. Twin Rex Tricar, two speeds, chassis fitted new cylinders and pistons, perfect sold at once.—10, Old Town, Clapham.

SEVEN Tricars and three cars for sale, changes with magneto motor cycles, Halifax Motor Exchange, Westgate, Halifax.

8 h.p. De Dion Tricar, bucket seats, machine, Lea open frame, wheel steering, two speeds; £20.—Storey, Bridge St., Cambridge.

3 h.p. Quadrant Light Tricar, to seat of borne four-speed gear, excellent condition, tyres.—Hobbs, Christ Church St., Frome.

6½ h.p. Aster Ribble Tricar, two-speed, 6 tyres, Dunlops, absolutely perfect £35 10s.—69, Loughborough Park, Brixton.

5 h.p. Water-cooled Tricar. £25; two pistons, 6s.; engine, switchboard, dynamo wanted.—1, Hills Place, Ruspur, Horsham.

WHITE and Poppe, 4 h.p., water-cooled, wheel steering, car controls; £20; a bicycle.—V. Smith, 1, Burnham Terrace.

4½ h.p. Rover Tricar, free engine, two speeds, drive, water-cooled, coach front, complete trial; £25, no offers.—95, St. George's.

RALEIGHETTE, 6-7 h.p., just fitted 70 lbs, back steel studded; £48; motor cash adjustment.—103, King Edward Rd., London.

TRICAR, as new, 7 h.p., coach-built, climb anything; £30, or closest cash as part; 50 mile trial.—139, Balaam St.

8 h.p. De Dion, open, 780 by 90, wheel levers, buckets, new condition; great powerful bike part exchange.—479, Greeningay.

6 h.p. Rexette, wheel steering, water-cooled, studded tyre on back, two speeds, a bargain, 25 guineas.—The Royal George, New Rd., S.E.

SPLENDID Riley Tricar, 1908 design, and gearing perfect, Grose tyres, G accumulators; price 50 guineas.—Motor Rd., Liverpool.

3½ h.p. Rover Tricar, free engine, machine, absolutely perfect, thoroughly reliable hill-climber; £20; motor cycle part payment, Bridge Rd., Leyton.

QUADRANT Carrette, 6 h.p., coach-built, condition throughout, new tyres, open steering, free engine, two speeds; £22 Coleman St., New North Rd., N.E.

TRICARS FOR SALE.

car, 5-h.p., 2-cyl., splendid condition; any
—Vernick, 244, High St., Lewisham, S.E.

3½ h.p. Tricar, free engine, handle starting,
class, reliable, first-class condition from tyres
splendid hill-climber: 19 guineas.—17, Ken-
mare St., Hackney, London.

Tricar, free engines, two speeds, 1907;
over £100; air-cooled, excellent condition, Pal-
myres front, non-skid back, 650 by 65; 30
men, 26, Spital St., London, N.E.

Rexette, 2-cyl., water-cooled, very fast and
ful, torpedo body, seats three, excellent con-
test trial and examination courted; seen any
—M., 170, Queen's Rd., Peckham.

p. twin Rex Triette, four speeds, handle
g, steel non-skid back tyre, just thoroughly
in splendid working order; trial by appoint-
sell.—66, Grand Parade, Haringay.

Ribble Tricar, 4½ h.p. White and Poppe en-
two speeds, coach-built, wheel steering, paint-
polished to match, tyres all as new, in good
ler; £30, or good motor cycle and cash.

Humber Tricar, 5h.p., w.c., open frame,
steering, two speeds, coach-built, painted
polished to match, Palmyres to front, car tyre
as new; £30, or good motor cycle and cash.

5h.p. Twin Rex Tricar, footboards, enamel-
am, tyres all as new; a bargain, £18, or
and cash.

Trimo, coach-built, 3½ h.p., two speeds, new
Palmer cord rear, spare covers, tubes, lamps,
all accessories; £30.—Apply, letter, J. Miller,
Brockley Rd., or 80, Shaftesbury Av., W.

a, under 2 cwt., three new Shamrock studded
butt tubes, unpunctured, new Advance pul-
hittle belt, in perfect running order; buying
No. 2,919, The Motor Cycle Offices, Coventry..

—4½ h.p. tricar, coach-built, free engine, two
climb any hill, tyres nearly new; or ex-
good motor bicycle and part cash, smart
farm stock.—Westley, 10, Hales St., Cov-

Chater-Lea, open frame, and two-speed gear,
ir engine, 4½ h.p., chain drive, three band
sprung, footboards, in first-class order; £15,
ar offer.—20, Pickering Place, Westbourne

complete, less engine, Chater open frame,
ards, tyres brand new, splendid upholstered
e brakes; can be ridden anywhere within
offers.—Letters, 247, Sayer St., New Kent

green enamelled, coach-built, 4h.p. water-
ed De Dion, Oppermann three-speed, new
ains, special Dunlop back, first-class order;
or motor cycle and cash.—Rouse, Wellington

nger Touring Tricar, twin-cyl., water-cooled,
built throughout, R.O.M. contact, car tyres,
red tread on back, three speeds and reverse,
£33, or near offer, cost over £100.—8, Vesey
gham.

made by Chater-Lea, 6h.p. J.A.P. engine,
cooled, coach-built seat, voiturette tyres, 28
y fitting of the best, guaranteed in perfect
cost more than double.—Plumpton, 88, Guild-
ury St. Edmunds.

vin, water-cooled, Stevens engine, wheel steer-
Chater-Lea fittings throughout, three speeds
R.O.M. contact, several spares condition as
Os., or exchange 2-seater car, cash adjustment.
um, Studley Rd., Luton, Beds.

Cent. Reduction on following new machines:
ette, with free engine clutch, Zenette fixed
per cent on Zenette Gradua gear and Zenith
J.A.P.; second-hand 1908 Zenette Gradua
when new), take £30, excellent condition.—
tors, Ltd., 1, Church St., Weybridge.

FE, 8h.p., two speeds, water-cooled, seats 3,
ed Napier green (unscratched), upholstery
w Kempshall cover and tube on back, two
s, one tube, spare accumulator, new coil,
h basket, three lamps and horn, spares, jack,
splendid running order; £45.—Chadwick,
Wem, Salop.

OME 6-8h.p. Coach-built Tricar, two speeds,
o-syphon water-cooled, 9in. clutch, chain drive,
ng, handle starting, everything built precisely
sed steel frame (Chater Lea throughout, built
l from 4 m.p.h. to 35 m.p.h., climb any hill,
es; trial with pleasure; expert examination;
£—Motor, Clifton Buildings, Worship St.,
C.

ECARS AND FORECARS.

Y Sidecar, good condition; £3 10s.—Browne,
zywater, Waltham Cross.

IOR Forecar, 3½ h.p.; bargain, £10, no offers.
Bedford, 86, Basingstoke Rd., Reading.

R, 26in. wheels, good tyres, and nicely up-
red, basket; £3 15s.—1, Gascoigne Rd., Bark-

ne Forecarriage, enclosed brakes, 26 by 2½
ers, lamps, footboards, toolbox: cost £20
£6 10s.; sidecar part payment.—Stokes, 184a,
St., Nottingham.

LOWEST PRICES

ALWAYS OUR MOTTO.

M M M

BRADBURY, 1909 model, magneto, spring forks, practically new, not done 200 miles	£26
ROVER, 3 h.p., low built, handle-bar control, smartly enamelled, in splendid condition	£14
MINERVA, 4½ h.p., 1907 model, Longue-mare, 2½ in. Continental tyres, spring forks	£23
BAT, 3½-4 h.p., spring frame, footrests, 26in. wheels, low built, vertical, long bars	£15
BRADBURY, 1908 model, latest Bradbury spring forks, in Ar condition throughout, only done about 500 miles, will climb anything	£25
MINERVA, 3½ h.p. vertical engine, 26in. wheels, spring forks	£16
REX, 3½ h.p., 1906 model, spring forks, spray, good order throughout	£15
ALCYON, 4½ h.p., twin Minerva engine, spring forks, very good condition	£17
TWIN REX, 5 h.p.; spring forks, low built, aluminium finish, splendid condition	£17
QUADRANT, 3 h.p., spray, spring forks, good tyres, etc.	£10
MOTO-REVE, 2 h.p., 1908 model, twin-cylinder, spring forks, perfect order ..	£25
HUMBER, 2 h.p., spring forks, spray carburettor	£9
RIP, 3½ h.p., Peugeot engine, spring frame, Longue-mare spray carburettor, footrests, low built, unscratched	£18
RILEY, 3½ h.p., 26in. wheels, spray, trembler, low built, long bars, etc.	£14

TRICARS,
REXETTE Tricar, 8-10 h.p., two speeds and reverse, open frame, water-cooled, perfect

£60/- deposit secures under-mentioned, balance 5/- weekly.

QUADRANT, 2 h.p., spray	£8
SINGER, 2 h.p., magneto	£6
BARTER, 2½ h.p., geared pulley	£6
PHENIX, 2½ h.p., J.A.P. engine	£10
LLOYD'S, 2 h.p., vertical	£8
WERNER, 2 h.p., 26in. wheels	£6
MINERVA, 1½ h.p., coil and accumulator ..	£5
EXCELSIOR, 2½ h.p., spray	£8

We carry an exceedingly large stock of new and second-hand motor cycle accessories at London. Prices lowest.

90/- Beautiful Forecar Attachment, 90/-
26in. wheels, Dunlop tyres.
£6 Forecarriage, PHENIX, practically new, 1909 model, not ridden above fifty miles

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Combined Tube and Belt Carriers	7/6
F.R.S. Lamp, brand new, bargain	£1
Mudguards, 4in., well finished (per pair) ..	3/6
Mudguards, 3in., well finished (per pair) ..	2/11
Trinote Horns, best quality plating	7/3
Treble Twist Horns, very noisy	6/6
Hella Searchlights, best plating, separate generators, divided glasses	16/9
Long Handle-bars, best quality (per pair) ..	5/6
Rex pattern ditto, dropped ends (per pair) ..	6/6

We have special facilities for the repairing of magnetos at London. Best work. Moderate charges.

CLINCHER TYRES.

31/6 FOR 25/-	
Genuine { 26 x 2½ in. } Clincher studded	
{ 26 x 2 in. } Covers.	
Maker's price, 31/6	Our price, 25/-
All brand new 1909 goods, and in no way faulty or perished.	APPROVAL.
Tubes with valves, Red quality, 5/6; Grey, 6/-	
Large Stock CONTINENTAL TYRES.	
Good Allowances on Old Covers.	
High-class Motor Cycles Wanted for Cash.	

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Telegrams: "Petrol, Halifax."
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SIDECARS AND FORECARS.

LIGHT Sidecar, 26 by 2, left side, wicker body; £3 10s.—Chivers, Lyte St., Cambridge Heath.

CORONET Sidecars, £4 17s. 6d., supplied from stock to suit any make of motor cycle.—Booth's Motories, Halifax.

CORONET Sidecars, £4 17s. 6d., comfortable as a motor car; converts motor cycle into an ideal winter machine; superior to some £8 8s. makes.—Booth's Motories, Halifax.

SIDECAR, good condition, fit any frame, left side; lowest £3 12s. 6d.—Markham, 91, James Rd., Liverpool Rd., London.

SIDECAR, Montgomery flexible, good condition, suit Vindec; 7 guineas, or near offer.—Hinchliff, Sandfield, near Littlehampton

BIRMINGHAM.—Montgomery sidecar, right fitting, upholstered green, apron, 2½ tyre; £3 15s.—Hart, 44, Trafalgar Rd., Moseley.

MONTGOMERY Flexible Sidecar, 1909, good condition, fit either side; £6.—Bayne, Brownsville Rd., Heaton Moor, Stockport.

FITEASY Sidecars, for narrow doors, wholesale and retail.—Middleton and Co., Manufacturers, Watson St., Newington Green, London, N.

MR. AYRES, having been ordered abroad, wishes to sell his brand new Chater-Lea sidecar, delivered last month; £6 6s.—36, Trollop St., Battersea, S.W.

FORECAR, by Mills-Fulford, good condition, coach-built, new Peter-Union tyres, 26 by 2; £4, or exchange for sidecar.—K., 49, Fairfax Rd., S. Hampstead, N.W.

NEW Sidecars for any make of motor cycle, 24in., 26in., or 28in. wheel, smart, good delivery, from stock; approval; £4 17s. 6d.—Farrar, Square Rd., Halifax.

SIMPSON'S Sidecars are reliable, comfortable, elegant; entirely different to other makes; write us; our prices are right.—Orchard Mills, Belinda St., Hunslet, Leeds.

SIDECARS.—Best value in England; fitting free; inspection invited; prices, £4 15s. and £5 10s.; also second-hand price, £4.—C. A. Edgar, 123, Holloway Rd., London, N.

RIGID Sidecar, upholstered green, complete with apron, fit any machine, 26in. motor tyre, unpunctured, good as new; sacrifice £3 18s. 6d.—5, Powerscroft Rd., Clapton, London.

£12 12s. Sidecar, this year's model, only used twice, fitted with 26 by 2½ Clincher tyre, and built throughout with genuine Chater-Lea fittings; £6 8s.; take Sunbeam cycle in part.—F.W., 137, Broomwood Rd., Clapham Common, S.W.

RIGID de Luxe Sidecars. enamelled and plated, luxuriously sprung, everything of the best, fit any machine, 26 by 2½ tyres, £6; cheaper quality, £4 17s. 6d.; second-hand sidecars taken in exchange.—Halifax Motor Exchange, Westgate, Halifax.

AREN'T You glad the summer's come at last, but don't be selfish. Take the wife or your best girl out now in an Oakleigh sidecar. If you haven't either borrow someone. The price is only £5, and we use genuine Chater-Lea fittings. We don't sell our sidecars from private houses. Be careful of the people doing this. Come and see us at once. Second-hand sidecars £3 18s. 6d.; trailers, £1.—Oakleigh Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

MOTOR TRICYCLES.

3 h.p. Automotor, De Dion frame, excellent condition; best offer.—Letters, Motor, c/o Barrett, Parade, Brentwood.

MOTOR Tandem Tricycle wanted; exchange portable greenhouse, or deferred payments.—Richards, Arragon Towers, Church St., Twickenham.

TRAILERS.

TRAILER, a really good one, well upholstered, nearly new; 45s.—Robinson, 9, Belrow Rd., Coalville.

QUADCARS.

6 h.p. Rochet, Aster free engine, two-speed, Bozier gear, in good running order; £25.—Dinger, 10, Paulton Sq., Chelsea.

CARS FOR SALE.

5 h.p. Light Car; £12; London district.—write, Wotton, Eastchurch, Sheppey.

5½ h.p. Humberette, two speeds, re-upholstered and painted, good condition.—17, Milnrow Rd., Rochdale.

4-SEATED Car, 2 cyls., 8-10h.p., good going order; £20, bargain.—Robinson, 9, Belrose Rd., Coalville.

2-SEATED Car, buckets, 6h.p., three speeds and reverse; trial given; £16.—66, High St., St. John's Wood.

BARGAINS!—Sunbeam-Mabley car, less engine, £4 10s.; quad, less engine, £2 10s.; Rotax 2-cyl. car coil, 10s.—R. Nye, 83, Drewstead Rd., Streatham, London.

6½ h.p. De Dion-Regal Car, detachable dickey, abso-
lutely perfect and new condition, now repaint-
ing; £38; write for particulars.—Regal, 1, Bedford Rd., Clapham.

CARS FOR SALE.

PALMER.—12h.p. Duryea, 3-cyl., epicyclic gearing, two speeds, reverse, good running order; £20.

PALMER.—8h.p. De Dion, 5-seater, two speeds, reverse, expanding clutches, engine under bonnet; £30.

PALMER.—8h.p. Regal, tonneau, 5-seater, three speeds, reverse, good all through; £35.

PALMER.—12h.p. M.M.C., tonneau, 2-cyl., three speeds, reverse, 810 by 90 tyres, splendid condition; £40.

PALMER.—12-16h.p. Panhard delivery van, 4-cyl., four speeds, reverse, solid tyres, very strong; £65.

PALMER.—18a.p. Prunel landaulet, 4-cyl., M.O.V., direct top drive, in magnificent order; £125.

PALMER.—40h.p. Lorraine-Dietrich, 4-cyl., magneto, splendid latest type car, do over 60 m.p.h.; £325.

PALMER.—12-14h.p. Humber, 4-cyl., tonneau, seats five, raked steering, push pedals; £85.

PALMER.—10h.p. Panhard, limousine, seats six, Centaure engines, four speeds, reverse; grand bargain, £100.

PALMER.—16-22h.p. Germain tonneau, Roi des Belges, 4-cyl., M.O.V., Cape hood; £110.

PALMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen, six lamps; £145.

PALMER.—6h.p. Ridley, 2-seater, single cyl., two speeds, in splendid condition, slow but sure; bargain, £29.

PALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208. Streatham. Cars seen here any day. Thursday and Sundays before 2. Photos, details, per return. Easy terms arranged; exchanges entertained.

12-14h.p. Car, 4-cyls., detachable tonneau; £55; take tricar, motor cycle part.—20, Potternewton Lane, Leeds.

8h.p. M.M.C., three speeds and reverse, artillery wheels, comfortable-light car; £25.—128, High Rd., South Tottenham.

5h.p. Gladiator, 2-seater, hood, screen, bonnet, Dunlops, good order; cheap, £37.—204, Heythorpe St., Southfields.

7h.p. Car, two seats, three-speed and reverse, De Dion engine, new tyres, good condition; £30.—Waite, Burgh, Lincs.

5½h.p. Oldsmobile, new back tyres, A1 order; no reasonable offer refused.—Write, 2, Ullswater Rd., Palmers Green.

8h.p. Argyll, detachable tonneau, recently thoroughly overhauled and repainted, perfect; £35.—10, Old Town, Clapham.

12-14h.p. Darracq, three speeds, reverse, 4-seater, tonneau, excellent condition; 55 guineas.—26, Spital St., London, N.E.

HUMBERETTE, Beeston, three speeds, lamps, spares; £30, or motor cycle and cash.—220, Spring Bank, Hall.

6-8h.p. Darracq, splendid condition, small detachable tonneau; offers, or exchange two-speed twin cycle.—Frisby's, Wells, Som.

M.M.C., 6-8h.p., 2-seater, three speeds, reverse, artillery wheels, splendid order; cheap, £26.—406, Garratt Lane, Earlsfield.

9-11h.p. Peugeot, 2-cyl., three speeds and reverse, 2-seater, new tyres, perfect order; bargain, £50.—128, High Rd., South Tottenham.

£25.—Oldsmobile, 5-6h.p., 2 or 4-seater, 650 by 65 Dunlop tyres, in perfect running order; a bargain.—80, Mitchell St., Rochdale.

14h.p. Blake, 4-cyl., tonneau, three speeds and reverse, steel frame; any trial; perfect; £67 10s.—Sidney, 852, Garratt Lane, Tooting.

14h.p. Simms, 4-cyl., magneto and coil ignition, side entrance, Cape hood, wind screen, tyres very good; £100, or near offer.—See below.

15h.p. Darracq, magneto and coil, side-entrance, detachable limousine top, tyres good; £100.—See below.

BABY Peugeot, 5h.p., 2-seater, in good running order; £27.—Sevenoaks Motor Co., Tulse Hill, Sevenoaks.

12-16h.p. Darracq, 2-cyl., three speeds and reverse, tonneau, five-seater, smart car; £50, great bargain.—128, High Rd., South Tottenham.

8h.p. Orel, 2-seater, three speeds and reverse, gate change speed, bucket seats, equal new; £50, extraordinary bargain.—28, Woodbridge Rd., Ipswich.

£17.—6h.p. Sirene 2-seater car, 2-cyl., three speeds and reverse, cardan drive, perfect order, or exchange.—Jones, Albion Saw Mills, Down Place, Hammersmith.

10h.p. 2-cyl. Prunel, seats four, Krebs carburetter, Dunlops, hood, lamps, etc., a thorough good touring car; must sell; £55.—9, Parkholme Rd., Dalston.

6h.p. Rover, late 1907, 2-seater, with third detachable seat, new tyres, heaps of accessories; £80; perfect condition.—Campbell, White Hart Hotel, Bromley, Kent.

O.T.A.V.—Several shop-soiled and second-hand, 5h.p., latest pattern; prices complete from £50 to £85.—Long Acre Autocar Co., 117, Long Acre, 5011 Gerrard.

LEEDS.—4h.p. De Dion, 2 or 4-seater car, two speeds and reverse, wheel steering, tyres all good, first-class running order; £24.—Leeds Motor Exchange, 28, Dock St.

THE VERY BEST

at the lowest possible price is what I supply.
Try for yourself.

HIGH-CLASS MACHINES WANTED FOR
SPOT CASH, 1908 and 1909 models.

LOOK AT THESE.

RELIABLE SINGLES.

1909 VINDECS from	£48 10
1909 Two-speed HUMBER (New)	39 gns.
1909 4h.p. N.S.U. DE LUXE, NEW	£39 0
1907 3½ h.p. Magneto ROC	£27 10
2½ h.p. MINERVA, handle-bar control	£12 15
3½ h.p. N.S.U., spring forks, magneto	£19 19
3½ h.p. WERNER, used with sidecar	£13 10
2 h.p. TRIUMPH-MINERVA, spray	£9 10
3½ h.p. REX, spray, vertical engine	£9 10
3 h.p. LLOYD'S, low frame, 26in. wheels	£13 10
3½ h.p. light, low REX	£12 10
2 h.p. MINERVA, M.O.V., spray	£8 0
3½ h.p. REX, John-o'-Groat's model	£10 10
4 h.p. ANTOINE, very powerful mount	£16 0
3 h.p. REX, long bars	£7 15
2½ h.p. ANTOINE, trembler, long bars	£9 10
1906 3½ h.p. REX, spring forks, long	£15 10
3½ h.p. ROVER, M.O.V., spray, Palmers	£13 10
2 h.p. RALEIGH, splendid condition	£7 10
2½ h.p. BUCHET, spray, long bars	£9 10
3½ h.p. ARIEL, vertical, M.O.V.	£15 15
1906 3½ h.p. REX, spring forks	£14 10
1907 3½ h.p. N.S.U., two-speeds	£21 0
1908 3½ h.p. Magneto MINERVA, spring forks	£23 10

£3

deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

TOURIST TROPHY WINNERS.

1909 Twin ROC, two speeds	£57 15
1909 Twin VINDEC	£64 0
Four-cylinder F.N., 1908 model	£27 10
1908 Twin REX DE LUXE	£32 10
Twin REX DE LUXE, Roc clutch	£27 10
6 h.p. Twin ANTOINE, ROM	£16 0
5½ h.p. Twin REX, spring forks	£17 17

BROWN AND BARLOW and AMAC Carburetters, with handle-bar control. B. and B., 30/-; Amac, from 29/-. Exchanges promptly made from stock.

£6

TOP-CLASS SIDECARS to suit all makes. Beautifully plated, enamelled, and upholstered; to suit right or left side; three-bolt fastening, 2½" best make tyre

MISCELLANEOUS.

Three-note Horns, shift a "Loco"	8/-
The Latest in Headlights	16/6
The Latest in Magneto Cut-outs	2/-
Lever Belt Punches	2/3
Screw Belt Punches	1/6
Roc Conversion Set (Triumph)	£9 17 6
SYRENS—"What a shriek"	6/11
Second-hand XL'ALL Spring forks	11/6
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MINERVA Spring forks, as new	£1 17 6
COWEY SPEEDOMETER	£4 4 0
New XL'ALL Spring Forks	17/6
Swan-neck Seat-pillars	4/-
Separate Generator Headlights	8/6
Rex Pattern Handle-bars, heavy gauge	6/6
Enamelled Mudguards, complete with stays:	
3in. 2/11, 3½in. 3/6 per pair.	

100 GUARANTEED E.I.C. ACCUMULATORS;
20-hour 7/6, 25-hour 9/6, 50-hour 17/6.

England's Best Rubber Canvas Belting, with fastener.
¾in. 9d., 1in. 10d., 1½in. 1/-, 2in. 1¼ per foot.

NEW COVERS, all sizes	19/6
SPECIAL—NEW 26 x 2 COVERS	12/6
TUBES, 4/11 each. 26 x 2½	13/6

GERALD COLLIER,

37, Park Cross Street,

(Facing Town Hall.)

LEEDS.

CARS FOR SALE.

ECLIPSE.—20-32h.p. Darracq, two ignition body, canopy, two screens, perfect;

ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., trance, splendid order; £95.

ECLIPSE.—12h.p. National, 3-cyl., 2-seater, good condition; £45.

ECLIPSE.—6h.p. Siddeley, 2-seater, frame, splendid order; £52.

ECLIPSE.—10-12h.p. J.P., 2-cyl., side chassis, hood, perfect order; £80.

ECLIPSE.—6h.p. Swift-De Dion, 2-seater, hood, excellent condition throughout

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., excellent condition; £65.

ECLIPSE.—6h.p. Vauxhall, 2-seater, three speeds, reverse, very good condition; £18.

ECLIPSE.—14h.p. Forman, 4-cyl., pressed steel frame; bargain, £105.

ECLIPSE.—10-12h.p. Gnome landaulet, side, splendid order; £92 10s.

ECLIPSE.—9h.p. tonneau car, 1-cyl., ring order; £25.

ECLIPSE.—6h.p. Humberette, 2-cyl., good little runabout; £22 10s., bargain.

ECLIPSE.—7h.p. Pope-Tribune, 2-seater, Engineering and Motor Co., 255, Wandsworth. Phone, 1135 Putney.

28h.p. Delannay-Belleville 7-seated Tourer, hood, wind screen, all accessories, in perfect condition; £400.—Box L5,942, The Motor 20, Tudor St., E.C.

18-24h.p. Milnes-Daimler Car, magneto, six, just overhauled, detachable to 2-seater in exchange, or good motor cycle. Edwards, Towcester.

6h.p. Car, thoroughly reliable, smart, 1908, 2-seater; no reasonable cash offer, change entertained for high powered 4-cyl. car, 137, St. Giles Rd., Derby.

RILEY Car, 9h.p., 1908, with detachable wheel complete, hood, four lamps, R light, tools, spares; any trial or examination. Flower, 56, East St., Baker St., W.

BARGAINS.—12h.p. Darracq, 5-seater, De Dion-Prunel, 2 or 4-seater, £85; 6 h.p. ette, £39; all in splendid condition; examinations.—Wernick, 244, High St., Leamington.

14h.p. Buchet, 4-cyl., three speeds and axle, tonneau body, coil ignition, good running order, tyres very good, 810 and spares; £55 for quick sale.—Lieut., Sevenoaks.

8-10h.p. Progress Car, 2 cys., three speeds, really good condition, smart little climber; take good 2½ or 3h.p. motor cycle, or sell £65.—Tullis, c/o Williams, Lancashire.

4-SEATED Car (Decauville), 2-cyl., cardan drive on top, four speeds and reverse, grooved tyres, two spare covers, non-skid plate with lamps, in perfect running order and tried any time during the next two weeks. Rochester Rd., Earlsdon, Coventry.

1908 6-7h.p. Laurin and Klement (more), 2-cyl., magneto, thermosyphon, new, little used (by myself only), smartest, reliable 2-seater on the road, hood, spare nearest offer; good allowance for motor cycle.—Stanton, 619, Lea Bridge Rd., Leyton.

INSURANCE.

PLEASE Send for full covering Motor Cycle Insurance from 18s. 6d. per annum.—Bass, 11, Ongar.

INSURANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance Broker, 28, 6d.; third party, 7s. 15s.; please write for particulars.

LOST AND FOUND.

CAMERA Lost on Sunday, August 8th, 1908, Sussex; finder rewarded.—19, Lessing Common.

FINANCIAL.

R.O.M. Tyre Shares.—50 £1 fully paid preference shares for sale at 45s. each, or would sell part. The increasing reputation of the company's tyres is phenomenal, and, with a small capital of the company, the shares are worth a much bigger price by the time they are sold.—Letters to D., 14, Dysons Rd., Upper Middlesex.

BUSINESSES FOR SALE.

THRIVING Cycle and Motor Business, good living profits, country market, whole concern £120, or offer; part purchase if desired.—Particulars, 96, Ridgway Gate, London.



THE MOTOR CYCLE



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ADDRESS—20, TUDOR STREET, LONDON, E.C.

Hotel Accommodation and Charges.

ONE of the oldest motor cyclists in this country, and probably one who has toured on a motor cycle or car for as many miles as anyone we know, has just addressed a letter to us regarding the difficulty he experiences in finding hotels to suit his pocket. He says he finds all the R.A.C. and M.U. officially appointed houses too expensive for his means, and avoids them. He further adds that he thinks something should be done to enable motor cyclists who do not want the expensive class of hotel to be in a position to readily find in each town an hotel where the prices are moderate and the comforts equal to those obtainable at home. There is something to be said for our correspondent's grumble. The motoring bodies have certainly annexed all the best hotels in the country, and if one is not prepared to pay tip top prices it is often difficult to find suitable accommodation. Before the days of motor touring cyclists often experienced the same difficulty, and the C.T.C. came to the rescue, and fixed reasonable tariffs at many of the best hotels in the country. That tariff is still in existence, but in many towns the once well-known sign of a wheel and wings has been pushed out by the more ornate and imposing notices of motor clubs. Our friend makes a suggestion that in this lies a chance for the A.C.U. to distinguish itself by collecting information regarding hotels, inns, etc., and publishing it for the benefit of its members. Those who can afford top prices and want corresponding luxuries will, of course, continue to use the officially appointed houses of the R.A.C., etc., but we agree with the writer of the letter that there must be in every town and village well-

conducted hotels and inns where the motor cyclist would be welcomed and where the prices have not automatically ascended with the advent of the motor. We recommend the suggestion to the bodies which are endeavouring to attract motor cyclists to their ranks, and shall be glad to render any assistance which lies in our power. It ought not to be a difficult matter to collect the required information, as local clubs always know where suitable accommodation can be had.

The Use of the Carrier.

WE are sorry to notice a growing tendency to make use of the rear carrier for the purpose of carrying a passenger, and trust it will not become abused. The carrier was in nine cases out of ten never intended to support so heavy a weight as a passenger, neither is the practice likely to improve the machine. Except in the case of an expert rider, it is not over safe, and sooner or later an accident may take place, due to placing a heavy weight directly over the back wheel, which tends to upset the stability of the machine. In some cases, from what we have observed, the machine is thrown considerably out of balance, and consequently the steering is materially affected. It does not look nice to see two riders on a machine constructed to carry one, and always gives, to our mind, the impression of extreme insecurity and a certain amount of discomfort, although one who has tried it assures us that a motor bicycle is more comfortable to ride, owing to the extra passenger's weight holding the back wheel down. An occasional lift to a fellow rider in distress is often expedient, but we deprecate the use of carrier seats as permanent attachments on motor bicycles designed to carry one rider only.

The British Motor Cycle Racing Club.

FIFTH MEMBERS' MEETING.



THE inclement weather experienced last Wednesday came very near to spoiling the fifth of the pleasant members' meetings organised by that young and vigorous body, the B.M.C.R.C. Only two events figured on the programme, and so it was expected that the meeting would soon be over. But at 3 p.m., just when the energetic Reynolds had got everything into working order, the heavens opened and there fell

such a downpour as has not been endured even this wet season. After a little over half an hour the track was in such a condition that no racing could take place, and Reynolds was almost postponing the meeting. However, it looked finer to windward, and so tea was served, and at 4.30 the record time trials began. Though the rain had ceased the weather was cold, and a strong north-westerly wind was blowing, so that the conditions savoured more of April than August.

The men were started at the fork, and taking both the kilometre and mile together, passed through two posts between which were the contact strips at the beginning of each section, so that each man covered

Bentley, Rex Speed King, 82 × 89 mm., 472 c.c.; R. C. Griesbach, Triumph, 84 × 86 mm., 476 c.c.; O. C. Godfrey, Rex, 83 × 89 mm., 481 c.c.

Class D (for engines not exceeding 750 c.c.)—R. O. Clark, four-cylinder F.N., 55 × 57 mm.,



Francis A. McNab (a fifteen stone rider of a 3½ h.p. Trump-Jap) leading Evans and Wells on the two Indians in the hour race.

540 c.c.; L. C. Munro, two-cylinder N.S.U., 75 × 84 mm., 742 c.c.; W. H. Wells, two-cylinder Indian, 70 × 83 mm., 638 c.c.; G. Lee-Evans, two-cylinder Indian, 70 × 85 mm., 638 c.c.; G. C. Mead, two-cylinder V.S., 75 × 76 mm., 672 c.c.; M. Geiger, two-cylinder V.S., 75 × 76 mm., 672 c.c.; F. A. Applebee, two-cylinder Rex, 76 × 80 mm., 726 c.c. In this class a curious accident occurred to Munro. He was just about to enter the kilometre when his machine stopped. Thinking it was wet on the magnet (which was most unlikely, as he had protected this important piece of mechanism by means of a copy of the current issue of *The Motor Cycle*), he tried to restart, and after a few minutes discovered that a circular piece of metal had blown out of one of the inlet domes as cleanly as if punched out by a machine.

Class E (for engines not exceeding 1,000 c.c.) had only one supporter, W. H. Bashall, two-cylinder Bat, 85 × 85 mm., 964 c.c.

We hope to give the results on our late news pages.

In the hour race there were four classes. Class B, for lightweights, for engines not exceeding 344 c.c. Classes C, D, and E were the same as in the preceding event.

The starters were in Class B, Steeves and Dayrell, whose machines were supposed not to exceed 110 lbs. in weight. However, both scaled 125 lbs., so the donor of the special lightweight prize, Mr. A. J. Wilson, will be consulted as to their eligibility. In Class C the starters were W. O. Bentley, F. A. McNab (Trump-J.A.P., 85 × 85 mm., 482 c.c.), T. M. Loughborough



F. W. Dayrell (85 × 60 mm. Martin-J.A.P.), who covered 47 miles 1260 yards in the hour at Brooklands last Wednesday, winning Class B.

precisely the same distance. This event was divided up into four classes, and the participants were the following:

Class B (for engines not exceeding 350 c.c.)—D. F. Steeves, two-cylinder N.S.U., 52 × 74 mm., 314 c.c., and F. W. Dayrell, Martin-J.A.P., 85 × 60 mm., 340 c.c.

Class C (for engines not exceeding 500 c.c.)—W. O.

The British Motor Cycle Racing Club.—

(four-cylinder F.N., 50 × 57 mm., 448 c.c.), and R. C. Griesbach. In Class D, R. O. Clark, L.C. Munro,



Undoubtedly the best performance in the hour race was that of H. H. Bowen on a $\frac{1}{2}$ h.p. Bat-J.A.P., for he covered 59 miles 485 yards, beating all the twin cylinder machines.

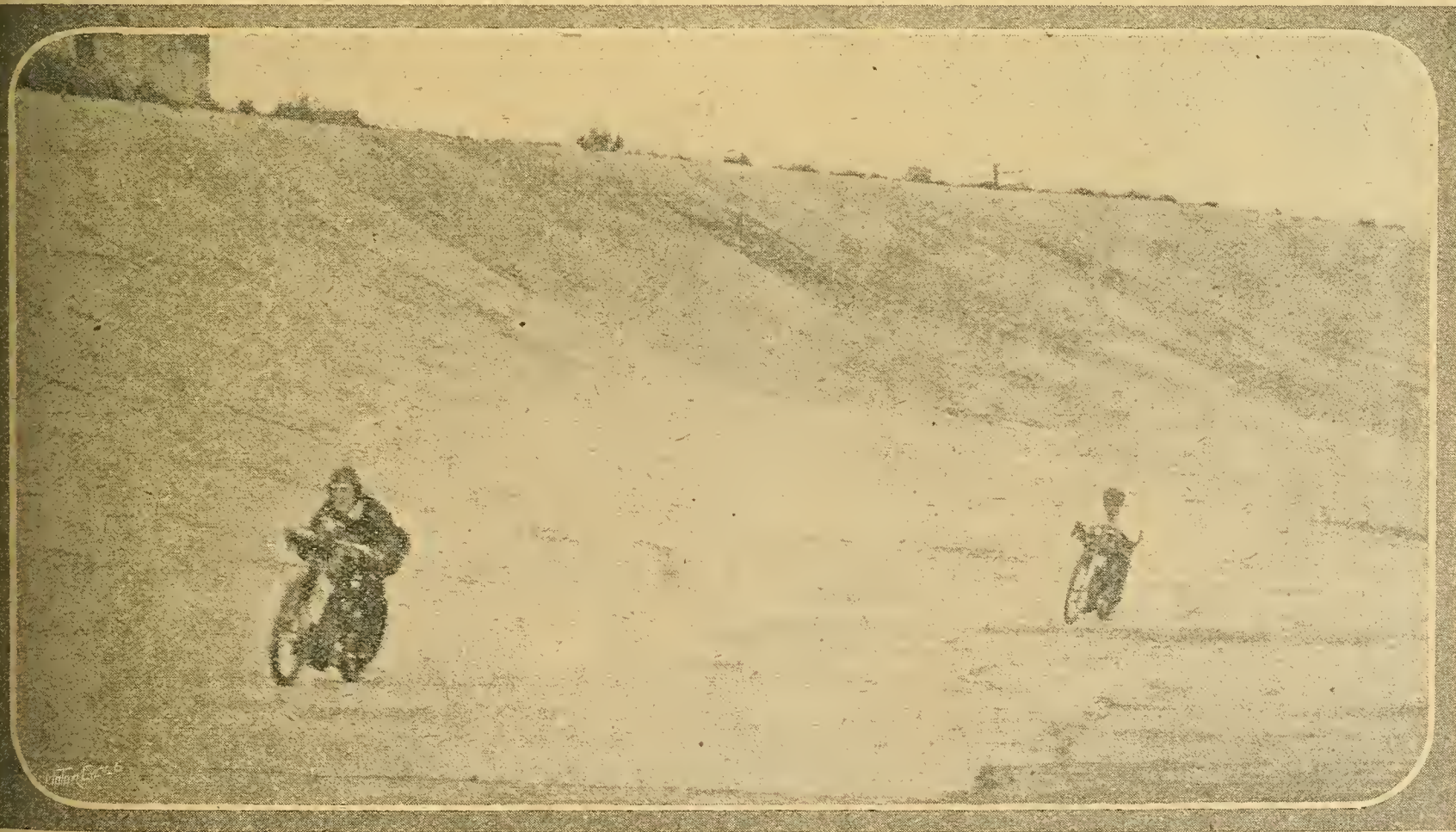
W. H. Wells, G. Lee-Evans, G. C. Mead, and M. Geiger. Class E, H. H. Bowen (one-cylinder Bat,

84.5 × 89 mm.), W. H. Bashall (two-cylinder Bat, 85 × 85 mm., 964 c.c.), and W. H. S. Sharpe (two-cylinder V.S., 80 × 95 mm., 952 c.c.) Except when otherwise stated, the machines were the same as those ridden in event No. 1.

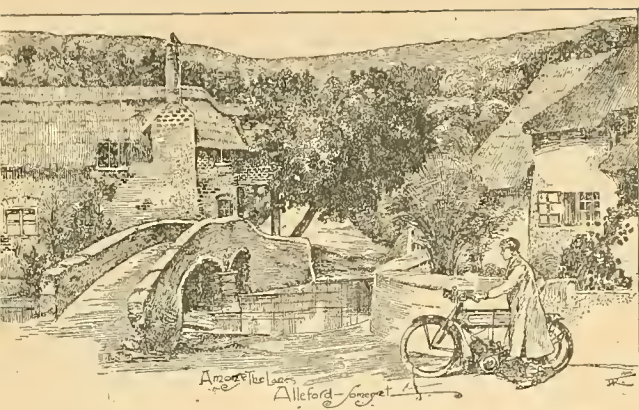
The start took place at 5.48 p.m. at the fork. All got off well, and at the end of the first lap Bowen was leading, pressed hard by Bashall, while the others went by in the following order—Evans, Wells, Bentley, Geiger, Clark, McNab, Sharpe, Mead, Munro, Griesbach, Dayrell, Steeves, and Loughborough. At the outset the struggle for first place lay between Bowen and Bashall, and for four laps Bashall led. Then Bowen shot forward and maintained the lead throughout, finishing in splendid form. Evans and Clark had a keen fight for second place, but Evans proved to be more successful than his rival.

Results: Class B.—Dayrell, 47 miles 1,260 yards. Class C.—Bowen, 59 miles 485 yards. Class D.—Evans, 56 miles 880 yards. Class E.—Bashall, 43 miles 1,300 yards. In Class C, the best previous performance was by McNab—48 miles 400 yards; in Class D, 49 miles 502 yards by Dee; and in Class E, Bashall, 55 miles 1,576 yards, which, as it will be seen, was not improved upon last Wednesday.

During the race, Munro, who had got over the trouble above referred to with the aid of a puncture repair patch and some rubber tape, stopped to shorten his belt; Griesbach broke his petrol pipe and Clark his oil pump, and Bentley ran out of oil. The latter rider had a pipe from the crank case of his engine to the inlet pipe between the throttle and the inlet valve, which drew in oil with the mixture from the crank case into the upper portion of the engine. This device he declares works extremely well.



W. H. Bashall and H. H. Bowen at speed. The first-named rider covered 43 miles 1,300 yards in the hour, which is 12 miles 276 yards less than on his last hour ride.



Long Distance .. Trial Riding.

By B. H. DAVIES.

SELDOM take part in the long distance trials of the present day for the simple reason that very rigid and complicated regulations have robbed them of their old sporting interest. I have to do things to the second on my working days, and when I take a holiday prefer to be my own master, and go as I please. But no man does more long distance riding as a matter of pure pleasure than I do. I never feel I have been out for a run unless my route carries me well into three figures, and my ideas of motor cycling are very widely removed from the fifty-mile "potters," with a long stoppage for tea and frequent brief stoppages for other refreshments, which pose as "runs" on the programmes of one or two clubs. But long distance riding is exactly the same on principle, whether it is undertaken solitarily for pleasure or under the eyes of officials partly for pleasure and partly in the forlorn hope of a successful pot-hunt. Consequently I am attempting to set down a few notes relating to points some of our younger trials riders are rather slow to grasp.

One of my favourite rides is a 220 mile spin to visit some relations, returning a second 220 miles the next day. It is obvious that when one has got a holiday beginning at 9 a.m. one day and terminating at 5 p.m. on the morrow, in which one prefers to get eight hours' sleep and has 440 miles to cover, any serious delay on the road will sop up all the time intended for family intercourse, and I prepare for these runs as thoroughly as if I were going to try my luck in a twenty-four hours' trial. I have thirty-six hours at my disposal, out of which eight are booked for bed and twenty-two for riding. At the best I have only six hours for social intercourse, and there is no margin for roadside adjustments and repairs.

Chancing Cross Roads.

The night riding is the period in which most competitors are outed from the long distance trials, and so I will commence by stating how and where I have got behind my private schedule in those months when the days are short, and I cover a big slice of my distance in the dark. A fruitful source of delay has been chancing cross roads, instead of dismounting to verify the right turn. This does not matter by daylight; either one will soon realise some feature of the landscape as being entirely new to one or else one will presently encounter a second signpost. At night it is fatal to take a single turn one is not sure of. The road looks extraordinarily different by lamplight, and if it becomes necessary to retrace one's steps one is quite likely to fail to reach the point where the original mistake was made. Hence I never in the

darkness take a turning that I am not dead sure is right.

Lamp Precautions.

My other night delays have been with lamps. Therefore I nowadays never take an untried lamp or lighting accessory on a prolonged night ride. I stick to an old, well-tried lamp, knowing that the burners and the joints are sound, that the water reservoir is clean, and that the glass won't come adrift or the clip of the hinged front fail me. I stick to an ancient lamp bracket of intolerable weight but ample strength. I mount two small generators on a patent tank clip, where I can keep adjusting them; two small generators are a lot better than one big one. I have an ample supply of carbide in my side pocket and two or three good burners, and the burners have been previously tested for a gastight fit in their holder without the aid of red lead or nostrum packings of any sort, while a stylo pen pricker reposes in my pocket book.

Routine Tuning.

Turning to the daylight work, I can immediately class my delays under three heads. Routine matters of tuning up should need no fresh emphasis in these columns, and, needless to say, it is the height of idiocy to face a long distance run against time if the machine is below par in any way, or if any of the more fragile parts, such as contact breaker details or valves, have been neither examined, adjusted, repaired, nor replaced for months. I should not start with an old exhaust valve, old cotters, or without cleaning out the carburetter and oiling the magneto. *Ca va sans dire.* None of these things have ever interrupted my progress for more than a few seconds, because I overhaul the standard vulnerable points of the mechanism some time during the previous week. No, my main blunders have been connected with tyres and belts, and on several occasions had I been running under M.C.C. auspices to Land's End or under A.C.U. control to Plymouth I should have cut as miserable a figure as the rawest of raw novices.

Slowed by Grease.

Tyres cause delay in two main respects. One is in relation to side-slip. Almost any tyre will stand up on certain highways, such as the Great North Road, provided the machine is modern, and it is not desired to appreciably exceed legal limit. But several times I have found myself pressed for time, faced by most treacherous surfaces, and provided with fairly plain treads. To catch up to an impaired schedule under these conditions is never easy and sometimes absolutely impossible. Therefore, for any long distance run against time I now insist on a genuine non-

Long Distance Trial Riding.—

skid for both wheels. They slow you, especially on hills, and more noticeably if they also possess the second quality I am going to describe as essential. But, after all, a twenty-four hours' run is not a timed print, and we must ape the tortoise rather than the hare. The tortoise—in motor cycling—often scoops the gold medal, while the hare is mending a puncture a hundred miles back. So I use tyres of the solid studded or deeply ribbed rubber variety. A rubber tread is pleasanter than an entirely metal one if the roads keep dry and hard, and the studded or deeply ribbed patterns are quite as anti-skidsome as the metal studs.

Heavy Covers.

But punctures have hurried more of my runs than anything else. Often and often one will go three months without a puncture, and then suffer perhaps from ten in the next month. We cannot carry an unlimited kit of spare tubes, and punctures have a loathsome habit of coming in twos or even threes. It is seldom that a hand solutioned repair is absolutely reliable on a fast motor cycle, and good repairs are awkward in either darkness or rain. Hence I use a brace of real thick puddingy covers on long runs, with board-stiff tread, and some nail catchers as an extra safeguard; and now I seldom get delayed by my tyres.

Transmission Trials.

Finally, many of the younger competition riders put too much faith in their belts. A complete spare belt is an essential safeguard. You may start out with a brand new article that is guaranteed for 2,000 miles, and fitted at the correct tension. All sorts of things may nevertheless happen. You may have fitted the fastener screw too near to one side, and within ten miles it pulls out. Your belt is now too short. You have not got a spare length. You screw out your adjustable pulley; and away down in the south-west corner of England you hit some high hills, and your engine pits the exhaust valve, etc., etc. You have therwise forgotten, dropped, etc., some important item of your belt kit—the pocket knife, the drill, the punch, the file. Or it comes on to pour with rain; and your whimsical belt begins that permanent slip which sometimes assails a trusted belt without rhyme or reason, and seems to be incurable for the day. I

invariably carry a spare belt, and if that on the pulleys be rubber, the spare is leather or *vice versa*. I may never need it—so much the better; but if I do it is there, and if my other belt should give out when I am behind time, it only takes a minute to hook up the spare.

Time Lubrication.

I have two points remaining of lesser importance. One is the advantage of time lubrication. On a prolonged stretch of comparatively unfamiliar road, it is impossible to mark the expiration of each twenty miles section. Thus distance lubrication is sure to be inaccurate. Some riders attempt to lubricate by the feel of the engine, disregarding distance altogether. This is all very well if you are a true expert. But if your experience is not consummate, you will occasionally be misled into thinking the engine wants oil when it has plenty slopping about inside. Lubrication will get on your nerves, and before you see home again your cylinder and piston will be most unhealthily caked with carbonised excesses. For the less expert, lubrication on a time basis is a sound dodge. You are averaging about twenty miles an hour; you have a large watch on the handle-bar. Inject a charge at timed periods to coincide with the usual distance travelled on a pumpful. With a standard 3½ h.p. single-cylinder this will be about one pumpful every hour or half a pump every half hour.

A Good Stand Saves Time and Temper.

On such runs one dismounts rather frequently, perhaps, to stretch one's legs, light a pipe, etc. Some makes of stand are very tiresome, and require much operation. There is seldom a convenient kerb on which to rest the footrest. The road is highly cambered, and you dare not leave the machine in the centre of the fairway. You waste two or three minutes hunting for a flat bit of roadway or a prop. Failing a broad based stand with sharpish toes, and quick in manipulation, it is a good plan to use a stand of the drop-leg variety. Last year I carried besides my big garage stand a drop-leg fitted to the near chain stay, which only wanted knocking down by a gentle kick whenever I dismounted. This year I use exaggerated footrests and let the machine lie over on to them. One of these dodges saves time and temper.

MOTOR CYCLE RECORDS.

In view of the recent decision of the committee of the Auto Cycle Union to recognise "Class" records for motor cycles, the A.C.U. Competitions Sub-

committee has passed the following track records made during the year 1909 at the Brooklands racing track at Weybridge:

Class.	Maximum Cubical Capacity.	Rider.	Machine.	No. of Cylinders	Bore. mm.	Stroke. mm.	Cubical Capacity.	Time.		Mile per Hour.	
								For Kilometre.	For Mile.	For Kilometre.	For Mile.
A	275 c.c.	G. L. Fletcher	Moto-Reve ...	2	50	70	274	48.641	79.213	45.990	45.447
B	344 c.c.	No performance	set up	—	—	—	—	—	—	—	—
C	500 c.c.	H. H. Bowen	Bat	1	85	85	482	34.403	56.002	65.023	64.283
D	750 c.c.	G. Lee Evans	Indian	2	70	83	638	34.569	55.640	64.711	64.702
E	1000 c.c.	W. E. Cook	N.L.G.	2	80	94	944	29.465	47.570	75.921	75.678

It is interesting to note, in view of the limit engine sizes in the T.T. Race, that a 500 c.c. single-cylinder

machine has accomplished a better speed than a 750 c.c. twin.

The Royal Automobile Club Lamp Trials.

WE have received this week the carefully drawn up report of the R.A.C. lamp trials, held on the 18th of last month. Only two motor cycle lamps were tested, and as one of these

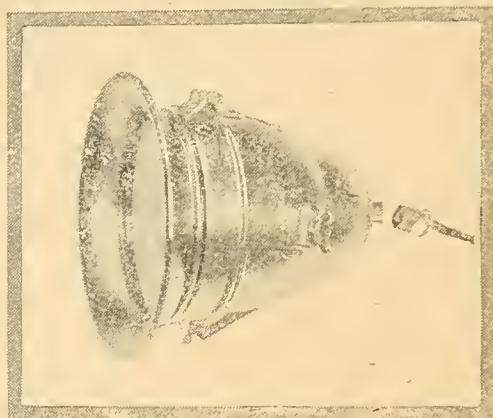
was illuminated by acetylene and the other by electricity, they cannot be compared. The following remarks occur in the official report:

C.A.V. electric motor cycle lamp.

—Candle-power of naked light, 5.

Consumption, 3.9 watts. Pressure, 4.2 volts. Dia-

meter of front aperture of lamp, 4 $\frac{3}{4}$ in. Weight, 1 lb. 12 ozs. Height of lamp from ground, 3ft. 1in. Range, 78ft. Width of beam at half range at 3ft. from ground, 7ft.; at 4ft. 6in., 7ft. 3in. Distance at which lamp ceased to dazzle, 29ft. Remarks on design and construc-



Vandervell and Co's C.A.V. electric head lamp for 4 or 8 volt bulbs.

tion, fair. Remarks on back reflection, no stray light.

Solar acetylene motor cycle lamp.—Candle-power of naked light,

4.2. Consumption,

.43 cubic ft. per

hour. Diameter of

front aperture of

lamp, 4 $\frac{1}{16}$ in.

Weight, 2 lbs. 7 oz.

Height from

ground, 2ft. 7in.

Range, 51ft. Width

of beam at half

range at 3ft. from

ground, 8ft. 7in.;

at 4ft. 6in., 7ft.

2in. Distance at

which lamp ceased

to dazzle, 26ft.

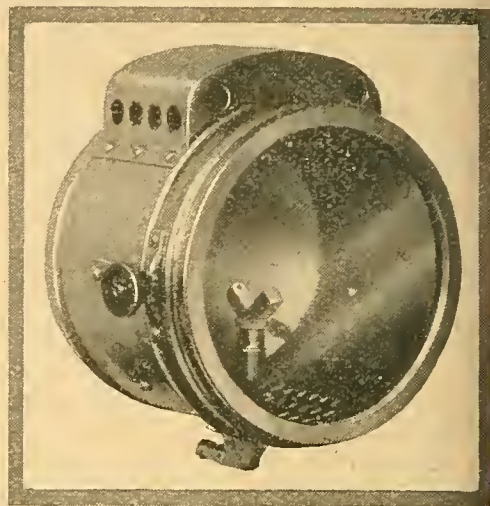
Remarks on design

and construction,

very good. Remarks on back reflection, stray light

thrown out rearwardly; light issued round rim of front

also reflections from the body of the lamp.



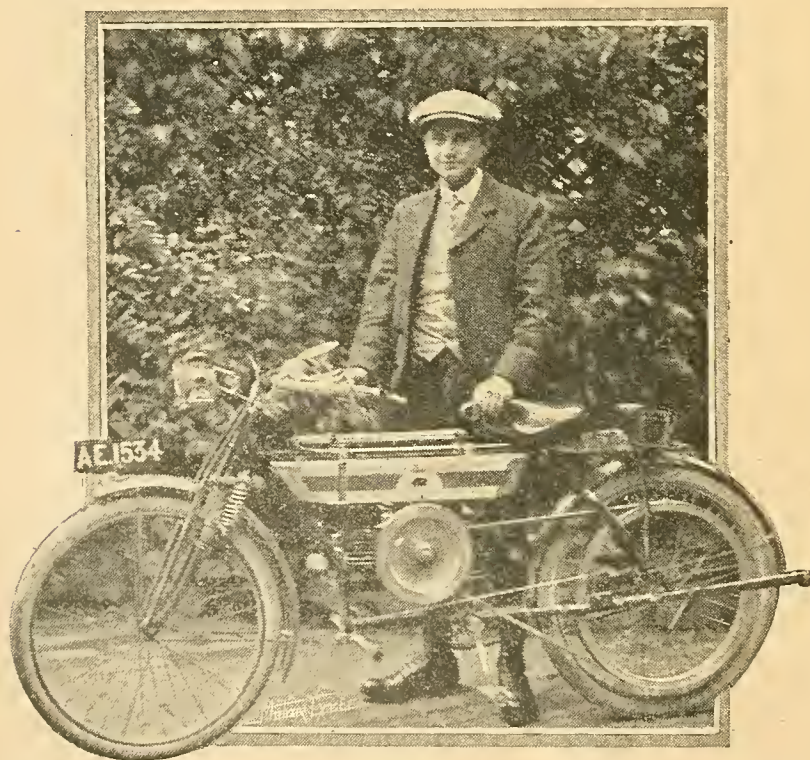
The Seabrook Solar Acetylene head lamp, made by the Badger Brass Co.

A LONG LIST OF SUCCESSES.

WW. DOUGLAS has competed in most of the important 1909 events, and has now a long list of successes to his credit. His performances are all the more noteworthy when

it is considered that his machine is a comparative lightweight of 2 $\frac{3}{4}$ h.p. Below are some of his successes:

A.C.U. Quarterly Trial (100 marks), certificate; A.C.U. London to Plymouth and back (twenty-four



hours), silver medal; A.C.U. Sutton Bank Hill-climb, second; M.C.C. London-Edinburgh and back (forty-eight hours), special gold medal; A.C.U. 1,000 Miles Reliability Trial, silver cup and gold medal; Scottish Five Days' Trials, bronze medal; M.C.C. London to Land's End and back (555 miles), gold medal.

ENTRIES FOR THE TOURIST TROPHY RACE.

THE following is a list of entries received up to the end of last week for the T.T. Race, to be held in the Isle of Man on September 23rd:

Triumph Cycle Co. (3 $\frac{1}{2}$ h.p. Triumph) (holders

H. Reed (5 h.p. Dot, holder of Twin Trophy).

Norton Mfg. Co. (3 $\frac{1}{2}$ h.p. Norton, 496 c.c.)

Noel E. Drury (5 h.p. J.A.P., 680 c.c.)

C. B. Franklin (3 $\frac{1}{2}$ h.p. Triumph).

W. H. Wells (5 h.p. Indian).

W. H. Wells (5 h.p. Indian).

S. C. Perryman (5 h.p. Norton).

R. Ellis (3 $\frac{1}{2}$ h.p. Rex).

F. A. Applebee (Rex).

O. C. Godfrey (Rex).

W. Grinstead, ———

J. F. Jones (3 $\frac{1}{2}$ h.p. Triumph).

W. O. Bentley (3 $\frac{1}{2}$ h.p. Rex).

WHICH IS THE BEST SIDECAR?

WE still continue to receive almost daily the time worn question, "Which is the best sidecar?" So long as the sidecar attachment

remains with us there will always be champions of the different types, for the simple reason that

all have their respective advantages. Last year we gave our experiences with the Montgomery flexible sidecar, but this year we have tested with much success

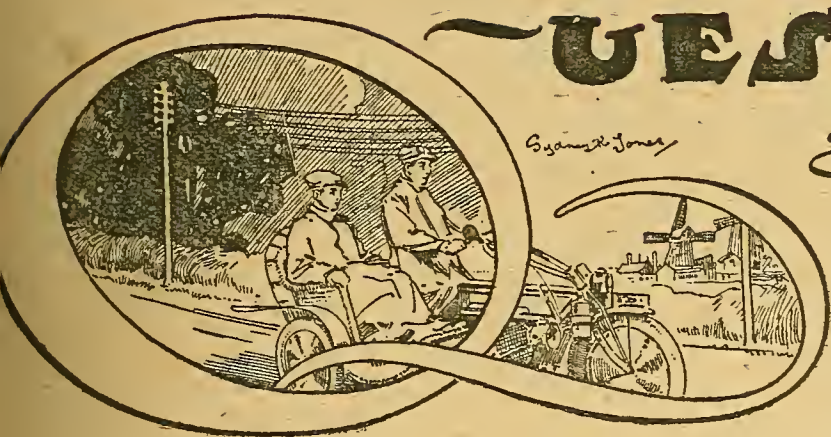
Mr. Montgomery's latest attachment, the spring wheel rigid sidecar. With this sidecar the steering

rendered exactly like that of a tricycle, and once the driver is accustomed to it all is plain sailing, provided

the weights are properly distributed and speed reduced at corners. From experience we are inclined

to think that a rigid pattern sidecar requires more power to propel it than the flexible type. The chief

advantage of a rigid sidecar is its entire immunity from side-slip. The comfort of the spring wheel is undoubted



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Transferring Ownership.

Would you be kind enough to tell me the fee for transfer of registration numbers of a $4\frac{1}{2}$ cwt. Phoenix Trimo. I am informed it is 5s. for transfer, and another says it is 1s., so I am in doubt.—A.W.

If the machine is registered as a motor cycle (i.e., a motor vehicle not having more than three wheels and weighing not more than 3 cwt. unladen) the cost of transfer to your name will be 1s. If, however, it is registered as a car, it must be paid.

Going Abroad.

I expect to sail shortly for America, and purpose taking my $3\frac{1}{2}$ h.p. 1908 Minerva with me. Would you please tell me if I shall have to pay duty on it, and if so, about how much? Are there any laws to comply with in taking a motor cycle into that country?—H.M.

The amount of duty you will have to pay is forty-five per cent. *ad valorem*. Provided the machine has been in the possession of the owner and in use for not less than twelve months, it may be introduced duty free. A certificate should be obtained from the American consul before departure, stating that the owner is a tourist, and that he is not introducing the machine for business purposes. The regulations vary in different towns and states. The speed limit in New York is fixed at eight miles an hour.

Misfiring in One Cylinder.

Could you aid me to locate a fault in a 1908 5 h.p. Rex with magneto ignition? The back cylinder will not run alone, and will only pick up with front one after running some way. Inlet valves (springs) are same strength, and I get a spark at both plugs, but not very regular in back plug. Motor is bad to start with back cylinder not working properly. Wiring I think is correct: Terminal No. 1 to back cylinder and No. 2 to front.—W. O.

There is no golden rule to find out why one cylinder does not fire. What we should recommend you to do is to examine the moving parts of the magneto, and see that none are worn; also see that the carbon brushes are making good contact. If you can find nothing wrong, and both cylinders do not fire on a strong mixture, try a new plug in the rear cylinder, and if no improvement consult your local repairer.

Dust Choking Gauze.

I have a 1908 Triumph motor cycle, and have considerable trouble by dust getting on to the gauze in the carburetter. Can you let me know how I can avoid this. I find that on a dusty day I have to clean the gauze once in every five or six miles as the motor won't take any air, and consequently I can't get enough power out of it to climb a hill. Do other riders of Triumphs experience this difficulty? Does the dust come from the front or back wheel? I rather think it's the latter.—C.B.

The best plan will be to remove the gauze altogether and clean out the engine more frequently. This is all that we can recommend, as the gauze is bound to get choked up sooner or later, and even before this is the case a good deal of dust passes through. Although we have frequently heard of the gauzes being choked with dust, personally we have not experienced this trouble in a very long mileage.

A Loss of Power.

Kindly inform me as to loss of power in my machine. Engine, $2\frac{1}{2}$ h.p. Noble; carburetter, F.N. spray; gear, $5\frac{1}{2}$ to 1. The machine will not take hills at all; in fact, it slows at the slightest rise, and seems a long time picking up speed on the flat. The compression is perfect. I can stand on pedal for a few seconds, and the pulley wheel cannot be turned over with one hand. I have ground in both valves, fitted new washers, and added weight to float of carburetter; also tried new springs on both inlet and exhaust valves.—G. P.

Without seeing your machine it is exceedingly difficult to say what is the matter with it. However, we should recommend you to try a slightly stronger exhaust valve spring, which may have the effect of increasing the engine speed. Also check the level of the petrol. It should rise to within one-eighth of an inch of the top of the jet. Make sure the carburetter and feed pipe are quite clean, and then turn your attention to the opening of the valves. If there is any wear on the cams, the tappets will not lift the proper amount, and this will affect the running considerably. Also note that the clearance between tappet and valve stem will barely admit a visiting card. Do not gear too high.

Unequal Temperature of Cylinders.

(1.) Kindly tell me why it is that the back cylinder of my 6 h.p. N.S.U. is always so much hotter than the front one? Is this supposed to be right? If not, how can I improve matters? I have recently replaced the two tappet rods with new ones (the old ones being badly worn) so I am getting as much lift as possible. I think, but with no better result.

(2.) Please inform me what my petrol consumption ought to be for this class of machine?—W.S.

(1.) This is very often the case with a twin-cylinder machine. Being shielded by the front cylinder, the rear one is not cooled so well. It may, however, be due to unequal lubrication, so try oiling more frequently, but in smaller quantities. Is the compression of the two cylinders equal, and does the opening of the valves in each case correspond? (2.) Your petrol consumption might be anything between sixty and eighty miles to the gallon. If it exceeds this, check the level, and try more air or a smaller jet.

Passenger Attachments.

I have a 5-6 h.p. twin-cylinder Peugeot, and would like to buy some arrangement to carry a passenger, but I find myself in difficulties, for I do not know what to get—a sidecar, forecar, trailer, or couplings. Sidecars, I have heard, are very difficult to steer, and also that they are very hard on the engine. Forecars, besides heating up the engine very much, have the disadvantage of making one lose time when attaching it. Trailers, also, have their disadvantages. Firstly they are not a comfortable seat for passengers, and also are dangerous while turning corners.—B. L.

If your idea is to purchase a passenger attachment, for use only occasionally we personally feel more inclined towards the sidecar. Though the steering is strange at first, if the sidecar is properly attached, it becomes quite easy after a little practice. You are wrong in supposing that sidecars damage the engine or machine, and probably fewer disadvantages are experienced with this type of attachment than with any other. You may give up the idea of attaching and detaching a forecar each time you would want to use it. It takes too long. Trailers we should place last on the list you give.

Respecting a Second-hand Tricar.

? I have just purchased second-hand a $4\frac{1}{2}$ h.p. water-cooled Rover tricar. (1.) There is no extra air fixed, except on the induction pipe, and I have to stoop down to reach it. Is it necessary to use this, and should I have a Bowden cable attached with a lever on the tank? (2.) About how many miles an hour should it travel? (3.) Is it wrong when you wish to cool your engine going down hill to switch off, put it out of gear, and open throttle full, or should I shut the throttle. (4.) About how many miles should you run before there is need to scrape carbon deposit off head of piston and grind valves in? —G. D.

(1.) Whether or not it is necessary to use the extra air inlet can only be found out if the engine gives more power when it is opened. If it does, you can easily have a Bowden cable fitted to work it, as it is necessary for all extra air inlets to be closed for easy starting. (2.) The machine should travel at a maximum speed of twenty-eight to thirty miles an hour, and an average of about twenty to twenty-four miles an hour. (3.) The best way to cool the engine downhill is to close the throttle. It is not necessary to switch off and open throttle, as this causes waste of petrol. (4.) There is no way of telling exactly how many miles, but when the engine begins to pre-ignite, lose power, and get hot, it is time to take the cylinder off and scrape away the carbon deposit. It usually happens with an air-cooled engine every 1,000 to 1,500 miles, depending on the quality of the oil, the heat of the engine, and whether there are gauzes in the carburetter to arrest the dust.

Various Queries.

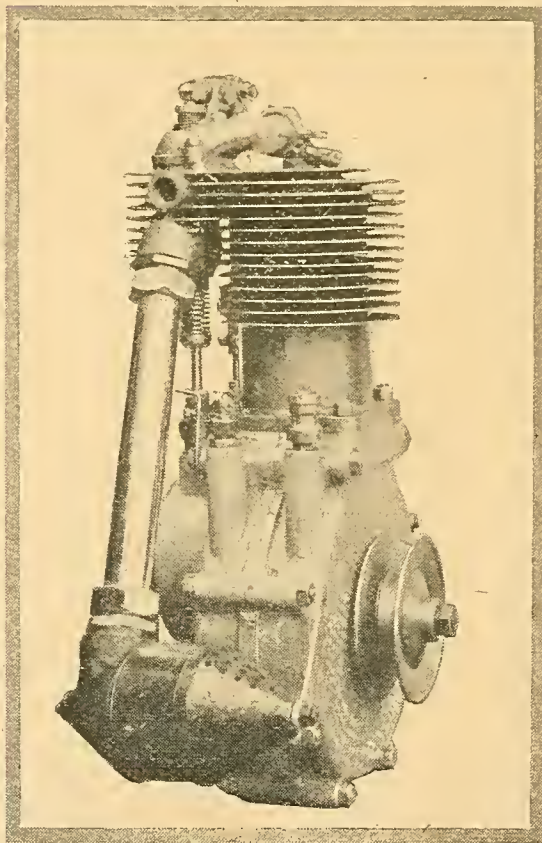
? Kindly furnish me with information on the following points: (a) Best route from West Hampstead to Oulton Broad. (b) Should machine to be used ($3\frac{1}{2}$ h.p. 1909 Humber, two-speed) surmount all hills encountered en route with sidecar and passenger without any difficulty (weight of passenger and driver 19 stones, no luggage)? (c) Could the journey easily be accomplished in a day, starting 6 a.m.? (d) Is flexible or rigid car preferable, and which is the easiest to drive? (e) Does it hurt machine at all to start by handle and low gear from a standstill, or is it better to run alongside and start from high gear? —H. H.

(a) Your best route would be as follows: Hampstead, Finchley, Barnet, Hatfield, here turn right and go through Hertford, Ware, and on through Puckeridge, then take the right-hand fork and continue straight on till you reach the Coach and Horses Inn, here turn right and follow the Newmarket Road, and proceed to the latter town (ten-mile limit); after reaching the furthest extremity of the ten-mile limit, turn right and take the Bury St. Edmund's road, going through this town, Ixworth, Scole, Harleston, Bungay, where turn right and go through Beccles and along the Lowestoft road until Oulton Broad

is reached. (b) The machine should take all hills on the road. There is only one at all serious, and that is at Wade's Mill, which the machine should do easily on the low speed (gradient not exceeding 1 in 12). (c) The journey can be easily accomplished in a day. (d) It is a matter of personal taste. Some riders prefer the rigid and some the flexible. The former steers like a tricycle, and once the driver is accustomed to it possesses the advantage that it will never skid. (e) There is no reason why you should not start on the low gear from standstill; it certainly does not hurt the machine, or the makers would not fit the device.

Misfiring at Speed.

? Can you help me with the following? My engine is a 5 h.p. Humber tricar, single-cylinder, water-cooled, automatic inlet valve, Bosch magneto ignition. Engine starts well with ignition quarter-advanced, but when I advance to threequarter misfires badly. On the road the engine pulls well, but will not accelerate beyond a certain pace, and when I am running down a hill the car over-runs the engine altogether, and the firing will completely stop, and if



A new pattern Peugeot engine for motor cycles. Dimensions, 84 x 86 mm., with mechanically operated overhead inlet valve.

I see another hill ahead I have to apply the brakes on the level so as to get the engine to commence firing in time to ascend the next hill. When declutching I do not need to throttle down, as whenever I pull out the clutch the engine will misfire, and will not go beyond its former speed. The engine does not misfire if I am on a long gradual rise, but will gradually accelerate until I have the spark advanced to the full. If I were to declutch the engine would at once commence to misfire, and would not accelerate. I have

tried decreasing the inlet valve 1/16 in. I have also strengthened the inlet valve spring by putting 1/16 in. washer on below the nut. The inlet valve and exhaust valve springs are fairly strong. I may say that occasionally the engine will behave all right, and will accelerate, but that is the exception.—D.G.

You do not state in your letter if the engine is apt to knock. If it does seem to indicate that the ignition is too far advanced, the result is that it ceases to fire when the advance lever is set forward beyond a certain limit. You had better get the Bosch handbook and check the timing with the makers' instructions, and if the points are breaking properly when the magneto is advanced, you had better write to the Bosch Company and see what they recommend you to do. It is just possible that the trouble may be due to carburation, the engine not getting sufficient air when the spark is advanced. We presume the magneto you fitted was a new one? If it was not, it is possible that the contact breaker mechanism is somewhat worn and some small replacement may be necessary.

READERS' REPLIES.

Refusing to take Air.

On re-reading the issue of the 14th ult., I notice an appeal from "W. L. G." for advice re his 1909 Triumph, which refuses to take air. Having experienced exactly the same trouble with my Triumph (1909), which continued to misbehave after I had cleaned everything cleanable. I at last found that the Bowden wire from the gas lever had stretched and the carburetter was giving hardly any charge at all, owing to piston not being raised high enough. If "W. L. G." will remove the air piston from the carburetter, and with his finger feel the gas piston in the carburetter, at the same time moving the gas lever, he will soon know if the length of wire is at fault.—WM. W. H. EDWARDS.

Leakage past Valve Seating.

We notice in *The Motor Cycle* of August 11th the letter from "F. M." respecting the difficulty he is experiencing in getting proper compression. In your reply you express the opinion that the washers used may be too hard. We would, however, be glad if you would publish the information that there should be no washer between the valve seating and the cylinder. It is possible that the bolts holding the seating are bent, and thus do not hold the faces true. We have also had cases where the seating has been strained owing to a washer having been used and not compressed equally. The seating, as you point out, should be screwed down as carefully as possible, screwing up each nut alternately. We think it would be better for "F. M." to return the cylinder to us for examination, if the remarks do not assist him out of his trouble. We would add that the cylinder is evidently one of our old pattern.—WHITE AND POPPE, LTD.

A heavyweight rider says,
referring to the "Zenith
Gradua":

"I am absolutely satisfied with it, as it will take me up any hill without trouble, and I have gone out of my way to find bad hills. The gear is wonderful, and the manner it enables one to pick up speed or to climb hills has to be tested to be believed. My weight is 16½ stone, and as I always carry a packed carrier-bag in addition to a very complete outfit of spares, there must be at least 18½ stone on the machine."

Another customer writes:

"The points which I especially admire are—

- (1) The "Gradua" Gear which cannot give any trouble.
- (2) Ease of control in traffic."

Zenith Motors
LTD.,
WEYBRIDGE.

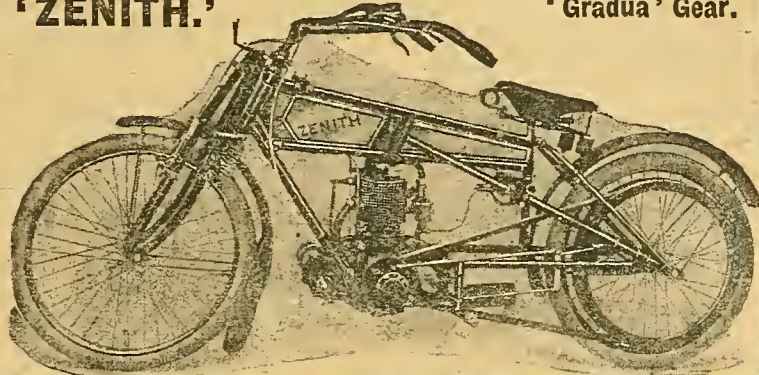
Telephone No. 4, Weybridge.

THE 'GRADUA' (the only infinitely variable) GEAR.

All machines tested on BROOKLANDS Track and Test Hill.

The
'ZENITH.'

Fitted with the
'Gradua' Gear.



The "Gradua" Gear is essential for touring or for business machines. It enables the rider to comfortably negotiate city traffic without dismounting, to climb hills at a reasonable speed, and yet to travel fast if desired.

P.S.—A "Zenith-Gradua" is on view at The Service Co., High Holborn; and at Sherwell's, 46, York Street, Westminster.

Extract from a letter
received recently:

"My 'Zenith' continues to be as reliable as a grandfather's clock."

The "Zenith-Gradua" holds the Standing Start Record for the Brooklands Test Hill. It also won Two Events out of Three, Oxford v. Cambridge, and is the only motor cycle to successfully carry out an observed city traffic ride.

'GRADUA' GEAR CONVERSION SET

FOR TRIUMPH MOTOR BICYCLES.

12 Gns. (including fitting).

Another addition to the Long List
of Successes.

SATURDAY, AUG. 14th, 1909.

"ZENITH-GRADUA."

First on Formula by 40
Points!! And Fastest Single.
PRINCE'S COP HILL CLIMB.

Going out of Town
for a few days?

Then be sure that your tyres are of the right kind, of the right weight, and quality.

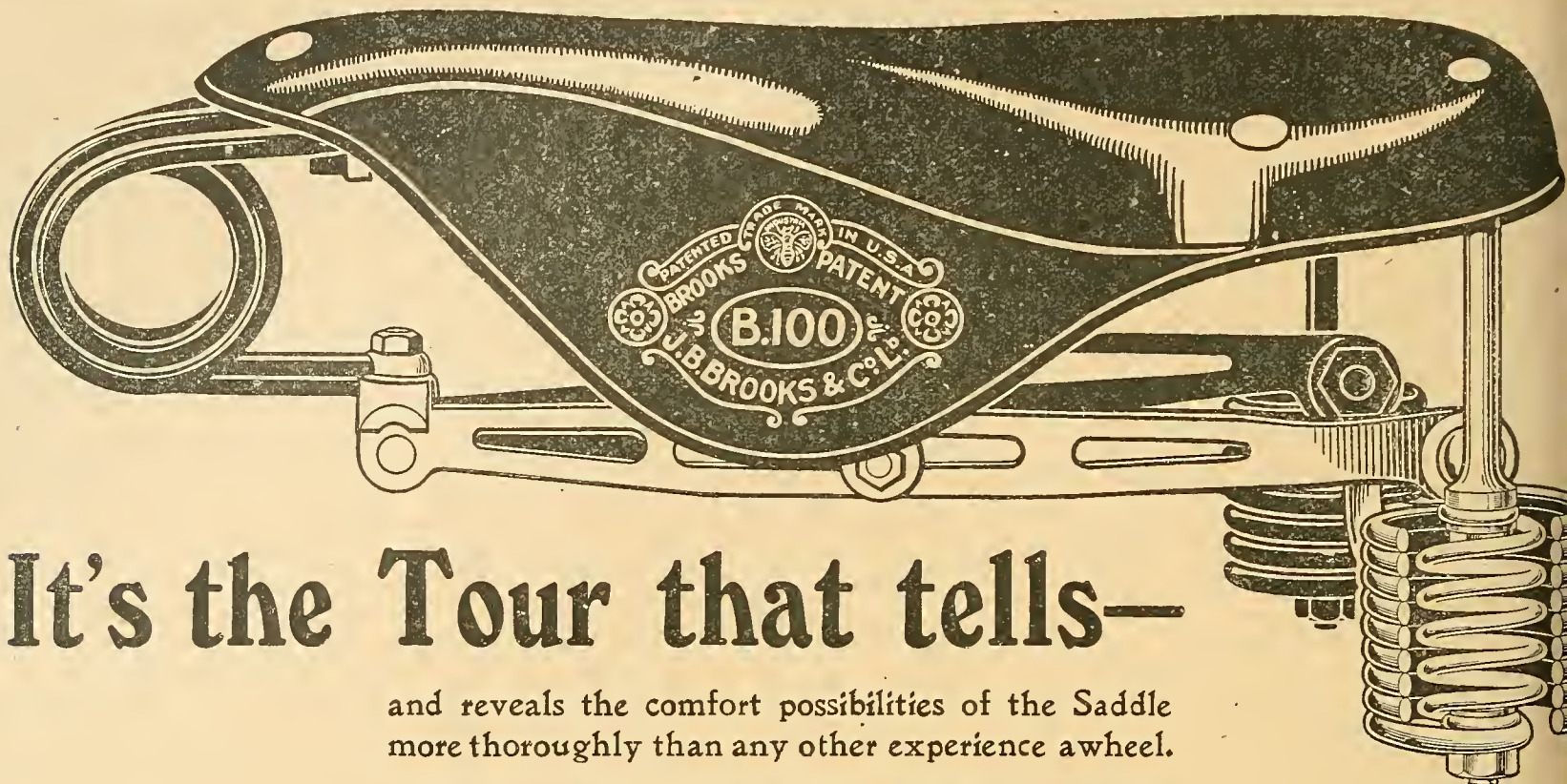
That is to say, be sure they are

MICHELIN

Motor Cycle Tyres.

Michelin wired motor cycle covers of 2, 2½, and 2¾ inch section are interchangeable: they will all fit the same rim.
The same remark applies to the 2 and 2½ inch beaded covers.

Your Agent can supply you.



It's the Tour that tells—

and reveals the comfort possibilities of the Saddle more thoroughly than any other experience a wheel.

It has revealed to many thousands of riders the advantages of the BROOKS PATENT COMPOUND SPRINGS.

It will reveal to you those same advantages if, before you set out, you go to your Local Agent and instruct him to fit one of the various models of

BROOKS

ANTI-VIBRATORY SADDLES & SEATS

These are all fitted with this exclusive feature, they are all made of the finest possible materials, and every detail in their construction is designed to give that perfect comfort which alone makes perfect pleasure possible.

Remember, no other Saddle can yield the same advantages, for none other embodies in its construction a spring which so effectually absorbs vibration, yet totally eradicates the common fault—a tendency to bounce.

Hence be wise—

“Say BROOKS”

Dept. B45,

J. B. Brooks & Co., Ltd., The Saddle Specialists, **Birmingham.**

Occasional Comment

SRJ

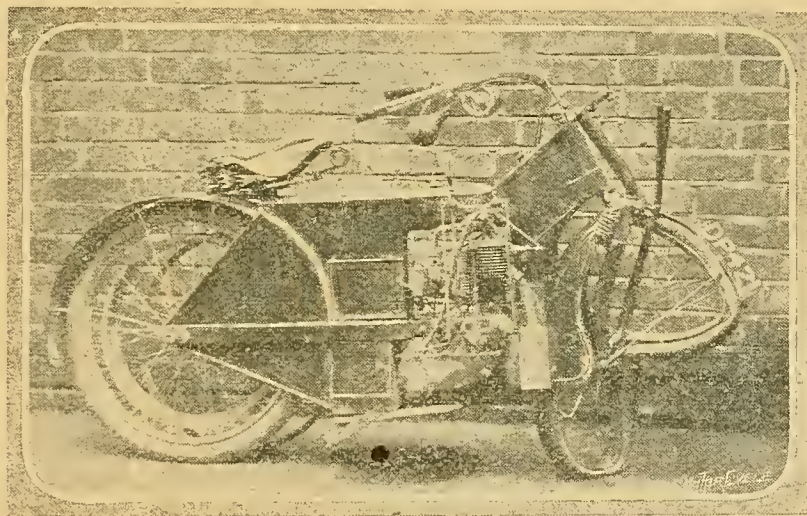
How Hills are Climbed in Big Trials.

One or two correspondents have complained to me that they own duplicates of the machines which competed in the 1,000 Miles Trial, that the medal winning machines climbed Wenlock, Birdlip, Festiniog, and other hills, whereas the privately owned duplicates could not climb less severe hills. Some of my postal friends write that they have lost all confidence in themselves as drivers, others appear convinced that the trade machines are better riders in the big trials with a very much better tuned edition of their tourist model than is sold to the general public. There is a third alternative to these two solutions which possesses the merit of being the true one. If you were to watch a trade or crackleur rider in one of the trials where dismounts are permitted approaching one of the famous hills, you would see that he has presently got to climb it under your observation, this is what you would see. He would dismount some little distance from the foot of the hill, and would remove the jet and choke tube from the carburetter, inserting a larger jet, and probably might fit a choke tube of larger size. If a lightweight rider, he probably will have no need to alter his gear unless a terrific wind happens to be blowing right down the hill. But if he weighs 12 or 13 stones he will open his adjustable pulley, and either tighten the fastener or remove a bit of belt ordinarily bolted up between a brace of fasteners, or possibly change to a fresh belt of narrower section. Then, geared down to 5½ to 1, according to his weight, the severity of the hill, and the size of the boss on his crankshaft, with a carburetter adjusted to supply a large quantity of rich explosive mixture, he will soar up the hill like a bird. When safely over the summit the jet, choke tube, and gear will be refitted in less than five minutes. Some such proceedings are employed by practically every successful rider of medium powered machines in the big trials. The two-speeders and more powerful machines often have such a reserve of power that they do not need five minutes' faking before Birdlip.

Are such adjustments Fair?

There follows the pertinent question whether such adjustments are unfair; whether they delude the public as to the hill-climbing capacity of the machines that are sold? I do not know whether the A.C.U. applaud such practices or wink at them. If they wish to stamp out, it is easily done, by timing each competitor over three or four miles of level road before the hill is climbed. This was done at Dinas Mawddwy, with the motive I know not, but the precaution was foiled because there was nothing to prevent a man making his adjustments three miles past the first timekeeper, and still covering his four miles in the fifteen minutes allowed. If these three miles had been a compulsory carefully observed non-stop, the adjustments would

have been useless, because most motor cycle engines would fail on a hill like Dinas after three miles on a low gear with a big jet. Personally, I regard the tuning as fair and permissible, provided no secret is made of it. A machine which could climb Dinas in ordinary condition on the run, without any preliminary adjustment, would be one of three types—either it would be a low compression two-speeder, or else it would be a machine of rather higher horse-power than most people want, or else it would not suit ordinary country so well as the standard machines of to-day. If the A.C.U. compel such hills as Dinas and Birdlip



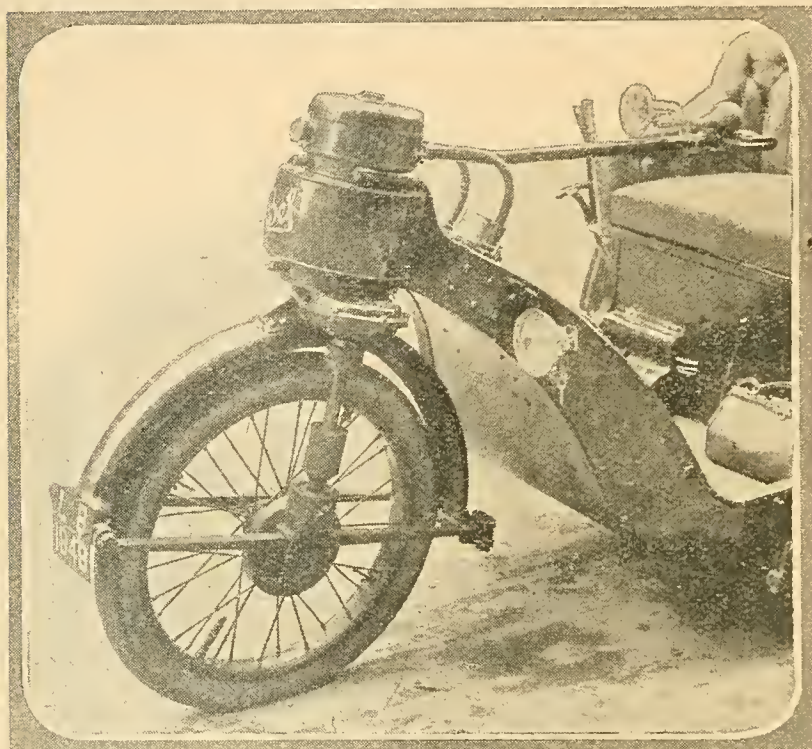
The result of a bad collision to a Midget Bicar. The strength of its sheet steel frame is amply proved by the effect of the impact, for, while the frame appears to be undamaged, the fork stem and wheel are very badly buckled.

to be taken without special adjustments in the course of, say, a ten miles non-stop, they will evoke a type of machine we do not want. The man who likes a two-speeder or a twin of high horse-power need never be afraid of straight ascents, however steep. The man who prefers a high geared high compression medium powered single-cylinder engine will not grumble if, before climbing a really exceptional hill, he is obliged to pause for five minutes by the roadside. I therefore describe the universal tactics not in any spirit of blame or distaste, but simply to inform readers who have grumbled to me that they are not so bad drivers or "tuners up" as they fancy, and to show them that they too may romp up Birdlip when their rides take them over that formidable ascent.

The lightweight question is again being vigorously discussed in our correspondence columns, and various opinions have been published with regard to the hills which can be surmounted. As a proof that the Moto-sacoché will take a rider over an average main road in the southern counties without pedal assistance, we may mention the case of Lieut. T. S. Hugh Phillips, who rode from Portsmouth to London and back at a recent week-end minus pedalling gear.

The Swan Electric Runabout.

WHEN the first electric tricycle was illustrated in *The Motor Cycle* last October quite a number of enquiries were received for the agent's address, proving that a runabout of this type finds favour with a large section of our readers. The electric tricycle which is the subject of the accompanying illustrations has recently been put on the British market by the Swan Electric Traction Co., of 16, Percy Street, Tottenham Court Road, W.



The electromotor over the front wheel of the tricycle. The drive is by a telescopic propeller shaft.

The car has been known in Germany as the Berliner or Harborn electric runabout; the British company will be known as the Swan Electric Traction Company, and the machines as the Swan runabouts.

The car is a three-wheeler, the single front wheel being both driven and steered, while the back wheels are merely trailers. Behind the two-seated body is a large box or boot containing the battery of accumulators, which are designed to give a range of about fifty miles on ordinary roads. The battery consists of twenty cells, having a capacity of 120 ampère hours. The current from the battery is taken to an electric motor, which is set with its armature shaft nearly vertical above the front wheel, which it drives through a reducing spur gear and a cardan-shaft with a final drive through bevel gear to the front axle.

The controller is placed to the right of the driver, the necessary movements being made by a side lever. Only one speed forward and reverse is given, but the controller has four steps, so that the resistance is cut out gradually when starting. The connections to the motor and the switch are in the

hollow sloping dashboard, which is an integral part of the plate steel frame.

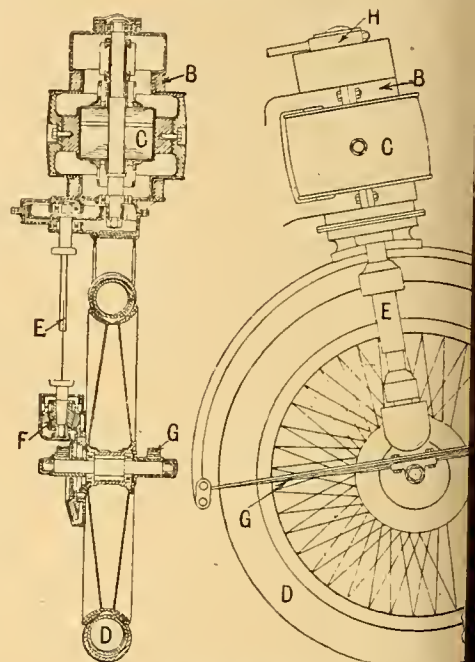
The arrangement of the electromotor C and the telescopic universally jointed spindle E will be understood from the line illustration. The mudguard is a strongly built structure, which takes the place of the front fork, and its lower ends are connected by two spring steel bars G, which allow a certain amount of freedom, but not sufficient to affect the meshing of the gears F from the motor. The motor itself is of the four-pole type, with plain series windings, and runs at about 1,700

r.p.m. The commutator is placed above it, and is accessible for examination. In the machine brought for our inspection the commutator appeared clean, and showed no signs of sparking.

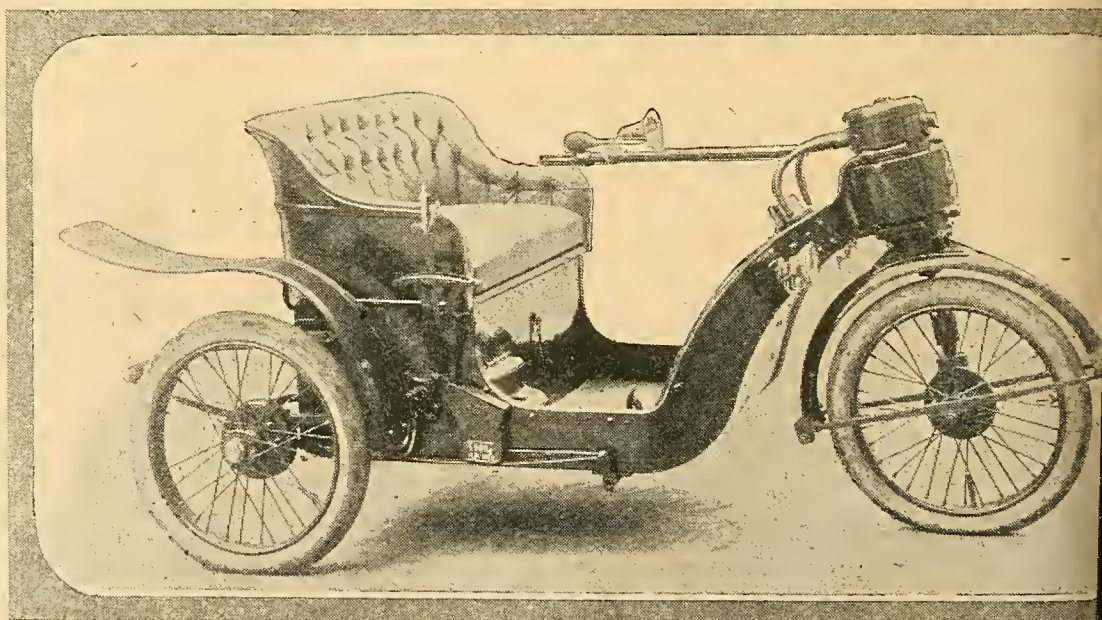
The vehicles are not intended for general touring work, but rather as town runabouts, and, in view of this, their maximum speed is not much over fifteen miles per hour,

though they can be given a speed somewhat in excess of this for short periods when required for trial driving. The car is steered by tiller, and the control consists entirely of the side lever and a brake pedal, which also automatically cuts off the current.

The back portion of the frame is mounted on three quarter elliptical springs, and the machine runs quietly, and starts without the semblance of a jerk, simply gliding gently from a standstill. By a slight modification in the design of frame a motor van body can be fitted for business purposes.



Section of the motor and driving mechanism.



The Swan Electric Tricycle. The accumulators are stored under the passenger's seat

An Attempt on the End-to-end Record.



A NUMBER of readers will doubtless have heard that Tom Peck made a most plucky attempt to beat the End-to-end motor cycle record last week. Luck was not with Peck, as he was again doomed to failure. This rider has made one or two attempts recently, but it is only fair to the Rex Motor Mfg. Co., Ltd., the makers of the machine he rode, to point out that last week the failure to beat the previous best performance was not due to the machine or its accessories. Peck simply experienced the hardest of luck, as anyone who reads the following will agree.

On his first record ride of 40h. 38m., Peck started from Land's End, but he elected to start from John-o'-Groat's on the last occasion and ride southwards. He was timed away from Wick by J. Robertson, but double commenced early, for while travelling at a fair pace he fell in descending Berriedale Hill, owing to his wheel slipping in loose sand at one of the bad corners. This fall ultimately caused his retirement, for he had broken a bone in his wrist, but was quite unaware of the real nature of the accident, although the wrist was extremely painful, as can be readily understood. Through his inability to steer properly he unfortunately fell again at Lanark, but with extreme luck and determination he stuck to his task, and it was not until reaching Tewkesbury that the wrist was medically examined, when Dr. Elder of that town, at Peck's request, placed the wrist in a plaster cast to enable him, if possible, to continue the journey. According to Peck's schedule, Tewkesbury is 642 miles from John-o'-Groat's, and he arrived there at 4.40 a.m. on the morning of Tuesday, August 17th, having left John-o'-Groat's at 4.2 a.m. on the previous day. At this point Peck assumes that he was half an hour in front of the previous best.

Continuing through Gloucester, he managed to reach Berkeley Road—a point about thirteen miles from Gloucester on the main road towards Bristol. Here the pain of his wrist was so great that he found he could not grasp the right bar properly, and most reluctantly gave up. In record runs naturally the speed is very high on deserted stretches of roads, which necessitates the handles being gripped firmly in rounding corners. Peck managed to steer his machine back to Tewkesbury with one hand, where he had the injured wrist re-dressed and put in a splint, and afterwards actually rode the machine gently to Coventry, where he called at *The Motor Cycle* offices to explain his extremely bad fortune. We examined the seals which we had placed on the machine the previous week, and found them to be intact. The wires to which

the seals were attached were then cut and the cylinder and carburetter removed, and we were thoroughly convinced on examination that the machine was capable of completing the run if the rider had been able to do so. Incidentally, we may mention that the Rex Motor Mfg. Co. recognise that the performance is only an attempt on record, and are merely desirous of giving the lie to any rumours that may gain currency that the machine was the cause of Peck's retirement. It was really a most plucky performance to motor cycle from Berriedale (Scotland) to Berkeley Road (Glos.) in the time taken by Peck. It is not only a remarkable feat of endurance, but to ride with a broken bone in one's wrist, which was rapidly causing the arm to swell and give extreme pain, is one of those instances of bulldog courage for which Peck is noted.

Below will be found some particulars of times of Peck's arrival and departure at various points on the route:

John-o'-Groat's.—Left 4.2 a.m., Monday, August 16th. Starter, Mr. J. Robertson, of Wick.

Inverness.—Telegram handed in at Tain at 9.32 a.m. addressed to Rex, Coventry: "Peck ahead of time here. Signed, Ross."

Telegram handed in at Inverness at 10.40 a.m. addressed to Rex, Earlsdon, Coventry: "Peck left here 8.45. Signed, Balace Hotel."

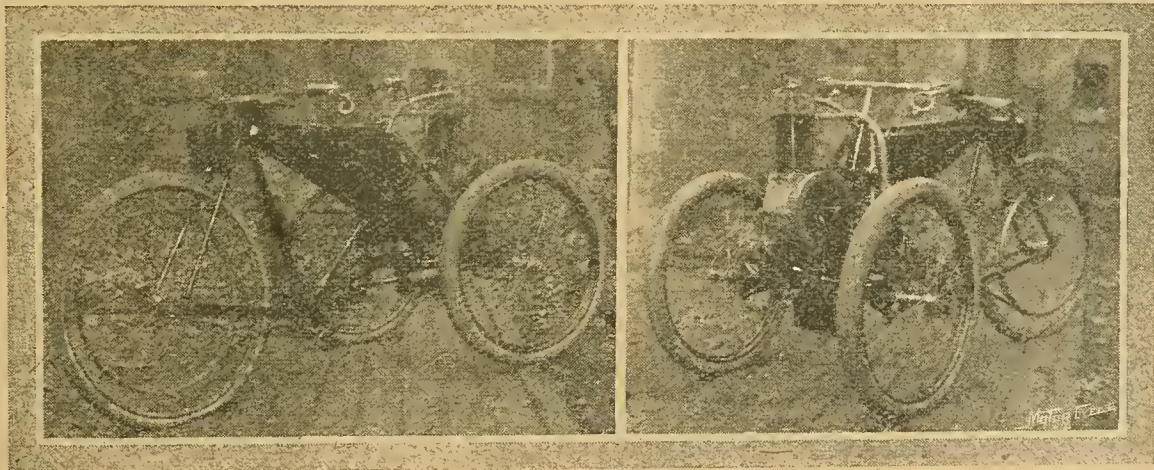
Telegram handed in at Perth addressed Rex, Coventry: "Peck left 12.46 p.m. Signed, Lindsay and Fenwick."

Telegram handed in at Lanark at 4.16 p.m. addressed to Rex, Coventry: "Peck left four o'clock. Had accident front wheel; straightened same. Wired Chinn, Kendal, procure another. Signed Cox."

Telegram handed in at Kendal at 8.22 p.m. addressed to Hall, Coventry: "Peck left here eight o'clock. Signed, Chinn."

At Warrington the telephone was requisitioned. Here Jones and Huggetts (Liverpool) and Harold Williamson, of the Rex Co., telephoned to W. Williamson at Tewkesbury that Peck had left Warrington at 11 p.m.

At the Bell Hotel, Tewkesbury, he arrived at 3.40 a.m. on August 17th, and was examined by Dr. Elder, who bound his arm. He left at 3.55 a.m.



A belt-driven motor tricycle which was on the road about 1900. It had rear belt transmission, spring frame, Akerman steering, exhaust valve lifter on the handlebar, and drip feed lubrication. This machine, including engine and coil, was constructed by Glover Bros., Spon Street, Coventry, who have an accumulator charging and motor repair works.

Time to
light lamps

Special Features

Sydney R. Jones

CURRENT
CHAT

Aug. 25 .. 8.2 p.m.

,, 28 .. 7.56 ,,

Sep. 1 .. 7.47 ,,

Police Traps.

A police trap is working through the villages of Gomshall and Shere in Surrey, and the trap up Guildford High Street is at present in active operation. We have also received rumours of a trap up Hospital Hill, Guildford.

Appointment of Timekeeper to the A.C.U.

Capt. R. K. Bagnall-Wild, R.E., was, at the last meeting of the A.C.U. Competitions Sub-committee, appointed official timekeeper to the Auto Cycle Union for the electric chronograph at Brooklands.

A Medal Winner.

C. E. Murphy, who broke the Irish End-to-end record last week on a $3\frac{1}{2}$ h.p. Triumph, has been declared winner of the special gold medal offered by *The Motor Cycle* to the M.C.U.I. Ulster Centre in connection with the End-to-end Ride, which took place on the 13th ult.

A Victorian T.T. Race.

The annual 100 mile road race of the Victorian M.C.C. was contested on June 7th. There were twenty-three starters, comprising five machines of $2\frac{3}{4}$ h.p. and under, fourteen $3\frac{1}{2}$ h.p.'s, and four 5 h.p. machines. The first two-riders started from the same mark, and got home within $\frac{1}{4}$ m. of each other. The result was: 1st, C. L. Stevens (Triumph), time 2h. $32\frac{1}{4}$ m.; 2nd, H. A. Tilburn (N.S.U.), 2h. $33\frac{1}{2}$ m.; 3rd, A. Milledge (Triumph), 2h. $37\frac{1}{2}$ m.; 4th, E. H. Jenkins (Triumph), 2h. 32 m.; 5th, J. R. Duigan (Peugeot), 2h. $31\frac{1}{4}$ m.; 6th, C. S. Cox (Peugeot), 2h. $52\frac{3}{4}$ m.

Motor Cycles at the German Manœuvres.

Some 120 members of the German Motor Cyclists' Association will take part in the Imperial German manœuvres in Württemberg from September 12th to 17th. They will receive 30s. a day as compensation, with a third-class railway pass for the journey to and from the scene of the manœuvres, the pass including also the free transport of machines. Moreover, the Association insures them against liability and accident. The volunteers employed at the end of July in connection with reconnaissance operations in the vicinity of Frankfurt made a very favourable impression on the military authorities. At the autumn manœuvres, too, of the 9th army corps in the Grand Duchy of Mecklenburg-Schwerin from September 4th to 19th, an extensive use will be made of motor cyclists for orderly and reconnaissance work.

The Six Days' Trials.

The official results of the Six Days' Trials stated that R. W. Duke ($3\frac{1}{2}$ h.p. Triumph) dismounted on Blaenau Festiniog Hill. Mr. Duke disputed this statement, and a letter from the secretary of the A.C.U. states that the committee in conference with the judges have again looked into the matter. Further evidence having been forthcoming, they have decided to award Mr. Duke full marks for his performance on Blaenau Festiniog.

The Veto on Pacing Motor Cycles.

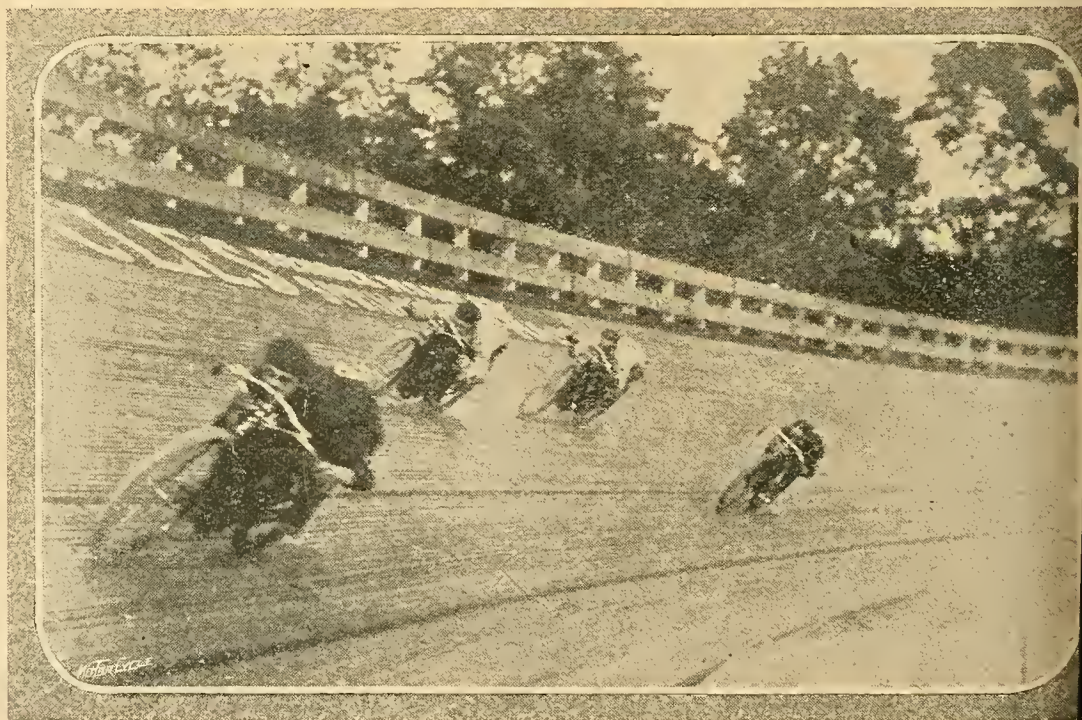
German motor cycle makers do not take at all kindly to the contingent prospects of motor cycles being prohibited altogether on tracks, as they have doubtless learnt much from motor-paced races. Indeed, at a special meeting convened by the Prussian Government to consider the question of motor-pacing (provisionally barred in Prussia in consequence of the catastrophe at Berlin), one of the trade representatives aptly pointed out that the Italian Anzani, who, as a motor designer, shared with Blériot the honours of the flight across the Channel, was originally a pacemaker, and owed much to his early experiences in that capacity. The Government may remove the veto on condition that steps be taken to reduce speed and amply protect the public.

The Woodford to York Run.

The Woodford to York and back run organised by the Essex Motor Club which is to start from Woodford at 7 p.m. on Friday next, promises to be a successful affair, as a good many entries have been already received. The competition has been most carefully arranged, and the timing arrangements have received particular attention. No competitor who has been delayed by trouble on the road will be allowed to make up time, and everyone will be compelled to stop an hour at Grantham. The time for each half of the journey will be eleven and a half hours. The competitors are due in York at 7 a.m.

Damages awarded to a Motor Cyclist.

A Scotch rider named Simon MacLean, of Inverness, was recently awarded £2 10s. damages against the owners of a horse which was being led on the road, but was not sufficient under control inasmuch that as the rider was about to pass the animal turned right in front of him, and had no time to stop. In consequence there was a collision resulting in the motor bicycle being damaged. The man who was leading the horse was undoubtedly at fault, because he ought to have been between the horse and the passing traffic, so that in the event of the horse shying it would have turned away from its leader.



American racers on the new Stadium at Springfield, Mass. (the home of the Indian motor cycle) which was opened on July 31st before 4,000 spectators. A correspondent says that Americans consider the Springfield track the fastest of its kind in the world.

NEWNHAM

HILL-CLIMB.

THE ZENITH-GRADUA HAS A DAY OUT.

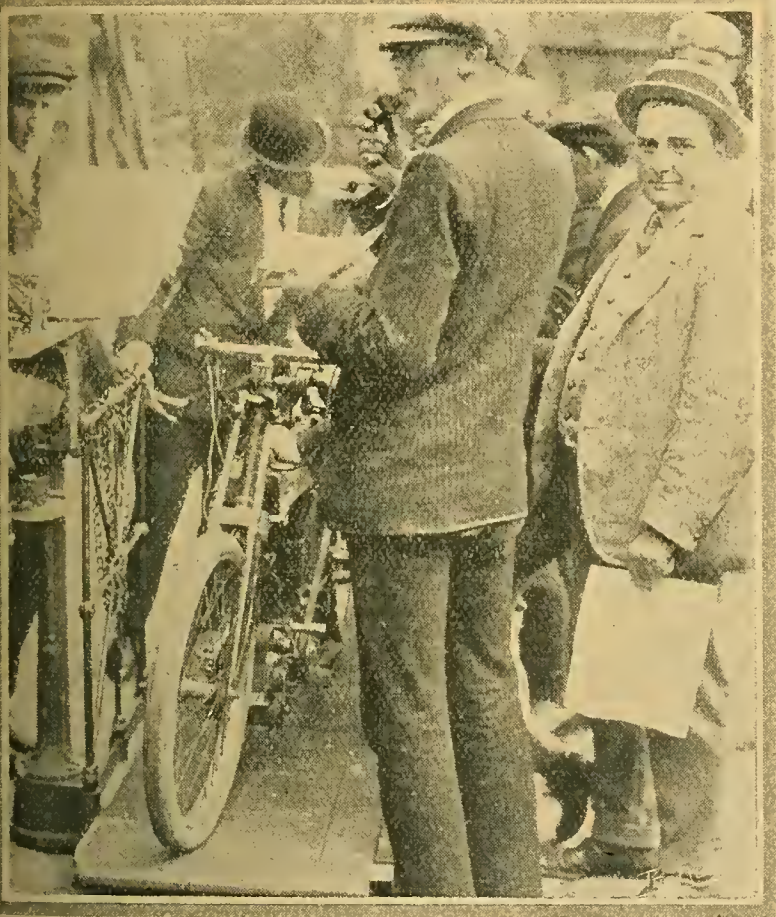
THE Coventry and Warwickshire Motor Club was again favoured with pleasant weather for its third annual open hill-climbing competition for motor cycles, which took place on Saturday last at Newnham, near Daventry. One or two slight showers of rain laid the dust, and made the conditions

ment against the inclusion of a corner in a hill-climbing competition, because if the speed of the machine be too great to allow the corner to be turned in safety, speed should be reduced until it is safe. Herein lies the skill, nerve, and judgment of the competitor.

Special precautions were taken to safeguard the competitors and the public. The corner was strongly protected by posts and ropes, and six constables were requisitioned to see that spectators did not impede the riders on the hill.

The weighing-in took place at Reynolds's Garage, Daventry, from 11 a.m. till 1.30 p.m. All machines were inspected at the scales by a committee of scrutineers, who also measured the gear ratio of each machine, which was not allowed to be altered after inspection. The committee also passed all machines entered for Class I. (touring machines). It speaks well for the loyal manner in which the competitors adhered to the regulations, as there were only two whose mounts failed to pass the scrutiny; they were permitted to compete in Class II.

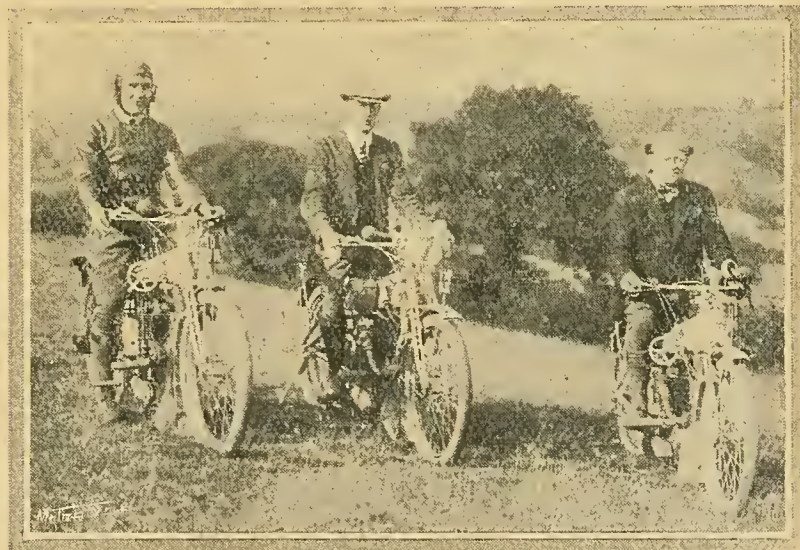
The competition was announced to start at 3 p.m., and within a few minutes of the advertised time Mr. J. L. Norton opened the ball, followed at one-minute intervals by the remainder of the competitors in Class I., whose respective positions on time and on formula are given in the table on next page.



A scene in Reynolds's Garage, Daventry. Basil H. Davies (left) and Gilbert H. Spier (right) who, with the other scrutineers, inspected every machine at the scales.

most favourable for competitors and spectators. This year a shorter course was laid on the steeper portions of the gradient, the approximate length of the climb being 400 yards, which included 166 yards with an average grade of 1 in 6½.

In deference to the loudly expressed wishes of some of the competitors, the bend at the top was excluded, but we must confess that to us this objection was inexplicable. Several similar competitions have been held on hills in various parts of the country, and in many cases corners have been negotiated at speed—corners which are much more abrupt than the one at Newnham. The objection that it is necessary to switch off power before turning is not a sound argu-



The three riders of 3½ h.p. Zenith-Gradua machines who between them won seven awards out of twelve. From the left the names are W. H. Bashall, F. W. Barnes, and R. T. Exshaw.

The organisation of the competition worked with commendable smoothness. Every official was at his appointed post, and as each rider carried a card up the hill bearing the previous competitor's starting time,

Newnham Hill-climb.—

the cards were merely handed to the auditors at the summit, who obtained the finishing time from the time-keeper, made the necessary subtraction, filled in the nett time, and worked out the formula results while the competition was proceeding. The result was that the placings of Class I. were known during the tea interval, and those of Class II. before 5.15 p.m.

Results.

The result of Class I. on formula was a distinct score for the Zenith-Gradua machines, with their infinitely variable gear and J.A.P. engines, as they lifted five awards out of six, fastest time going to the twin-cylinder Indian, cleverly ridden by Guy Lee Evans. There was no doubt that the actual position of the starting point was disconcerting to some of the competitors, who had prepared for a lengthy course of easy gradient in which to get up speed, but if at every hill-climbing competition competitors require an easy start, a well-known hill without corners, and unlimited previous practice, the event loses all sporting interest, and greatly favours those who reside in close vicinity to the chosen hill or possess ample leisure and money to enable them to journey to the spot some days prior to the event.

CLASS I.

Name and machine.	H.P. on club formula.	Position on formula.	Position on time.	Difference in time of ascent in secs
R. T. Exshaw (Zenith-Gradua)...	3.7	1	11	4.8
W. H. Bashall (Zenith-Gradua)...	3.7	2	5	2.6
F. W. Barnes (Zenith-Gradua)...	3.7	3	14	5.2
R. Lord (Rex) ...	3.69	4	7	3.6
G. E. Stanley (Premier) ...	3.7	5	3	2.2
T. H. Tessier (Bat-J.A.P.) ...	3.7	6	15	5.4
Geoffrey Smith (Triumph) ...	3.63	7	13	5
Roy. W. Walker (Premier) ...	3.7	8	17	6.2
J. Marshall (Triumph) ...	3.63	9	9	4
R. Samson (L.M.C.) ...	3.68	10	6	3
J. L. Norton (Norton) ...	3.62	11	10	4.6
C. Cross (L.M.C.) ...	3.68	12	3	2.2
F. Smith (Triumph) ...	3.63	13	8	3.8
R. H. Edwards (Triumph) ...	3.63	14	11	4.8
R. M. Brice (Brown) ...	3.7	15	19	6.8
W. Creyton (Triumph) ...	3.63	16	16	5.8
W. H. Wells (Indian) ...	4.96	17	2	1.2
G. Lee Evans (Indian) ...	4.96	18	1	X
S. Davis (Rex) ...	3.56	19	23	10.2
R. W. Corah (Corah) ...	3.7	20	20	7.2
E. A. Gorton (Rex) ...	3.74	21	26	12.6
W. W. Douglas (Douglas) ...	3.09	22	25	11.2
H. Teague (Premier) ...	4.33	23	22	9.6
Frank White (Rex) ...	5.74	24	18	6.4
J. Leno (Premo, two-stroke, A.C.) ...	4.4	25	21	9
J. Winslow (Rex) ...	5.74	26	24	10.6

X denotes the fastest time, this being taken as the basis, the figures shown in the last column being the additional number of seconds taken in excess of the fastest.

After tea, which was served in a marquee erected in a field at the top of the hill, the riders in Class II. could be heard warming up their engines preparatory to the uphill flight. In the case of G. Lee Evans (who was fastest) and one or two others who made very fast time, their sensations must have been as near an approach to actual flying as it is possible to get without actually leaving the earth.

On formula the Zenith-Gradua, ridden by its designer, F. W. Barnes, and a private owner, R. T. Exshaw, again scored. A. Mackenzie Cott (7-9 h.p. King-J.A.P.) made fastest time. A touring Triumph ridden by Geoffrey Smith, and W. H. Bashall's 7-8 h.p. King-J.A.P. secured the members' prizes.

CLASS II.

Name and machine.	H.P. on club formula.	Position on formula.	Position on time.	Difference in time of ascent in secs
F. W. Barnes (Zenith Gradua) ...	3.7	1	16	6.6
R. T. Exshaw (Zenith Gradua) ...	3.7	2	22	8.6
J. C. Smyth (Rex Speed King) ...	3.69	3	3	1.6
G. E. Stanley (Premier) ...	3.7	4	4	1.8
H. G. Potts (T.T. Triumph) ...	3.63	5	13	4.6
W. A. Jacobs (Rex Speed King)...	3.52	6	16	6.6
J. P. Le Grand (Rex Speed King)	3.52	7	18	6.8
J. L. Norton (Norton) ...	3.62	8	14	5.8
W. O. Bentley (Rex Speed King)	3.52	9	15	6.2
O. C. Godfrey (Rex Speed King)	3.61	10	6	2.0
W. F. Newsome (T.T. Triumph)	3.76	11	4	1.8
Geoffrey Smith (Triumph) ...	3.63	12	23	9.0
J. Marshall (T.T. Triumph) ...	3.76	13	7	2.8
T. Silver (Quadrant) ...	3.92	14	21	7.6
P. Baker (Electric-Minerva) ...	2.78	15	24	11.0
H. D. Teague (Premier) ...	4.33	16	10	3.8
F. C. Wood (N.S.U. two-speed)	3.82	17	27	20.2
A. Mackenzie Cott (King-J.A.P.)	7.81	18	1	X
J. W. Waring (Minerva) ...	6.58	19	12	4.4
H. Rem Fowler (Rex Speed King)	5.74	20	9	3.2
F. W. Applebee (Rex) ...	5.74	21	19	7.0
F. A. Applebee (Rex) ...	5.74	22	7	2.8
W. H. Bashall (Bat-J.A.P.) ...	7.4	23	11	4.2
G. Jones (Bat-J.A.P.) ...	6.25	24	25	12.0
E. Kickham (Leader-Peugeot) ...	7.04	25	2	1.0
F. G. Bagshawe (Rex Speed King)	5.74	26	20	7.4
W. W. Douglas (Douglas) ...	3.098	27	26	18.6

The heaviest combined weights of riders and machines in Class I. to ascend the hill were J. Winslow (5 h.p. Rex) and R. T. Exshaw (3½ h.p. Zenith-Gradua), who both turned the scales at 402 lbs.

The lightest was W. W. Douglas (2¾ h.p. Douglas), 267 lbs.

In Class II. the heaviest was F. C. Wood (4 h.p. N.S.U., two-speed), 415 lbs., and the lightest O. C. Godfrey (3½ h.p. Rex Speed King), 261 lbs.



Fastest time in Class I. was made by Guy Lee Evans, 4.9 Indian (twin), who won the Silver Cup presented by the United Motor Industries, Ltd. He is depicted rounding the bend at the Barn—gradient 1 in 10.3.

The largest engine used was A. Mackenzie Cott's King-J.A.P., 85 by 95 mm. (1,078 c.c.), and the smallest a 2¾ h.p. Douglas, 60 by 60 mm. (340 c.c.)

The fastest machine in Class II. (A. Mackenzie Cott's 7-9 h.p. King-J.A.P., twin) completed the distance in 2.6s. less time than the fastest machine in Class I. (Guy Lee Evans's 4.9 h.p. Indian, twin).

The fastest single-cylinder machines were J. C. Smyth's 3½ h.p. Rex Speed King in Class II., G. E. Stanley's 3½ h.p. Premier and C. Cross's 3½ h.p. L.M.C. in Class I.

Newnham Hill Climb.—

Mr. F. W. Barnes told us after the climb that he started with the Gradua gear at its lowest (about 9 to 1), and gradually increased the gear to about 4 to 1, lowering it again on the very steepest portion of the

hill to 6 to 1. The throttle and spark were left full on from the start, and the engine was always developing full power, because, owing to the variable gear, the number of revolutions could be kept at their maximum—a distinct advantage in hill-climbing.



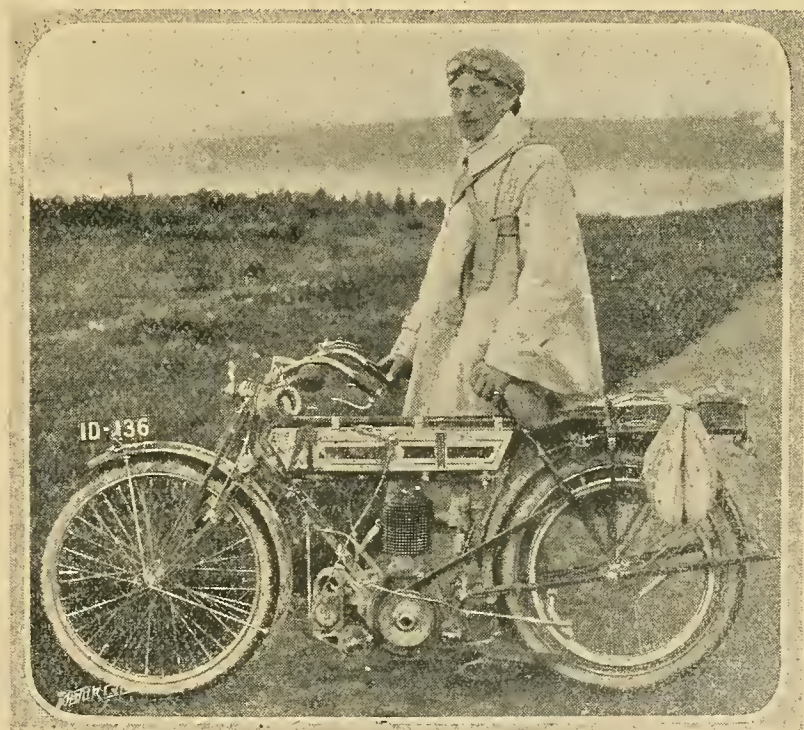
This picture gives an excellent impression of the scene at the top of Newnham Hill. No. 20, S. Davis, 3½ h.p. Rex, is the rider who is ascending the steepest gradient, 1 in 6½ average for 166 yards. Among other officials at the summit is the Judge, Mr. John V. Pugh, J.P., who is seen standing on the left of the Police Sergeant in the background.

IRISH END-TO-END RECORD.

MR. C. E. MURPHY is no stranger to the Irish End-to-end course. In August, 1907, he rode over it in company with J. Stewart, of Belfast, and in the recent competition for the Palmer & Co.'s trophy he was one of the riders who secured 11 marks, and was only knocked out of the deciding climb by a bit of ill luck. He is one of the most enthusiastic motor cyclists in the kingdom.

Murphy did not follow the course usually taken by end-to-enders. It has been the practice to go into Dublin, chiefly because of the ease of obtaining supplies there; but the more direct route, and the one followed by cyclists in the days of pedal bicycle records, across the Bog of Allen to Navan. Besides being shorter, the roads are better. On this account the time set up by Murphy is hardly comparable with the old records, but as he beat the time credited to A. J. Little in the early part of the present year by nearly 10 hours, and his own figures of 1907 by 2h. 42m., it will be at once seen that his performance was an excellent one. His time was 13h. 6m. for the journey. The only incident of note in Murphy's journey was a series of annoying punctures between Cork and Dublin. He started from the coastguard station at Black Island at 5 a.m. He was clocked there, and also at Cashel, Navan, Banbridge, and at the finish. Murphy's mount was a Dunlop-tyred Triumph, and, as

might be expected, it carried him through in a most satisfactory manner.



C. E. Murphy, who rode a 3½ h.p. Triumph with Dunlop tyres, and created a fresh record for the Irish End-to-end ride on the 16th inst. Mr. Murphy is a member of the Ulster Centre M.C.U.I.

“THE AUTOCAR” LEAGUE.

WITH a view to harmonising the somewhat divided counsels of motorists in regard to matters of public policy affecting their interests, “The Autocar League” has been formed. It is described as “an attempt to band together the whole of the motorists of the United Kingdom.” No subscription is asked, and the only condition imposed is that members will undertake to vote by postcard or letter on any important matter concerning the welfare of automobilism. If motorists see fit to co-operate in this simple way (says our contemporary) the result will be to weld them together and to give them a strength

and weight which they have hitherto lacked. It also hoped by this means to strengthen the hands of existing organisations by putting them in possession of definite information as to the views of the general body of motorists on matters of moment affecting their interests. Our contemporary further adds that the names and addresses of the enrolled members will not be used for any other purpose than that mentioned. We hope that motor cyclists will participate in the scheme, so that motorists generally may present a united front when their interests are attacked. The matter will be dealt with more fully in an early issue.

BRITISH MOTOR CYCLE RACING CLUB.

Results of Record Time Trials at Brooklands on Wednesday last, Aug. 18th. (See pages 630-631).

Rider.	Machine.	No. of Cylinders.	Bore and Stroke.	Cubical Capacity.	Class.	Time in Seconds.		Speed in m.p.h.	
						Kilometre.	Mile.	Kilometre.	Mile.
			mm.	c.c.					
W. H. Bashall	Bat	2	85×85	964	E	32.721	52.493	68.364	68.581
G. Lee Evans	Indian	2	70×83	638	D	35.097	56.229	63.742	64.024
W. H. Wells	Indian	2	70×83	638	D	39.467	63.126	56.679	57.026
R. O. Clark	“C” F.N.	4	55×57	540	D	41.106	64.718	54.419	55.626
F. A. Applebee	Rex	2	76×80	726	D	42.429	66.107	52.722	54.457
W. O. Bentley	Rex	1	82×89	472	C	41.963	66.142	53.308	54.428
O. C. Godfrey	Rex	1	83×89	481	C	42.392	67.368	52.768	53.438
M. Geiger	V.S.	2	75×76	672	D	43.988	70.269	50.854	51.232
G. G. Mead	V.S.	2	75×76	672	D	47.243	71.415	47.350	50.409
R. C. Griesbach	Triumph	1	84×86	476	C	45.223	71.467	49.447	50.373
F. W. Dayrell	Martin J.A.P.	1	85×60	340	B	47.894	76.038	46.706	47.345
D. F. Steeves	N.S.U.	2	52×74	314	B	53.560	79.732	41.765	45.151

R. K. BAGNALL-WILD, R.E. (Official Timekeeper to the A.C.U. for the Brooklands Electric Chronograph).
F. LINDSAY LLOYD (Clerk of the Course, Brooklands).

21st August, 1909.

CLUB NEWS.

North-west London M.C.C. and Oxford M.C.C.

An inter-club hill-climbing competition between the above clubs was held on the 14th inst. at Cop Hill, Princes Risborough, and a better venue for the purpose would be difficult to find. The hill is straight, and spectators on the high banks at the top are able to watch the competition from start to finish. Teams of five riders were selected to represent each club. When the results were worked out on A.C.U. formula the Oxford team proved easy winners, the three best performances being also made by Oxford men. Results:

OXFORD TEAM.

	Total weight. lbs.	Time.	Fig. of merit.
F. W. Barnes (3½ h.p. Zenith Gradua)	380	61.2s.	77.62
G. F. Cooper (5 h.p. V.S.)	344	60s.	117.2
W. Mathews (3½ h.p. Triumph)	320	81s.	120.8
H. F. Smith (2¾ h.p. N.S.U.)	dismounted on 1 in 5 portion.		
H. A. Bishill (3½ h.p. Triumph)	dismounted on 1 in 5 portion.		

F. W. Barnes made the best performance of the day on formula, and also the best combined performance on time and on formula. He took the 1 in 5 portion in fine style.

NORTH-WEST LONDON TEAM.

	Total weight. lbs.	Time.	Fig. merit.
G. Rowden (7 h.p. Bat)	380	52s.	131
— Phillips (5 h.p. V.S.)	348	76.6s.	147
A. Brunton (5 h.p. Rex)	dismounted on 1 in 5 portion.		
— Simpson (5 h.p. V.S.)	dismounted.		
W. O. Bentley (5 h.p. Rex)	did not start.		
G. Rowden	made fastest time of the day.		

Manchester M.C.

On Saturday last the above club held a petrol consumption test for motor cycles and cars. The course was a usual one of twenty-five miles on Cheshire roads, starting from the Nag's Head, Bucklow Hill. Owing to the inclement weather a less number than usual competed.

Motor cycle results.—1, H. Reed (3½ h.p. Dot), 23 m covered, 128 miles to gallon; 2, C. E. Kettle (3½ h.p. Triumph), 22¾, 126.

The next club event will be on September 4th, when hill-climbing competition for motor cycles and cars will be held.



A group of competitors who took part in the Hull and East Riding A.C. Reliability Trial on Saturday last.

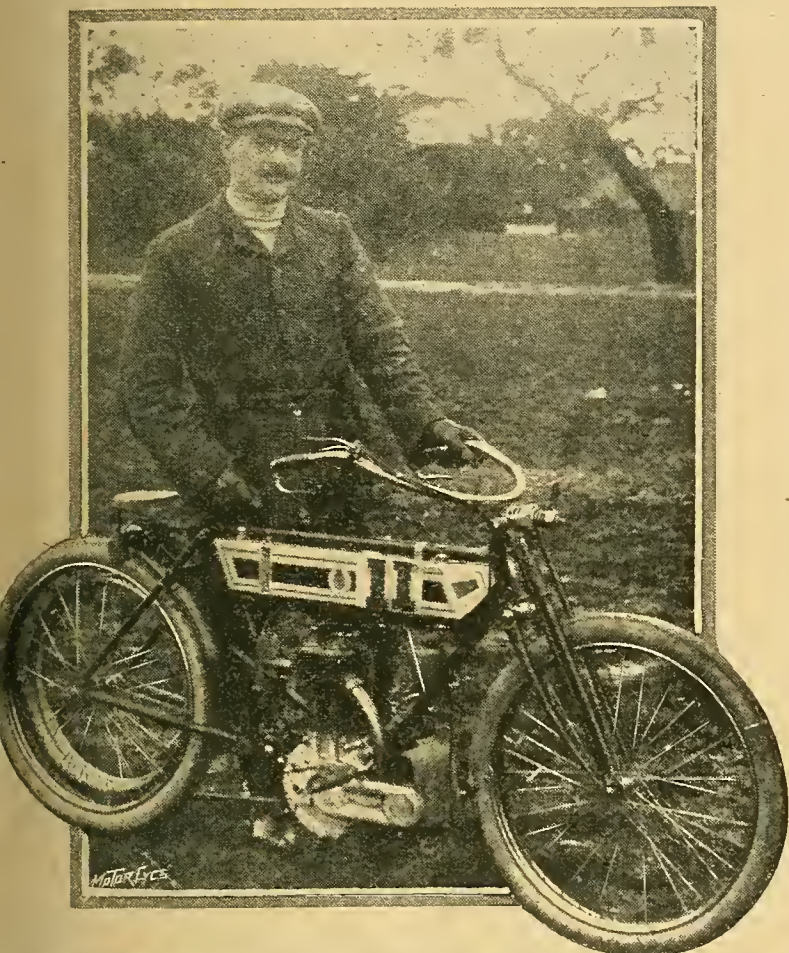
Club News.—

North-west London M.C.C.

Will members who are away please notify the secretary if they intend entering for the inter-team competition with the St. Albans M.C.C. on Saturday, September 4th. A very sporting course near Potter's Bar has been chosen, and provided there is a good entry the event should prove most enjoyable. Mrs. C. C. Cooke will entertain the competitors to tea afterwards.

Bristol Bicycle and Motor Club.

In connection with the penalty run recently held by the above club the judges have made the following awards: E. J. Prosser (3½ h.p. Phoenix Trim), 100 points, gold medal



C. L. Stevens (3½ h.p. Triumph) winner of the Victorian M.C.C. 100 Miles Road Race on June 7th. Time, 2 hrs. 32½ mins.

represented by Messrs. Douglas Bros. for best performance by a private rider; Eli Clark (2¾ h.p. Douglas), 100 points; T. R. Mereweather (2¾ h.p. Douglas), 97, 2; F. Bevan (5¼ h.p. Rex and sidecar), 80, 3. Owing to the success of the above event it is intended to hold a reliability trial on the first Saturday in September, over a circular route of about twenty miles, which will be covered four times. Any motor cyclist in the district joining the club by 25th inst. will be eligible to enter. The hon. sec. is Mr. E. J. Prosser, 1, Brecknock Road, Knowle, Bristol.

Wimbledon and District M.C.

The results of last week's speed judging trial was: 1. Eric Lord (3½ h.p. Triumph); 2. A. Warrington (4½ h.p. twin Minerva); 3. G. Aldington (5 h.p. twin Eland). A hill-climbing competition is arranged for the 28th inst., entrance fee 2s. 6d. The club has reduced the subscription to 7s. 6d. per annum, including affiliation. Will any intending member please communicate with Mr. E. A. Roberts, at 33, Griffiths Road, Wimbledon.

Ayr and District M.C.

This season's reliability trial was held on Wednesday, the 11th, over a circular course of 185 miles, starting from Ayr at 6 a.m., travelling to Dumfries, Castle Douglas, Kirkcudbright, Newton Stewart, Stranraer, and home at 8.15 p.m. via Ballantrae and Girvan. The roads were in good order but for a heavy layer of dust and the usual sprinkling of nails, boot protectors, etc. A considerable number of cattle droves in and around Dumfries somewhat impeded progress. Five controls were arranged for, with two secret checks en route, the latter occasioning riders no small amount of anxiety, the tendency for the most part being to rush various stretches and arrive early, owing to the times being fixed on an 18 m.p.h. basis.

Thirteen competitors started, and five finished dead on time at all controls. The others were counted out mostly through tyre troubles, with the exception of a twin rider, who cracked a back cylinder clean in two at the bottom, and another competitor who had trouble through excessive overheating. Gold medals for absolute non-stop runs have been awarded to Matt. Brown (3½ h.p. Bradbury), Chas. Carver (3 h.p. N.S.U.), and Cecil Henderson (3½ h.p. I.T. Triumph). Silver medallists: John Meredith (3½ h.p. Triumph), punctures; and D. Milligan (4 h.p. Werner), sooted plugs.

Mr. A. P. Walker's special prize for the best all-round performance was divided between Messrs. Brown and Carver, Henderson being disqualified for this solely through losing his generator eighteen miles out.



A new motor cycle club has been formed in New South Wales, called the Western Suburbs Motor Club. A start has been made with a membership of twenty-five. The photograph was taken at the top of Lapstone Hill, on the occasion of a run to Springwood and back, a distance of 80 miles.

THE MOTOR UNION HANDBOOK.

The Motor Union has just issued to its members the "British and Irish Handbook," compiled by that body. The new publication is essentially a touring guide, and should be of the greatest value to motor cyclists. At the beginning of the book is a very valuable road map of Great Britain, divided into thirty-two sections and furnished with a key map. The major portion of the volume is in the form of a touring directory of nearly 1,000 places in Great Britain and Ireland arranged in alphabetical order. Under the name of each town are given a useful table of distances, a note of the chief places of interest, the hotels and repairers officially recommended by the Motor Union, the Union's

honorary correspondent and local solicitor, particulars of the toll bridges and ferries in the neighbourhood, speed limits, steamship charges, touring notes, and other useful information.

It is very unusual for foreign-built motor cycles to be fitted with a British-made magneto. Nevertheless, the Simms Magneto Co. inform us that at the Cueno Races in Italy, Borgo motor cycles were first, second, third, fourth, and fifth in Class 1, and Semeria motor cycles second, third, and fourth in Class 2, and all were fitted with the British-made Simms magnetos and sparking plugs.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Silence.

[4211.]-Regarding letter 4181, the tubes can be purchased from Brown Bros., Great Eastern Street, E.C. The valves can be made of sheet iron or brass by a local man. When the valve is set in a certain position it will increase the speed of the machine about 12% as compared with the tube off, but the valve must be adjusted for each speed. I should think that such an exhaust would be just the thing for a two-stroke engine, provided the exhaust port opens a little before the inlet. What does Mr. Scott think.

HENRY GRAFTON.

- [4212.]-I am exceedingly glad you are taking up the question of silence in the case of motor cycles. There is not the slightest doubt that, both at home and abroad (as regards India I speak from experience) the noise made by the average machine does more harm to motor cycling than anything else. The reliability of motor cycles is generally known, and the vibration bogey is being rapidly dispelled, but the noise is indisputable. On nearly every machine there is plenty of room for a large and efficient silencer if manufacturers would only take the trouble to bestir themselves in the matter.

L.B.S.

A Savage Fine and its Result.

[4213.]-I deeply sympathise with Mr. A. F. Jefferies, and should like to take this opportunity of warning other motor cyclists. Intelligent use of a good map will often disclose roads not trapped by the police, and in this instance there is another route, more hilly, it is true, but free from the bugbear of motorists.

As a native of the town where the sergeant (who is in charge of this noted trap) hails from, I am given to understand that he has never worn the uniform of the police force, having gained notoriety and the position of sergeant by these motor trapping methods. WALTER CHARLES.

Sunday Competitions.

[4214.]-I am with "Anti-Humbag No. 2" in agreeing with "The Wandering Worm's" letter, and am also very sorry that he, as well as "Anti-Humbag No. 2," has written under a *nom de plume*.

No one will object to the A.C.U. suggesting that Sunday competitions should not be held, but, on the other hand, it is not nice to have pressure brought to bear to compel one not to hold them.

I do not think clubmen wish to restrict the A.C.U. in its endeavours to do good in any way, only sometimes its endeavours seem a trifle strange, such as pointed out in Mr. W. J. Akerman's letter last week, *re* allotting marks, etc., in reliability competitions.

"Anti-Humbag No. 2" appears to lose sight of the fact that all motor cyclists are not so lucky as himself with regard to Saturdays, and depend principally on Sundays to have a ride. I think he must be one of those riders who like to ride and at the same time advertise themselves with large labels on their machines, and by wearing armlets themselves. When such means attract good entries, I think it is time that other means were found. My experience is that other road users think that a road race is in progress when riders and machines are so labelled.

H. W. BEECH.

Deposit in Cylinders.

[4215.]-I very frequently read in *The Motor Cycle* various remarks as to the deposit which is found in cylinders.

If it is of any service to your readers I shall be very happy to make an analysis—free of cost—of the percentage of mineral matter in any of the deposits which riders may find in their cylinders, provided that the samples are sent through you and that a stamped self-addressed envelope is enclosed with the deposit for the result of analysis.

I cannot engage to make a complete analysis as that would take up too much of my time, but if just the statement as to the percentage of mineral matter is of any use to anyone I am at your disposal.

ANALYST.

An Old Complaint.

[4216.]-Perhaps you could find space in your splendid paper to listen to a little difficulty that presents itself to many motor cyclists in Ireland, and, indeed, I expect, in other countries. Frequently when out riding I have to stop in small towns for petrol. I am invariably informed that I can have a two-gallon can, but cannot have any less.

Now, very few cycle tanks, even when quite empty, will hold two gallons; mine most certainly will not. I have therefore to leave sometimes as much as a gallon and a half behind. This is really very wasteful, and may deter some from going in for the sport.

I am writing in the hope that some enterprising manufacturer may think it worth while to put on the market a one-gallon tin of petrol. Such would be a great boon to many, and would, I am sure, popularise the enterprising manufacturer's brand of motor spirit.

HIBERNIAN.

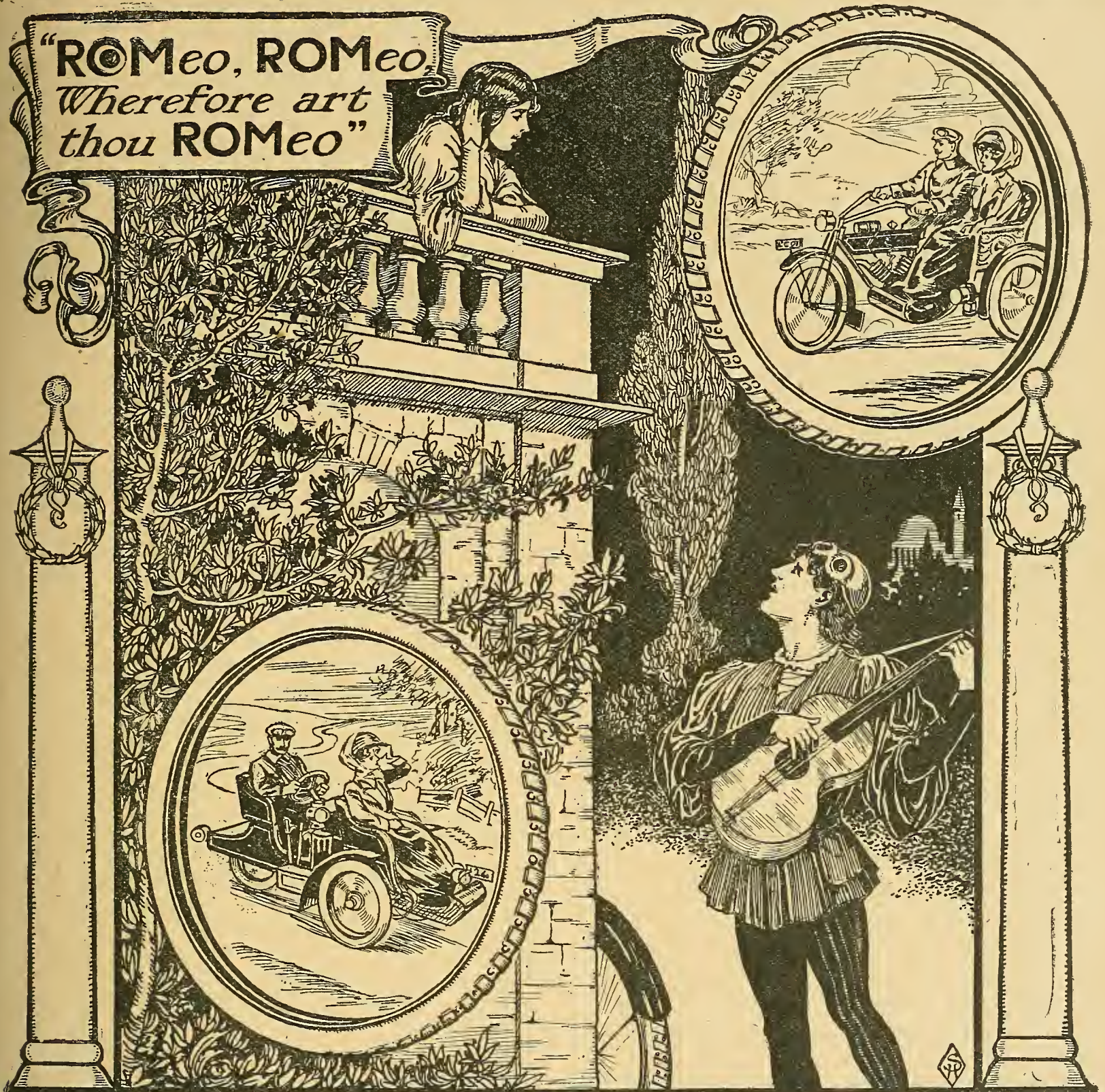
[Certain petrol firms put up their spirit in gallon cans, but they do not push the sale; in fact, we seldom see one.—Ed.]

The Lightweight Question Again.

[4217.]-On taking up *The Motor Cycle* and turning to "Letters to the Editor" pages, I observe that I am crushed by three gentlemen of more than double h.p. and 25 lbs weight. I have never ridden the Douglas, though it is a machine that I admire very much. Naturally, I should expect a 2½ h.p. opposed twin weighing 100 lbs. to do nearly as much as a 3½ h.p. weighing 160 lbs. The reason why I bought the little lightweight was this. The agent who sold it me had got hold of the theory which wanders round, that for half the weight you only require half the power. (I heard this theory first in 1903 in connection with a 2 h.p. Minerva.) This agent explained the theory so well that he made me believe it, and I bought the machine. Owing to the question of £ s. d., I am still riding it, and still suffering from very doubtful starting, having to nurse the machine up even small hills, and various minor troubles. I have completed 1,000 miles on it, and the only advantages that I can find are the ease of getting it in and out, and the fact that it does not squirt oil over one's trousers.

When I meet a kind friend on a Douglas, I shall try and get him to give me a run, and then perhaps I shall be converted, but until that day I still sign myself

EX-LIGHTWEIGHT.



Every modern Romeo
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Rubber
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—included FREE—forms all the equipment necessary for the Motor Cyclist who wants to get the BEST out of his machine.

—You cyclists who prefer the cleanliness and neatness of a Rubber Belt with as little loss as possible of the advantages of a Leather Belt, will find your ideal in this, the LYSO-Belt.

—It is made on the sound lines of the famous RAWIDO Leather Belt; it has the same shape of section, a similar fastener, the gap-less join, etc.; but, it has the intrinsic advantage of a RUBBER body—pure Rubber.

—Further, it has MAXIMUM FLEXIBILITY through the RIBS on inner and outer surface, and MAXIMUM GRIP by means of the SUC-TION HOLES at sides, etc.—a distinct improvement over anything else on the market.

—For the Racer; for the Tourist; for the Business Man; for the Hill Climber; THIS is the PERFECT and essential Belt. It always Grips—never Slips—and conserves the Engine power.

—See what TOM PECK says about it in our Ad. in August 11th issue

—Our price is moderation itself! only

1s. 6d. per foot

for the $\frac{7}{8}$ " size; or 1/10 for the 1", including fastener.

—Please state exact length required when ordering.

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Motorists should keep
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A Fortune Waiting in Glasgow.

[4218].—Perhaps you will allow me a few lines in your widely read paper to place a few facts before your readers, and at the same time to bring to the notice of some mechanic the direct road to making money. In this city of ours (Glasgow) there is a want, very much felt by motor cyclists, of a really first-class garage, where motor cyclists can have their machines properly repaired, and secure, when required, parts without having to send to England and elsewhere for them. With our so-called motor garages, should one require certain parts, the usual answer is, "Haven't got them; if you care to wait will send." etc., etc.

I tell you, sir, there is a small fortune waiting for some enterprising firm or competent mechanic who would only give the idea of opening a business of the kind a thought for the requirements of motor cyclists. (Let it be the central part of the city.)

I hope through the courtesy which you generally extend to your readers you will find a small space in your paper for this letter, which may be the means of some firm settling in this city and meeting with the success which the opening of a shop for motor cyclists' requirements would, I am positive, bring them.

The great majority of motor cyclists in Glasgow will bear me out when I say the catering for their requirements in this city at the present time is simply disgraceful.

GLASGOW MOTOR CYCLIST.

Two-stroke Engines

[4219].—I do not think that Mr. McIntyre's letter [4150, July 21st] has successfully cleared up the difficulties raised in my last letter. The motor is apparently a three-port, two-cycle motor, i.e., valveless. The only place where a non-return valve would be of use to prevent a crankcase explosion is in the transfer passage, and there is no sign or mention of such a valve in the design as published in *The Motor Cycle*. [There is no valve in transfer passage, but there are gauzes which prevent flame reaching the crankcase.—Ed.]

With regard to flexibility, I hope to test this practically myself, but I will point out in passing what a very short time the mixture has to charge the lower part of the cylinder compared to a four-cycle engine. In the displacer pump motor, as arranged in the Dolphin car, the time of suction is arranged to be longer than in a four-cycle motor, so that at very high speeds this type of motor would take in a heavier charge, and therefore be more powerful. I admit the inferior mechanical efficiency of the pump motor, but I consider that this is amply compensated for by efficiency in other ways.

There used to be on the market some years ago a two-cycle motor of the type I advocate, called the Bichrone, and if any of your readers have ever ridden such a machine it would be interesting to have their experiences with it.

H. E. RENDALL.

The A.C.U. Quarterly Trials.

[4220].—I hope that next year the A.C.U. will impose somewhat stricter rules and conditions for the Quarterly Trials, and that the judges will be more exacting in allotting marks. At present the results are most misleading to the public. The "perfect" machine that wins the cup may quite possibly do what has actually occurred in the trials without losing a mark—it may finish with a flat tyre, broken exhaust pipe or oil pump glass; it will probably have waited about ten minutes to cool at the bottom of the test hills, and that in a non-stop run. It may be as noisy as anything, with a cut-out open, and yet get full marks for silence; it may take over a quarter of an hour to get the back wheel out, or twice that time to remove the cylinder, and it will get full marks for accessibility. It may want paraffin injections and pedalling on the stand to start, and yet it will get full marks for ease of starting. In fact, the whole system of marks as at present administered is absurd, and fails to differentiate between the many good (but none perfect) machines.

For next year I should like to see a harder course, but certainly something like the following ought to be carried out:

BRAKES.—A test should be made on Stokenchurch hill, and marks lost unless the machine pulls up dead. More marks to be lost unless the brakes are up to date and perfect on an examination at the end of the trial.

SILENCER.—Full marks for a really quiet silencer without cut-out. If cut-out is fitted, allow, say, 7 marks for a quiet

machine when it is closed, about 3 or 4 if it is still noisy (as many are). Tests to be made on full throttle before the judges with the machine on the stand. (N.B.: By the end of next year all competing machines would have a good silencer.)

STANDS.—Marks to be lost for a stand fitted on the back axle; also if it has to be bolted up on the mudguard. A spring holding stand is about perfect.

ACCESSIBILITY.—Any rider obtaining full marks should be able to remove the back wheel in five minutes. The judges should differentiate between those machines whose cylinder is readily detachable, and mark accordingly; if necessary, they should insist on its removal. I do not call a machine accessible if you have to take the engine out of the frame to remove a cylinder.

HILL-CLIMBING.—Any machine should climb both hills at 16 m.p.h. after cooling and rushing. Therefore the hills should be taken hot, and I suggest a stop halfway up Dashwood and a restart, average pace, including the stop, to be 18 m.p.h. This will give an advantage to the flexible engine and also to two-speed machines. (I do not ride one of the latter myself.)

EASE OF STARTING.—Penalise any machine which has to be eased by injection of paraffin or petrol after the luncheon stop, and which fails to start first push of the pedals.

COMFORT.—Give marks for large and efficient saddles, comfortable spring forks, and low footrests. Deduct marks if machines have not these essentials.

MUDGUARDS.—Penalise machines minus belt guards, front wheel side pieces (as the Rex and Humber have), and those without front wheel mud flaps.

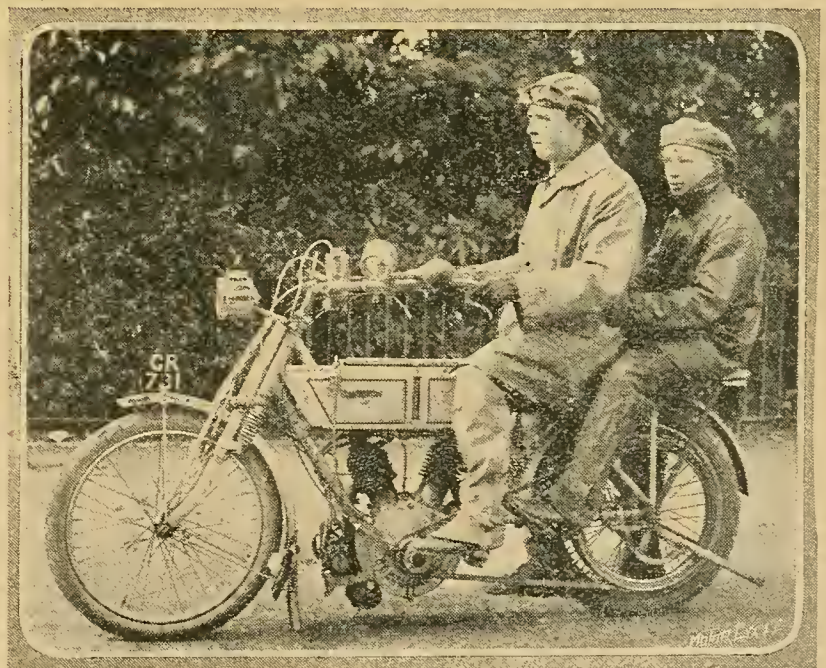
CONDITION.—Deduct marks for anything which has broken or come loose in the day's run, and for dirty engines.

RELIABILITY.—Why should a machine which stops on a hill lose marks for hill-climbing and reliability?

These points should be strictly insisted on by the A.C.U. and its judges, and they will help next year to bring out a really good machine and water down the full markers. Instead of getting 100 marks in the last Quarterly Trial, I should with many others have lost marks if they had been differently awarded. I hope to see no "full markers" in the Quarterly Trials next year.

FULL MARKS.

[4221].—Will you allow me in justice to the manufacturers of my machine—the Advance Co.—to point out that although mine was not recorded as a non-stop run in the above trials this fact should not be regarded as detrimental in any way to the machine itself. As stated in the report in *The Motor Cycle*, I was carrying a passenger on the back carrier, and the total weight of machine, passenger, and self was 566 lbs.



C. H. Crole-Rees, who competed in the last A.C.U. Quarterly Trial, carrying an extra passenger on his single-gear 6 h.p. Advance Twin.

On top of this I had to run with a 3 $\frac{1}{2}$ to 1 gear, as I could not then reduce it any lower, it was, therefore, not surprising that I had to drop my passenger on such hills as Dashwood and Rectory.

CECIL H. CROLE-REES.

Touring in North Wales.

[4222.]—I noticed in the description of the A.C.U. Six Days' Trials what a small percentage of single-gear machines successfully climbed Dinas Mawddwy hill. I made a special journey there last Bank Holiday to make an attempt mounted on a 5 h.p. twin Tourist 1909 Rex minus pedals.

The machine was geared 4 to 1 and in full touring trim, and myself weighing 11st. 4lbs. It may interest your readers to know that I climbed the hill first attempt quite clean at a good pace. There was no wind, but the mud was bad in places owing to the rain. I really cannot understand why so many machines failed, as no doubt they would be geared much lower than my machine. I think this speaks volumes for the Rex machine as regards power. I find the plugs soot up fairly frequently, although I drive carefully and use a good oil (Price's A.) Can any of your readers with any experience of the 1909 twin recommend a good plug.

I should like to warn any riders contemplating a tour round Dolgelly as the roads in some places are absolutely unrideable owing to heavy traction engine traffic. I myself had to push my twin up the three miles from Dolgelly to Cross Foxes Inn on the road to Dinas. I trust you will find room in your interesting paper for this warning, as no doubt many motor cyclists inspired by the review of the trials will be making a tour *via* the hill and the above-mentioned road.

FRANK H. CHRINES.

Lubrication.

[4223.]—I am pleased to see that Mr. E. Allan Glen's letter [4165], July 28th, has re-opened this much debated question. If his invention accomplishes all he claims, I should like to see him prove it by demonstration on Brooklands or any other track. It would be interesting to hear whether water-cooled as well as air-cooled oil may be used.

ARTHUR PRATT.

[4224.]—I am much obliged for the interest a number of your correspondents have taken in my oiling experiment, and would like to reply to those who have written upon the subject up to now.

In reply to Mr. J. Metcalfe, my engine did not usually gum up. It only "stuck" after the phenomenally long distances run without oiling, when, I take it, the oil was practically exhausted in the crank case, and the piston was almost upon the point of "seizing." As I stated, however, paraffin easily freed it, just as though it were gummed by excessive oiling, and I ran a distance of fifteen miles home with no ill effects. In the case of my engine, smoke did not issue when I injected one pumpful after the long runs mentioned. I would also add that my oil tap was a good fit, and was closed properly on the occasion mentioned, as on all others! Mr. Metcalfe's experience is certainly an interesting one, but is not identical with mine.

Replying to Mr. C. Fortescue Reade, my piston rings were new, and were only being "worked in." I still think that the unwonted stiffness in starting, after two successive distances of sixty-two and eighty-two miles with only one pumpful between, was caused by threatened seizure. A stiff piston, when trying to start, after only a few minutes' stop, the engine being still hot, is, I think, a fairly good indication of this. When the piston rings have become worn I will look out for the stiffness Mr. Reade mentions.

In reference to "H. G.'s" observations, my machine was not a new one, but was nearly a year old when I attempted the oil "starving" experiment. The engine had been cleaned fully a month before, when three pumps of oil were put into the crankcase (the usual amount after emptying), so it is most unlikely that there was a surplus of oil there, especially as the starting was usually easy, paraffin or petrol injections not being required. The astonishing thing to my mind is that after the exceptionally long distances run without oiling the engine continued, then and afterwards, to run well, although only one pumpful was injected after these distances, and not two or three pumpful. The cylinder was not removed for inspection, as the motor continued to work so well, a charge being given thereafter every thirty miles. It should be remembered, though, that the speed all this time was extremely moderate, principally owing to daily traffic riding, and during the long mileages above referred to I only touched legal limit occasionally. "H. G." asks

for particulars of my method of mileage computation. Well, every run, no matter if only of two or three miles, was carefully recorded in my pocket diary, and all the distances were taken from the "Cyclists' Touring Club Route Book," which I have found to be reliable. The only mistake which could have been made was that of omission, which would make the performance of the engine even more remarkable! Had there been any doubts about it I certainly would not have written to *The Motor Cycle* on this subject.

I might add that two months after the three charges above mentioned were put into the crank chamber, I emptied it out (the mileage being 950), and it stood a quarter of an inch high in a quart oil tin. I make it that there was a little under one pumpful in the crankcase, but, of course, a considerable quantity would adhere to the flywheels, cylinder, piston, etc. (Ten miles had been covered since the last half-pumpful was put in. I oil in half charges now, about every fifteen miles.) When a further distance of 250 miles was covered (three pumps having been again injected, after emptying the crankcase), the engine was taken down for removing carbon deposit, and I was told there was just the right amount of oil in it, and that the oil was not dirty. The deposit was just the average amount in 1,200 miles. This would go to show that for 15-20 m.p.h. a pumpful each thirty miles is enough.

The only reason I tried such distances as sixty to eighty miles without oiling was to see how far I could go at a moderate speed before the engine actually showed signs of requiring oil, as my previous machine always did so by falling off in speed if a pump were not given every eight miles at the outside! My experience was, as already related, that the only sign was stiffness of the piston (not through gumming), after a few minutes' stop. If this only occurs after sixty or eighty miles, the inference is that about every thirty miles is not too little. I should add that the engine never smokes, except when three full charges are put into the crankcase after cleaning out or emptying it.

Another thing which I wish to make clear is that the distances mentioned as having been covered without oiling are not necessarily continuous runs; they really are the aggregate of several runs, principally short. However, possibly the machine would have run nearly as far on a single journey if not driven above eighteen miles per hour, and if many hills were not encountered *en route*.

To conclude, the distance run between each pumpful (after the first three pumps referred to were injected) was as follows: 15 miles, 13, 12½, 22½, 15¼, 22, 19¼, 18½, 21, 19½, 22, 29, 30, 62, 82¼, 29½, 35¼, 36, 31¾, 34, 29¼, 31½, and there after about every 30 miles. The starting was stiff after the two longest distances, but easy on all other occasions. It will be noticed that the amount of lubricant given after the two occasions mentioned was even less than usual.

OILE.

SUMMARY OF CORRESPONDENCE.

J. E. Newing writes, that he has had a splendid run from Walthamstow to Land's End and back on a 4½ h.p. Bradbury tricar, with passenger and luggage, taking every hill on the road. Owing to the splendid quality of the R.O.M. tyre fitted to his machine he had no punctures whatever *en route*.

Price's Patent Candle Co., Ltd., write: "In the recently concluded A.C.U. Six Days' Trial all but three of the competitors who completed the trial were using one or other of our three grades of Motorine. It has come to our notice that two malicious and absolutely unfounded rumours with regard to this success are floating around. We are said, in the first place, to have been supplying oil superior to our regular brand, and, in the second place, that we were giving it all away. We may say, firstly, that the oil used by the competitors was in every respect absolutely identical with that offered for sale; secondly, that, with the exception of one half gallon given to a prominent trade rider, every drop was paid for to Mr. Luff Smith at usual rates."

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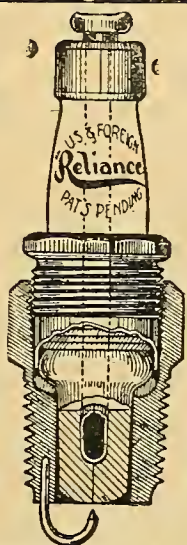
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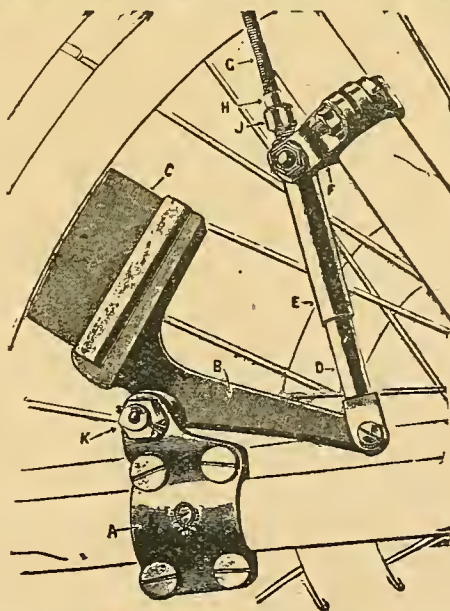
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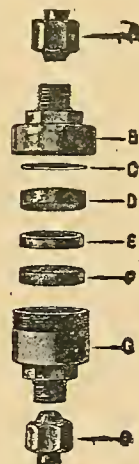
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Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

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The following have all been **EXAMINED** at our Works. Any machine may be had on **APPROVAL**.

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SINGLE-CYLINDER.

REX Tourist, 1909, magneto, 3½ h.p., good as new	£34 0
TRIUMPH, 1907, magneto, 3½ h.p., good condition, perfect running order	£26 0
VINDEC, 3½ h.p., magneto, Truffault forks, just overhauled, re-enamelled, and plated	£25 0
VINDEC, 3½ h.p., magneto, Truffault forks, two-speed gear, perfect order	£25 0
N.S.U., 2½ h.p., magneto, two-speed gear, 1907	£21 0
N.S.U., 3½ h.p., magneto, 1908, perfect	£22 0
ROC, 3½ h.p., magneto, clutch, good order	£14 0
CLARENDON, 3 h.p., low Chater-Lea frame, attractive mount	£10 10
REX, '06, 3½ h.p., good order	£10 0
REX, '05, 3½ h.p.	£9 0
LINON, 3½ h.p., very good order	£8 0
MINERVA, 2½ h.p.	£6 10
REX, John-o'-Groat's Model, perfect running order	£5 10

TWIN-CYLINDER.

REX DE LUXE, 5 h.p., 1909, like new	£42 0
N.S.U., 4 h.p., magneto, 1908, two-speed	£34 0
ROC-PEUGROT, magneto, 5 h.p., 1908	£35 0
ROC, 1909, run 300 miles only, special bargain	£41 0
REX, 1906, splendid condition	£13 0
KERRY, 5 h.p., low saddle, handle-bar control	£17 0
FAIRY Lightweight, 1909, ridden 200 miles	£24 0
MOTO-REVE, very little used	£25 0

TRICARS, ETC.

LITETTE, 1908, water-cooled, grand order and condition	£45 0
CHATER-LEA triear, Garrard engine, excellent machine	£10 0
HUMBERETTE car, fine bargain	£30 0

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Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision after the goods is three days. For all transactions exceeding in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and all money orders should be made payable to Messrs. Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answers to their enquiries are requested to register their names as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

2½ h.p. 1909 Twin N.S.U., magneto, perfect condition, very little used; £32.—Apply, Hodgson's, Northumberland St., Newcastle-on-Tyne.

3½ h.p. Minerva, late 1906, standard model, ad. out, show machine; cost with extras and sacrifice £14, or nearest offer.—130, Westce Rd. Shields.

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F.N., 1½ h.p., lightweight, 1908, very good condition, splendid hill-climber, magneto, spring fork, seat-pillar, handle-bar control, B. and B. car, Palmer back, spares; £18.—Wilson, Linden Cottages, Morpeth.

1¾ h.p. F.N. Lightweight, magneto, handle-bar control, new last year, in grand order, 17 g. 5 h.p. twin Rex, winner in competitions, £15; sold for Triumph, Humber, and N.S.U. motor cycles for booklets.—Turvey and Co., The Motor People, land.

SECTION II.

York and Lancashire.

DOUGLAS, Lincoln Elk, Norton, and Ariel cycles in stock.—Gourlay, Fallowfield.

N.S.U., 3 h.p., magneto, two-speed, spring fork, cost £45.—Harrison's, 73, Bold St., Liverpool.

3 h.p. Fafnir, steel non-skids, powerful; stamp, £8 10s., push bike part.—2, Farnfield St.,

3½ h.p. Brown, run 400 miles, speedometer, 17 g. new; £22.—G. Sinclair, Stepney Rd., Scarth

2½ h.p. Ariel, good condition, two accumulators; £9 10s.—Woodward, Langford St.,

4 h.p. Perry for sale, cheap; want 2½ h.p. small vertical engine.—Hough, 45, Zetland St., So

4 h.p. Chase, with all spares, good condition; offers, bargain.—Herbert Green, Killamarsfield.

£8.—2 h.p. Minerva, very fast, perfect, reliable push cycle, cash; stamp, photo.—72, W. St., Hull.

PHELON and Moore, 3½ h.p., two speeds, later, with sidecar; £20, or offers.—Mills, town, Sheffield.

REX, 3½ h.p., registered May, 1908, magneto, forks, splendid condition; nearest £22.—6, net Terrace, Leeds.

3½ h.p. Rex, 1906, spring forks, all accessories, recently overhauled; trial; cheap, £12.—ham Rd., Preston.

4 h.p. Roc, magneto, free engine, good condition, or exchange for lightweight and cash.—Eman, Rothwell, Leeds.

PEUGEOT, 10-12 h.p., 4 cyls., tonneau, 4-seater, screen, spares; £65.—Stockport Garage, ton Rd. N., Stockport.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

IPH, 34h.p., 1907 model, in first-class condition, plate with all tools, privately owned; £29.—Bros., Lytham.

6h.p. Twin, Roc two-speed and free, handle-ting, fitted to Milford sidecar (rigid); offers. den St., Bolton.

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Magneto Brown, grand condition, Longuemare, and-carrier, footrests, complete, low, very fast; Monntfield, Prestwich.

Twin, brand new, two speeds, magneto, free en-, spring forks; open for offers.—Stockport Gar- ington Rd. N., Stockport.

POOL.—Triumph and Douglas motors in k at Hitchings, 74, Bold St., the sole agents. rty of accessories at lowest prices.

TIONLESS Douglas, the best lightweight on market and British made; send for list and als.—Hitchings, Ltd., 74, Bold St., Liverpool. nts for Douglas and Triumphs.

INGS, Ltd., specialise in Douglas lightweight otor cycles. Inquiries receive prompt and attention.—74, Bold St., Liverpool.

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ER Motor Cycle, magneto, spring forks, two- d gear, lamp, and accessories, only run 300 35; owner buying car.—Dean, Carnforth.

Berley, Amac carburetter, handle-bar control, eett's saddle, suitable for sidecar work; £17 offer.—Galloway, 6, South Parade, Doncaster.

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G.B., low, fast, recently overhauled, Sharpe's lencer, also coach-built forecar for same, seat , bargain.—P. Bilbrough, Belmont, West Park,

IPH, 1908, as new, studded tyres, butted es, perfect, horn, spares, tools; £33 the lowest; ghtweight.—255, Waterloo Rd., Hightoun, Man-

offer.—1909 lightweight 24h.p. twin N.S.U., no her use; ride 40 miles to purchaser; lamp, , complete.—W. Swinburn, 40, Cardigan Lane, Rd., Leeds.

Bat-J.A.P., September, 1908, magneto, Roc two- gear, handle-bar controlled, J.A.P. carburi- ridden 500 miles.—Jackson, 12, Royal Ex- Middlesbrough.

34h.p. Bradbury, as new, perfect condition oughout, done 1,000 miles, Dunlop tyres un-, spares, etc.; £30, or nearest offer.—Jes- eweller, Wigan.

IPH, 34h.p. (late 1908), delivered February, 09, excellent condition, lamp, horn, tools, all ncluding new Stanley-Dermatine belt; £36.— Hanover Sq., Leeds.

EC Twin, 5h.p., magneto, Brown and Barlow car- etter. Clincher tyres, late 1908 machine, many handle-bar control; bargain, £32.—Baxter, Lower Walton, Warrington.

Bradbury, 24h.p., excellent condition, handsome ppearance, good climber, real good tyres, Lon- low seat, long bars, adjustable pulley, lamp; —Bainbridge, Holmfirth; near Huddersfield.

5h.p. Minerva, handle-bar control, Brooks spring at, spring forks, lately re-enamelled, good run- er; owner leaving England; lamp and tools ; £20.—A. B. Knowles, Moreby Hall, York.

Twin Peugeot, Chater-Lea throughout, Chater- ing forks, X'fall spring saddle, done under 800 25, or close offer; also Montgomery flexible £4 10s., bargains.—Blamire, Forshaw St., Bar-

s. 11d. each. Want slight adjustments.—34h.p. x, 2h.p. Thomas, 24h.p. Lloyds, 3h.p. Lloyds, oventry Eagle, 24h.p. Antoine, 24h.p. Bradbury; h order.—Halifax Motor Exchange, Westgate,

TRATED List of second-hand Rex motors, and aster list of triars and motor cycles on applica- ilfax Motor Exchange, Westgate, Halifax.

Minerva, spring forks, adjustable pulley, 26in. eels, stand, carrier, lamp, spares, etc., with d Fulford art cane rigid sidecar, Dunlop tyres, n, all in good condition; accept £25 the lot.— ountil, 35, Highgate, Beverley.

RVA and Rex.—We carry the largest stock of ure parts in the provinces for these machines, ver new machines from stock at low prices; change, or gradual payments; charged accumu- ur hire, 1s. per week.—Cookson Bros., 511, Rd., Old Trafford.

Brown Motor Cycle, absolutely as new, accu- ulator ignition, Ducu non-skid on back, bag, s, registered, electric lamp, horn, bought new, 1909, and cost £37 for spot cash; used only 0 miles; sell for £20, or near offer; absolutely ed, packed in crate; sent anywhere.—Cording- linden. Tel.: 2Y.

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MODEL A, £4 17s. 6d. CASH.

Built of best weldless steel tubing, luxuriously up- holstered, and beautifully sprung on double C springs. Attached in three minutes; no side slip; fit either right or left side. Fully guaranteed.

FOUR ONLY.

3-6 h.p. REX Lightweights, magnetos, B. & B. carburetters, handle-bar control, splendid hill- climbers. £17 17 0 or exchange.

1908 3½ h.p. N.S.U.'s.

SIX, brand new, packed in crates, as received from makers, fitted with magnetos, 26in. wheels, stand and carriers, tool boxes and tools. List price £46.

Our Price £32—cr near offer, or exchange.

ALL OUR MACHINES ARE TESTED.

1909 3½ h.p. HUMBER, new	£45 0
1908 WOLF Lightweight, nearly new	£13 10
1909 3½ h.p. REX, two speeds, new	£52 10
1908 3½ h.p. REX Tourist, new	£29 10
1908 3½ h.p. N.S.U., brand new	£32 0
1909 3½ h.p. TRIUMPH, Continentals, new	£48 0
1909 3½ h.p. TRIUMPH, Palmer cords, new	£49 0
1908 3 h.p. REX, magneto	£17 10
1908 2 h.p. MOTO-REVE, magneto	£25 0
1908 3½ h.p. N.S.U., magneto, nearly new ..	£25 0
1908 3 h.p. N.S.U., magneto, smart	£22 10
1908 3½ h.p. REX Tourist, magneto	£25 0
1907 3½ h.p. REX, magneto, 24in. tyres ..	£18 10
3½ h.p. THOS. SILVER, magneto	£18 10
5 h.p. Twin ROC, Roc clutch, magneto ..	£29 10
5½ h.p. REX DE LUXE, magneto, Roc clutch, handle starting	£27 10
4 h.p. Twin N.S.U., magneto, two speeds ..	£22 10
4½ h.p. Twin MINERVA, magneto	£22 10
3½ h.p. TRIUMPH, 1908	£35 0
3 h.p. QUADRANT, cost £45	£6 15
4 h.p. ANTOINE, M.O.V., 26in. wheels ..	£12 10
5 h.p. Twin REX, and Sidecar	£19 19
3½ h.p. REX, 1906, 26" wheels, spring forks	£12 12
3½ h.p. REX, 26" wheels, handle-bar control	£11 10
3 h.p. FAFNIR, 26" wheels, handle-bar control	£9 10
2½ h.p. MINERVA, M.O.V., low	£8 15
2 h.p. MINERVA, M.O.V., smart	£6 15
3½ h.p. REX, cost 50 guineas	£6 15

Send for list of other bargains—best, biggest, and cheapest stock. Cash buyers receive special quotations.

£2 10s. and a push cycle secures—

2 h.p. HUMBER.	2 h.p. PIEPER.
2 h.p. WERNER.	2 h.p. LIBERTY.

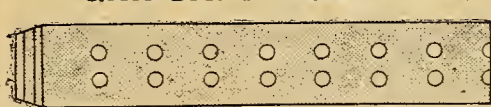
TRICARS.

4 h.p. STEVENS, fan-cooled, powerful	£12 12
4½ h.p. REX, fan-cooled, free engine	£13 13
5½ h.p. REX, open frame, two speeds	£29 10
5½ h.h. REX TRIETTE, 1909 model, air-cooled, art cane chair, two speeds, free engine, magneto, handle-starting, cost £66 a few weeks ago	£37 10
8 h.p. FAFNIR, two cys., open frame	£35 0
Forecarriage attachment, with tyres	£3 15
5 h.p. Twin ROC, magneto, Roc clutch, handle-starting, fitted with new sidecar	£30 0

CORONET ADJUSTABLE PULLEY.

The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contri- vance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade. Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

"GRIPSKIN" BELTING.



Made from selected parts of hides, correct angle, perfect drive, the best leather belt on the market. Longer life than rubber. 3in., 9d.; 3in., 10½d.; 3in., 1/-; 4in., 1/1. Special terms to the trade.

CARBURETTERS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,

CHARLES STREET, off Square Road, Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

HODGSON, of Bradford, has the following for sale: F.N., 1½h.p. magneto, spring forks, spring foot- rests, geared pulley, in new condition, £20; Rex, 3½h.p., climb anything, £10; N.S.U., 3½h.p., magneto, every- thing in perfect order, £20; triear, 5h.p. Antoine, foot- boards, two speeds and free engine, handle starting, sur- mount any hill with two up, £25; carburetters, F.N., Longuemare, N.S.U., any 7s. 6d.; N.S.U. free engines, new, £1; Advance pulleys, new, 10s.; horns, very loud, 13in. long, 4s.—Hodgson, The Cycle Man, 10, Horton Rd., Bradford.

SECTION III.

Canarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

1909 Triumph, delivery from stock: Palmer cord tyres; £48.—Altrincham Garage, 1, Church St., Altrinc- am.

TRIUMPH, 1909, 3½h.p., can supply from stock; no waiting.—Bacon, 65, New St., Wellington, Shrop- shire.

5½h.p. Rex de Luxe, Roc clutch, magneto, as new—£26, or exchange Triumph.—Condliffe, Kildgrove Stoke.

1909 Triumph, two months old, for 1909 magneto twin, two-speed; sell £42.—Cecil Rice-Oxley Shrewsbury.

F.N., 3½h.p., 4-eyl., magneto, excellent condition buyer could ride away; £19.—Wynne, Coedpoeth near Wrexham.

6 h.p. Rex, blue finish, Roc clutch, magneto; any trial; £30, or ex- ange two-speed Humber.—Cond liffe, Kildgrove, Stoke

2 h.p. Minerva, B.S.A. accumulator, also new push cycle; exchange both for higher power.—Bower, Church Rd., Wilmslow.

3½h.p. Vindec Special, magneto, Truffault, full equip- ment, irreproachable condition; nearest £25.—Garrow, Police Office, Alfreton.

CLEMENT-GARRARD, 1½h.p., in good condition, less accumulator, low, Clinchers; £5.—Dooley, South St., Greenhill Lane, near Alfreton, Derbyshire.

B.S.A. Motor Cycle, Fafnir engine, spring seat-pillar, back and front brake, perfect going order; bar- gain, £10, or exchange.—Spence, Optician, Ilkeston.

3½h.p. Rover, chain driven, free engine, in very good condition, 26 by 2½ tyres, Goodrich, very reli- able; £10. worth more.—H. Wyatt, "Firs," Whitchurch.

MOTOSACOCHE, spring forks, accumulator, Brooks saddle, splendid running order, new tyre on back, stand-carrier; 15 guineas cash.—Frank, Price St., Burslem.

3 h.p. N.S.U., magneto, electric lamp, tools, spares, new detachable non-skid band, new Shamrock - Gloria belt, spare tube; £20.—Bradford, Bridge Rd., Wellin- gton, Salop.

3½h.p. Motor Cycle, Whitley engine, Palmer cord tyres; £12. would take good second-hand push bicycle in part pay ment.—Bacon, Plough Rd., Wellin- gton, Shropshire.

5 h.p. Twin Peugeot, C.L. frame, new 2½ Palmer tyre, spring forks, H.B. control, new Stanley belt, first- class running order; £16 10s. quick sale.—Moore, 22, Vicarage Place, Walsall.

3½h.p. Rex, very low frame, long handles, terpedo tank, Lycett's belt, Brown-Barlow, Peter-Unions back (new), new accumulator, powerful; £7 19s.—Music Repository, Oakengates, Salop.

ANTOINE 6-7h.p. Twin, as new, Chater-Lea thugh- out, Continentals, Model de Course, new, long base, low built, new Amac H.B. control, coil, accu- mulators, re-enamelled and plated; must sell; £25.—Chet- wood, Hospital St., Nantwich.

HUMBER, latest single speed 1909 model, success- ful six days trials, £35; N.S.U., 3½h.p., magneto, perfect, £18; Triumph, 1906, grand machine, £20; also new Triumphs and Humber in stock; exchanges.—Oswald Parker, Melbourne, Derby.

24h.p. F.N., 1908, magneto, spring forks, used for long distance touring, specially reliable, fast, great hill-climber, panniers, two spare Glorias, spare tube, unused Broadhurst searchlight, ride 80 miles to pur- chaser; 20 guineas.—Rorke, Bron Aber, Criccieth.

DOUGLAS Lightweight, British made, twin cys., magneto, spring forks, a revelation in comfort, ease of starting, power, and reliability, absolutely vibra- tionless; write for lists.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

3½h.p. Triumph, 1907, in excellent order; price £25, no offers.—202, Rugby Rd., Leamington.

1909 Triumph Motor, new end of April, in splendid condition; price £38.—Guyver, Stratford-on-Avon.

2½h.p. Ariel Lightweight, good order, spares; £12, or 2 best offer.—Woodstock, 68, Broad St., Birming- ham.

3½h.p. Minerva, in good running order, Watawata belt; 10 guineas.—No. 2,978, The Motor Cycle Offices, Coventry.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1908, R.O.M. back, Clincher front, very fast, perfect; £33.—Bioscope, Grand, Birmingham.

1909 Twin Rex de Luxe, not delivered, cannot accept delivery; offers.—Box 3,032, *The Motor Cycle* Offices, Coventry.

4-CYL. F.N., good order, just overhauled at cost of £5; price £15, or best offer.—Woodstock, 68, Broad St., Birmingham.

1908 Triumph, lamp, tools; open expert examination; owner bought car; £35; trial any time.—Molesworth, Ketton, Stamford.

1909 Humber, latest, two-speed Druid forks; accept £38 10s.; also Montgomery sidecar, £5 10s.—358, Stratford Rd., Birmingham.

MINERVA, 2½ h.p. (develops 3½ h.p.), new Palmers, Chater-Lea frame, accessories; trial; £11 10s.—Lewis, 23, Arden Rd., Handsworth.

1½ h.p. Twin N.S.U., magneto ignition, in excellent condition; absolute bargain.—C. Evans, 31, Hillaries Rd., Gravelly Hill, Birmingham.

4 h.p. Magneto Roc, excellent condition, 2½ heavy Continentals, unpunctured, Brooks non-skid on back; 18 guineas.—2, Dolman Rd., Erdington.

1909 3½ h.p. Triumph, condition perfect as new, complete with accessories, spare tyre, etc.; £40, lowest.—Oswald House, Queen Victoria Rd., Coventry.

L.M.C., brand new, shop-soiled only, finished dark green, magneto and spares; £35.—Thomas Clayton and Son, Ltd., 125 and 126, New St., Birmingham.

1909 3½ h.p. Triumph, Palmer cord back, spares, lamp, generator, guaranteed perfect; any examination; trial; £41 10s., near offer.—21, College Rd., Saltley, Birmingham.

CLEMENT-GARRARD, 3½ h.p., twin, condition as new, three accumulators, spare tyre, belt, etc., change speed gear, all spare parts and tools; £20.—Antrobus, Tower St., Birmingham.

6 h.p. N.S.U., two speeds, free engine, magneto, all spares, tyre, speedometer, castor wheel sidecar; sell cheap; exchange small car (motor bike, 3½ h.p., and cash).—91, Court Rd., Balsall Heath, Birmingham.

6 h.p. N.S.U., late 1908, magneto, spring forks, Lomax non-skid tyres, as new, guaranteed perfect throughout, little used, many spares; bargain, £27 10s., or nearest.—3, Goldsmith Rd., King's Heath, Birmingham.

REX Twin, 5 h.p., 1908, scarcely used, as new, and unspratched, two-speed, Roc clutch, and free engine, faultless, also brand new Montgomery flexible car; combination cost £70, sell £45, or separately.—Secretary, Y.M.C.A., Leicester.

APPROVAL Anywhere.—1906 5 h.p. twin Kerry, £16 10s.; 1907 4 h.p. Hobart, magneto, £17; 1905 2½ h.p. Werner, £8 10s.; 1906 3½ h.p. Quadrant, £12 10s.; 1907 twin Rex, £14 10s.; all in perfect and reliable condition.—C.C.R. Motor Works, Ford St., St. Ann's Well Rd., Nottingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

BARGAIN—Motococche, grand condition; £18.—Cox, 25, St. Andrews St., Cambridge.

TRIUMPH, 2½ h.p., excellent condition, plenty spares; inspection invited.—6, Cornhill, Wisbech.

5 h.p. Twin Rex, long handle-bars, very fast, ready for road; £14.—West Hill, Bury St. Edmunds.

FOR Sale, Motor Bicycle, Triumph.—Apply for particulars, H. J. Finch, Crofton, Sudbury, Suffolk.

£15 only for my 3½ h.p. Minerva, spring forks, everything in perfect running order.—Brown, Motorist, Rethford.

2½ h.p. Ariel, perfect running order, two accumulators, 2 good tyres, lamp, etc.; £16.—16, Willoughby Rd., Ipswich.

2 h.p. Enfield Lightweight, in good running order, spray carburettor, Clincher tyres; £6.—37, Searle St., Chesterton, Cambs.

TRIUMPH, 1908, with 1909 piston and cylinder recently fitted, new Rom back tyre, new belt, spares, excellent condition; £35.—29, Cauldwell Hall Rd., Ipswich.

SPECIAL Racing 5½ h.p. Twin Rex, magneto, exceptionally low and fast, everything perfect as new, handle-bar control, B. and B.; best offer.—3a, Bridge St., Cambridge.

£8 10s., 3 h.p. Quadrant, spring forks, guaranteed; £5 10s., 2 h.p. Peugeot, perfect condition, guaranteed; £4 10s., 1 h.p. Universal lightweight, suit beginner; £28 6 h.p. Antoine tricar, Chater-Lea open frame, wheel steering.—The Motor and Cycle Exchange, Corn Exchange St., Cambridge.

1909 Triumph, free engine, condition perfect, Cowey speedometer, and watch, lamp and generator, unused, N.A.G. spring saddle-bar, large valise, with detachable fitting for touring, Clincher studded tyres, as new; to every examination; price £45; owner buying car.—Apply, H. W. Longhurst, The Cottage, Bromham Park, near Bedford.

Second-hand Motor Cycles quoted below are offered by Wauchope's, of 9, Shoe Lane, London, E.C., at sacrifice prices. First cheque secures each bargain, subject to their being unsold on receipt.

3½ h.p. N.S.U. (No. 1328) fast machine; £15. Guaranteed.

3 h.p. TRIUMPH (No. 1616), ball bearing engine, nice machine; very lowest price £15. Guaranteed. At Wauchope's.

2½ h.p. 1909 MATCHLESS (No. 1618), property of a doctor, on sale. Offers. Owner's address supplied.

2½ h.p. F.N., magneto ignition (No. 1614), spring forks; £12 10s. Guaranteed.

3½ h.p. CHATER-LEA Motor Cycle (No. 1560), throughout nice low built machine; left on sale at Wauchope's; £16 10s.

2 h.p. BROOKLANDS Motor Cycle, complete, on sale (No. 1585); price £16 10s.

3½ h.p. 1907 MINERVA (No. 1613); £15.

2½ h.p. BRADBURY, magneto (No. 1625); £17 10s.

3½ h.p. BROWN (No. 1547), two-speed gear; £18 10s. Guaranteed.

1½ h.p. MOTOSACOCHE, an ideal lightweight; £15 15s. Guaranteed.

5 h.p. SAROLEA and Sidecar (No. 1372), coupled up; £19.

3½ h.p. C.I.E. (No. 1554), magneto ignition, low frame; £10 10s.

4½ h.p. PHENIX TRIMO (No. 1623); price £22 10s.

6 h.p. QUADRANT Tricar (No. 1111), coachbuilt seats, open frame, two-speed gear; £22 10s.

5½ h.p. Twin-cylinder N.S.U. Motor Cycle (No. 1607), complete with two-speed gear, spring forks, coachbuilt sidecar. Guaranteed; £33 10s.

3½ h.p. CHASE Tricar (No. 1606), two-speed gear, free engine; £25.

5-6 h.p. F.N., 1909 model, new (No. 1627); price £38. Guaranteed. At Wauchope's.

3½ h.p. REX, 1907 model, magneto; £18 (No. 1550).

2½ h.p. BUCHET, running order; £5 15s. (No. 1566).

2½ h.p. HUMBER (No. 997); £5 15s.

MONTGOMERY Sidecar (No. 1619); £4 15s.

1½ h.p. CLEMENT-GARRARD, an ideal lightweight; £9 9s. (No. 995).

4 h.p. BAT (No. 1584); price £13 10s.

PHENIX Forecar Attachment; £8 (No. 1117).

3 h.p. TRIUMPH, magneto ignition, ball bearing engine; price £18 10s. Guaranteed.

5 h.p. BROWN (No. 1528), four-speed gear, twin engine, an ideal machine for passenger work; 20 guineas.

5 h.p. V.S., 1908 model, magneto, Truffault forks, standard model (No. 1577). Offers.

3 h.p. SIMPLEX, brand new machine, Fafnir engine, spring forks, low built; £23 10s. (No. 1398).

2½ h.p. 1908 New BRADBURY (No. 1206); lowest £16 10s.

2½ h.p. HUMBER (No. 739); £12 10s.

3½ h.p. Twin WERNER (No. 1443); £12 10s.; free engine clutch, chain drive, Chater-Lea fittings. Guaranteed.

4½ h.p. Twin MINERVA (No. 1534), 1908 model; £22.

6 h.p. MATCHLESS (No. 1559), twin, magneto, low frame; £27 10s. Guaranteed.

3½ h.p. PHENIX Cob, two-speed gear, suit lady or gent; £32 10s. Guaranteed.

3 h.p. TRIUMPH (No. 1465), ball bearing engine; £17 10s.

3½ h.p. GRIFFON (No. 1041), twin engine; £19.

2½ h.p. MINERVA (No. 1467), 1907 model; £12 10s.

6 h.p. BAT-J.A.P., spring frame; £25 (No. 936).

6 h.p. L. and C. on sale. Offers.

1½ h.p. Lightweight F.N., spring forks (No. 1596), magneto, handsome lightweight; £17 10s. Guaranteed.

7 h.p. PEUGEOT, magneto; £21.

6 h.p. Twin ANTOINE, powerful engine (No. 1542); £12 10s. Guaranteed.

5 h.p. PEUGEOT (No. 1628), in Chater-Lea frame, nice machine; £19. Guaranteed.

3½ h.p. 1907 TRIUMPH (No. 1637), Mabon free-engine clutch; £26 10s. Guaranteed.

(No. 1636) 5-6 h.p. F.N., 1908 model; £33 10s.; on sale.

1½ h.p. MOTOSACOCHE (No. 1633); £17 10s. Guaranteed.

3 h.p. 1908 TRIUMPH (No. 1638), standard model, handle-bar control; £29. Guaranteed.

3½ h.p. ZENITH (No. 1639); £16 10s.

5 h.p. REX DE LUXE, two speeds, 1909 model (No. 1646); £40. Guaranteed.

1½ h.p. MOTOSACOCHE (No. 1651). Offers.

2½ h.p. TRIUMPH, J.A.P. engine (No. 1660); price £12 10s. Guaranteed.

2½ h.p. 1909 DOUGLAS, standard model, as new; 30 guineas. Guaranteed.

1½ h.p. MOTOSACOCHE, 1908 model, spring forks (No. 1662); price £18. Guaranteed.

WAUCHOPE'S, 9, SHOE LANE, LONDON, E.C. (Off Ludgate Circus).

Phone, 5777 Holborn. Telegrams, "Opificer, London."

MOTOR BICYCLES FOR SALE

1908 Rex, 3½ h.p., £10; also 2½ h.p. motor, J.A. gine, £8; both in splendid condition.—18, Foster Hill Rd., Bedford.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

2½ h.p. Brown, excellent condition, nearly new; £4. Wilkinson, Llantwit Major, Cardiff.

2½ h.p. Minerva, Longuemare, fast, hill-climber, good condition; photo sent.—Robathan, Gu Malvern.

2½ h.p. F.N., just overhauled, new tyre, tube, and photo, stamp; £14.—W. H. Hancock, Eton, Evesham.

MOTO-REVE, 1919, with spring forks, perfect state particulars; cash price.—Miles, Rib House, Leominster.

2½ h.p. Star, good condition throughout, and in running order, spare belt, horn, etc.; £8. man, Homend St., Ledbury.

1909 Premier, nearly new, White and Poppe lamp, horn, tools, spares, etc., not do miles; £42.—35, Beauchamp St., Cardiff.

1908 Triumph, unspratched, double kit, spare alls, Cowey's speedometer, new inners, back, fast, climbs trees; trial given; £38.—Pho Redditch.

TRIUMPH (1907), splendid condition, fitted with able pulley, handle-bar control, 1909 fork, and mud flap, nearly new Clincher studded tyre medal London-Edinburgh; great bargain, £27. Passey and Hall, Ross, Herefordshire.

SECTION VII.

Gloucester, Oxford, Buckingham, Wilts, and Hants, and Channel Islands.

LATEST Triumph, with free engine, in stock, ling and Plenty, Ltd., Newbury.

3 h.p. Motor Cycle; £9; full particulars; trial borough, 21, Broad St., Banbury.

3 h.p. Fafnir, good condition; £10, or near Croft, Rutland Rd., Maidenhead, Berks.

3½ h.p. Humber, chain driven, clutch, near covers, running order; £10.—Kempe, Lorton, Bristol.

3½ h.p. Werner, twin-cyl., most reliable and fast chine; £15 15s.—T. Baker and Sons, Works, Reading.

3½ h.p. Midget Bicar, in perfect order, new belt did tyres etc.; £16, lowest.—Roberts, monger, Basingstoke.

3½ h.p. Triumph, 1908 model, Mabon clutch, well kept, like new machine; £38.—T. Baker and Sons, Motor Works, Reading.

MOTOSACOCHE, 1908, perfect, new heavy spare belt, accumulator; 15 guineas; exchange, Bitterne, near Southampton.

4½ h.p. F.N., 4-cyl., guaranteed perfect, and in did order and condition, and a fier; Browne, 10, Thames St., Windsor.

7-9 h.p. Tourist Trophy Model Vindec, splendid tion, set of spares; trial by appointment; at £43.—Bishop Morris, Garage, Oxford.

3½ h.p. Humber, 1909 model, two-speed, not us miles, fully guaranteed; £36 10s., no T. Baker and Sons, Motor Works, Reading.

N.S.U. Twin-cyl., 6 h.p., 1908 pattern, new Jul 1909, perfect condition; price £30 to quick.—Capt. Cheverton, Beaumore, Newport, Isle of W.

TRIUMPH, 1909, complete, spare parts, lamp and new tyre and tube; any examination; owner going abroad.—P. H. Edmunds, Tywford, Reading.

1908 3½ h.p. Rex, handle-bar control, magneto, able pulley, accessories, excellent condition or near offer.—Oldfield, Firs, Gosbrook Rd., Cave Reading.

CHOICE—5 h.p. Rex, absolutely perfect; Chater-Lea, very low, 13 guineas each; re gain, or exchange horse and cart or trolley.—C Fruiterer, Gosport.

6 h.p. Twin Antoine, in perfect order, very po low built, with new Shamrock non-skid ty Vance pulley, three brakes, head lamp, spares; any the first cheque for £24 buys this bargain.—S Lambourn, Ramillies Barracks, Aldershot.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, and Sussex.

MOTO-REVE Lightweight, magneto, almost nfect.—8, Barrett St., Manchester Sq.

WHITE and Poppe, 4 h.p., water-cooled, two car control; £18.—Below.

EXCELSIOR, 3½ h.p., two speeds, three brakes condition; £12.—60a, Trinity Rd., Upper T

2½ h.p. De Dion, perfect condition; bargain, 24, Cressingham Rd., Lewisham, S.E.

BICYCLES FOR SALE.

1907 twin, 5-6h.p., magneto, Roc spring forks, cantilever seat, twin tyre, 26, or offer.—Matthew Lang, 290, Ewell

fast, low, spring forks, H.B. control, on non-skids (unpunctured), Brooks B100, nearly new; trial: £12.—Bert, 16, Marsala

1908 model, spring forks, new Shamrock tyre, carrier, starting tank, adjustable condition; £22 10s.—Turpin, 29, Preston

brand new, magneto, lin. belt, 26in. 1908 specification: £30; approval; exchanged.—Eagles and Co., N.S.U. Agency, ton.

thoroughly overhauled, cylinder re-bored, two-ring piston fitted, Longuemare; £12, exchange entertained.—2, Park Terrace, Stafford

1909, splendid condition, Shamrock back seat, spare valve, Autoclipse lamp, about price £38.—Miller, 44, Longfield St., S.W.

Fafnir, magneto, long, low, spares, absolutely perfect throughout; a bargain, £15; seen only, Box 5,988, The Motor Cycle Offices, E.C.

Motor Cycle, Mabon free engine clutch, with Mabon sidecar, guaranteed in perfect order; only wants seeing; £21.—Fordyce, 69, Denham.

1908, magneto, 24in. wheels, Hella horn, spare belt and accessories, in good condition; cheap.—Gentry, baker, Station Park Green.

80 by 90, with sidecar, perfect running, adjustable pulley, Dreadnought back; £15; would separate.—Royston, 41, Nantast Ham.

Minerva, B and B. carburettor, handle-control, Mabon clutch, spring forks, Continental condition; bargain, £19 10s.—Lavington, 11, Barnet.

4h.p. Roc, late 1908, two speeds, free engine control, magneto, spares, practically sidecar; £36 10s., cost £55 10s.—8, 11, Clapham.

2h.p., been well cared for, condition almost new, X'all spring forks, lamp, butt-ended, bought Triumph; quick sale, £12.—29, d., Croydon.

Quadrant, in good condition, spring forks, all-climber, Longuemare carburettor, Watawata wanted; apply after 7 p.m.—61, St. Brixton, S.W.

4h.p., 2-cyl., Michelin studded tyre, new belt, spring forks, spray carburettor, splendid; sacrifice £14.—A.P., 134, Shooters' Blackheath, S.E.

De Dion, Chater-Lea, handle-bar control, new searchlight and accessories, per; £15; or exchange sidecar machine.—St. Enham, Watford.

COCHE, 1909, magneto, in grand condition, new, all tools, etc., or part exchange for 5h.p. to, etc., or sell £20.—J. W. Lewsey, 80, Ponders End.

prize winner, splendid machine, fast, practical, studded tyres, Fuller coils, three headlights; entertain exchange, low power.—Hms, Mortlake.

VE, 1909, twin cyls., magneto, ridden only, faultless condition, unpunctured, many ding belt, inner tube; £27 10s.—Bristow, 11, Worthing.

umber, chain drive, clutch, starting handle, sidecar machine, absolutely perfect, tyres, new, electric horn, tank gauges, clean engine, Twickenham.

low built, 26in. wheels, accumulator, control, new Bates non-skid bands, recently 17; appointment after 7 p.m.—Motor Cycle, Rd., Catford, S.E.

Dion, Roc clutch and two-speed gear, spring Chater-Lea fittings, handle-bar control, must sell; £20, sacrifice.—17, Kenmore St., Hackney, London.

3h.p., Albion free engine, new 4 Whittle, res. butted tubes, with new rigid sidecar, id condition, and spares; £20.—A. Crowe, isters Rd., Tottenham, N.

Chater-Lea frame, Brown and Barlow car, R.O.M., Riche's tube, Watawata, low and condition; will take sidecar; £25.—Box Motor Cycle Offices, Coventry.

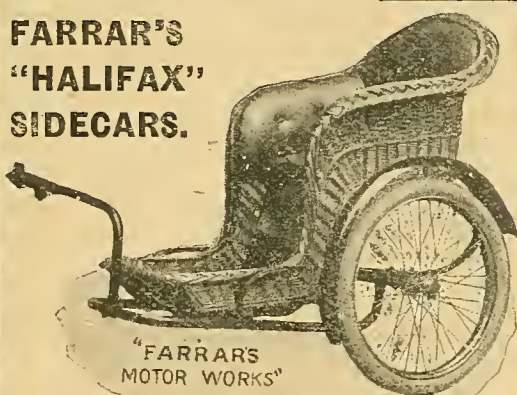
Special, 5ft., magneto, Truffault forks, excellent condition, back tyre, tube, and belt (new), lley; seen any time; £25.—Apply, North-Works, Northwood, Middlesex.

1908, low built, torpedo tank, fast able, two brakes, Amac carburettor, two stand and toolbag; £10 lowest; appointment, 24, Russell Av., Wood Green.

APOLOGY.

We herewith publicly apologise for the delay in delivery of our "Halifax" sidecars.

We have put down additional plant and can now deliver from stock. No waiting.

FARRAR'S
"HALIFAX"
SIDECARS.

Each £4 17 6 Each.

Best weldless steel tubing, plated runs, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

£3 DOWN sec res any of these.
Balance 5/- per week.

2½ h.p. Singer, mag.	£7 12	2½ h.p. Stevens	£6
3½ h.p. Rex	£9 1	2½ h.p. R. and P.	£8
3½ h.p. Dux	£9 1	2½ h.p. Minerva, M.O.V.	£9
2 h.p. Rex	£5 1	2½ h.p. Humber	£5
2 h.p. Nob e, M.O.V.	£7 1	2½ h.p. King	£8
2½ h.p. Whiteley	£7 1	3½ h.p. King	£8

CASH OR EXCHANGE.

4½ h.p. PHOENIX TRICAR, two speeds	£15 0
5 h.p. REXETTE, two speeds	£21 0
5½ h.p. REXETTE, two speeds	£24 0
3½ h.p. 1907 REX, Rom tyre	£15 16
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34 0
3½ h.p. BROWN, M.O.V., fine goer	£12 0
4 h.p. ANTOINE, M.O.V., fine goer	£11 0
5-6 h.p. ROVER Tricar, splendid goer	£18 0
3½ h.p. BROWN, magneto, 26in. wheels	£18 0
1908 N.S.U. Lightweight, magneto	£22 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
2½ h.p. 1906 REX M.O.V., spring forks	£14 15
REX DE LUXE, magneto, clutch	£26 10
5½ h.p. TWIN REX a beauty	£16 17
2½ h.p. REX, M.O.V., spray	£11 12
4 h.p. TWIN REX and Sidecar	£21 10
6 h.p. REX DE LUXE and Sidecar	£31 10

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £17 10s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. 33% cheaper than any other high-class belt. 5/6 ad. 3in 1/4. 3in 1/2. 1in. 1/6 per foot.

ENGINES.

1½ h.p. MINERVA	£1 5 0
2 h.p. QUADRANT	£1 10 0
2½ h.p. KING	£1 15 0

SPECIAL BARGAINS.

Rigid Sidecar, very good, coach built	£3 15
1909 Amac or B. and B. Carburettor, H.B. control	each 27/-
3½ h.p. Quadrant engine sets	37/6
Osborne Free Engine Clutch	15/-
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6
1909 Premier magneto, brand new	£4 0

Send for Price List of Accessories—Pounds Saved.

Clincher Rubber Studded Covers, 25/- each.

Tubes with valve, all sizes, post free, 5/6.

High-class Machines Wanted. Cash Waiting.

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MOTOR-BICYCLES FOR SALE.

BEFORE Deciding on any motor bicycle or tricar call on or write to Pullman Bros., London Rd., Norbury, London, who have the best selection of machines in London; motor bicycles from £4.

1909 Moto-Reve, spring forks, not ridden 100 miles, Rich's tubes, spares, including Rich's tube, valves, plug, H.B. air control, etc.; bargain, £57.—Box No. 3,031, The Motor Cycle Offices, Coventry.

4½ h.p. Genuine De Dion, thoroughly overhauled, photo, any trial given, £20; also forecar attachment, fit 3½ h.p. Brown, perfect order, no tyres, £2, or near offer.—Hollands, High St., West Tarring, Worthing.

6 h.p. N.S.U. Twin and Sidecar, exhibited last Stanley Show, Bosch magneto, lin. belt, Palmer tyre, two speed gear and free engine, new condition, all accessories; £45; any trial.—Eagles and Co., Acton.

TRIUMPH, 3½ h.p., new August, 1907, in perfect order, lamp, horn, spares, carrier, etc., good tyres, enamelling and plating perfect; any trial or examination: £26.—Batchelor, Clarence St., Kingston.

2½ h.p. N.S.U. 1909 Twin Lightweight, Bosch magneto, mechanical inlet valves, spring forks, handle-bar control, geared pulley, guaranteed as new: £32 10s.; approval.—Eagles and Co., 275, High St., Acton.

FAFNIR, 3h.p., Chater-Lea frame, in splendid condition throughout, tyres practically new, new belt, light, low, and fast, all spares, most reliable machine; £12; exchange entertained.—43, Southbrook Rd., Lee.

4½ h.p. Twin Minerva, spring forks, Michelin steel studded and Palmer unpunctured, new Brooks saddle, two belts, lamp, horn, and spares; a bargain, £20.—Ellis, Grocer, Canbury Park Rd., Kingston, Surrey.

HUMBER Motor Bicycle, 1909 model, new three months ago, hardly ridden, magneto, two speeds, absolutely perfect machine; owner bought car; sale with accessories, £35.—53, Shirland Rd., Maida Vale, London.

1909 2½ h.p. Zedel, not ridden 600 miles, just overhauled, tyres good, spare accumulator and accessories, Advance adjustable pulley; £25, or offers.—Stephen, 15, Langland Gardens Hampstead, London, N.W.

4 h.p. Antoine Motor Cycle, Chater-Lea fittings, new Clincher studded tyre on back, Amac carburettor, new coil and accumulator, very low; bargain, £14, or best offer.—J. Chapman, 47, Highbridge St., Waltham Abbey.

4 h.p. N.S.U. Twin, new last December, Bosch magneto, N.S.U. spring forks, lin. belt, Shamrock studded tyres, tank enamelled crimson, with gold lines, new condition; £27 10s.; approval.—Eagles and Co., High St., Acton.

N.S.U., 3h.p., fitted with patent bucket seat, footboards, Bowden control, magneto, new Shamrock-Gloria tyres, in perfect condition; offers, or exchange for more powerful machine.—Whysall, 8, Gange Rd., Ealing.

3½ h.p. Triumph, late 1908 model, ridden about 400 miles, perfect order, as new, £38; also new Oakleigh sidecar, never used, £5, or 40 guineas complete with bicycle.—Apply, G. Holder, 7, Pelham Place, Bedford, Sussex.

3 h.p. Werner Motor Cycle, enamelled French grey, 24 bargain, must sell, £4 15s.; trembler coil, 4s. 6d.; plain, 1s. 6d.; brass car lamp, 4s. 6d., horn, 2s. 6d.; spring seat-pillar, 2s.—Lee, 217, Glyn Rd., Lower Clapton, N.E.

4½ h.p. Minerva Twin (October, 1908), spring forks, magneto, Amac handle-bar controlled carburettor, stand, carrier, spare petrol tank, tools, spares, headlight, horn; £28.—Eastern Garage, 418, Romford Rd., Forest Gate.

ROYAL Enfield, 2½ h.p. Minerva engine, 26in. wheels, Palmer cord brake, Clipper front, band brakes to both wheels, Lithanode accumulator, 30 amp., enamelling and plating excellent; price £10.—Page, 74, East Hill, Dartford, Kent.

DE DIION Motor Cycle for sale, Chater-Lea fittings, 78mm. bore cylinder, 2½ in. tyres, new Michelin rear, new belt, two horns (one electric), head lamp, stand, etc.; what offers? cash wanted.—Motor, 28, College Rd., Bromley, Kent.

BEGINNERS' Bargains.—1907 2½ h.p. Minerva, equal to new, completely fitted up, searchlight, two belts, new accumulator, low price, £12; also 3½ h.p. Ariel, in excellent condition, £12, first caller.—Hurlock, 73, Denmark Hill, S.E.

VERY Fast Quadrant, 3½ h.p., little used, perfect, going order, new tyres, car lamp, tail lamp, speedometer, cyclometer, two accumulators, spring forks, stand, carrier, complete; £12 10s.—Architect, c/o Thomas, 92, High St., Barnet.

4 h.p. Ormonde, engine perfect, splendid hill-climber, either for single or sidecar work, tyres perfect condition, two belts, lamp, horn, luggage carrier; price £14 cash; appointment by letter.—Curtis Brown, 116, Peaseod St., Windsor.

3½ h.p. Rex, as new, Dermatine, Longuemare; 4h.p. 32 Roc, free engine clutch, B.B., H.B. control; both perfect running order, and hill-climbers; sidecar, upholstered green; cash needed; best offers takes them; call Thursday after 6; any time Sunday.—Wills, 54, Shepherd's Bush Rd., W.

4½ h.p. Minerva, 1908, enamelled grey, condition as new, fitted with Bowden H.B. control, tyres in excellent condition, car tyre on rear wheel, footboards, must be sold this week: £24, or near offer: winner of local hill-climbs; chance of a lifetime for a bargain.—Brown and Son, 16, Cranbourne St., Brighton.

MOTOR BICYCLES FOR SALE.

3 1/2 h.p. J.A.P., Chater-Lea frame, extra wheelbase, J.A.P. automatic lubrication, also speed gear, new in June, very fast, spring forks, etc.; a perfect bargain, £34. can be seen after seven.—Mason, 19, The Giebe, Blackheath, S.E.

TRIUMPH, 1909, free engine clutch, in absolutely new and perfect condition, ridden about 600 miles, complete with everything for touring, non-skid tyres to both wheels; cost £55, sell for £48, or near offer.—Bashall, Ockham, Surrey.

3 h.p. 2-Cyl. 2-stroke 2-speed Scott-Jowett, not ridden 150 miles, Bosch, Palmers (unpunctured), spring forks and footboards, water-cooled; list price £57 10s. immediate sale, £20 less.—Box L5,971, *The Motor Cycle* Office, 20, Tudor St., E.C.

3 1/2 h.p. N.S.U., 1908, two speeds, magneto, 24 wheels, new Michelin back, front little worn, new 1in. belt, unused inner tube, spares, etc., just overhauled, splendid order; 30 guineas; also Montgomery sidecar, very good condition, £2 10s.—Wauchope's.

F.N., 4-cyl., 4 1/2 h.p., adapted as tricycle with Manning attachment, no side-slips, perfect condition, Palmer cords, and extras, cost £62, will take £25; owner obliged to stop riding; view by appointment.—C.S., St. John's Cottage, Southend Rd., close Hampstead Heath Station.

5 h.p. Norton, twin Peugeot, Druid forks, B. and B. handle-bar control carburetter, adjustable pulley, good tyres, 2 1/2 in. Shamrock-Excelsior, 2 1/2 in. R.O.M. combination, stands, brakes, lamp, horn, bag, spares, low build, long base, most comfortable, starts easily, runs beautifully, smart appearance.—L25, 30, Elm Grove Rd., Barnes.

PEUGEOT (1908), 3 1/2 h.p., twin-cyl., genuine Peugeot throughout, in new condition, not been more than 500 miles, an ideal machine to ride, light low, most comfortable, very fast, engine perfect, tyres splendid, all spares, including new belt and pulley; examination invited; £27 10s., or exchange lower power and cash.—43, Southbrook Rd., Lee, S.E.

2 3/4 h.p. Kerry, just painted and varnished, engine overhauled, new piston and bearings fitted, B. and B. carburetter, with handle-bar control, also H.B. control of ignition, X'fall spring forks, long handle-bars, low seat-pillar, new Fuller coil, good Clincher tyres, spares and accessories, splendid machine; ready for the road; any particulars or trial given; 15 guineas, or nearest cash offer.—Hugh Adams, West Lodge, Buckhurst Hill, Essex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

£4—3 1/2 h.p. 1904 Rex, in running order, new Palmer and accumulator, engine been re-bushed.—Reynolds, Broadway, Dorset.

TWIN Magneto N.S.U., perfect running condition, costly refinements; £25 10s.; full particulars; exchange single.—Miller, Redlands, Weymouth.

3 1/2 h.p. Riley in good running condition; owner naval officer, ordered abroad; quick sale desired, £12, or near offer.—Veals, Waterloo St., Weston-super-Mare.

6 h.p. Twin Rex, four speeds, powerful, Montgomery sidecar, all good condition; will sell cheap, or exchange anything useful.—White, Brinsea House, Congresbury, Somerset.

REX Twin, 1907, practically new, Advance pulley, Rich tubes, spare tyre, tube and belt, footrests, carrier, lamp, horn, tools, etc.; bargain, £20.—Wood, 21, Bathwick St., Bath.

3 1/2 h.p. Ariel, Amac, H.B. control, spring forks, long handle-bars, engine just overhauled and re-enamelled, receipt shown, two Hellenes' batteries, in splendid order; what offers over £12.—Read, Beaminster, Dorset.

SECTION X.

Scotland.

FAIRY Twin Lightweight, perfect; cash offers.—Particulars, No. 2,997, *The Motor Cycle* Office, Coventry.

3 h.p. 1908 N.S.U. (magneto), in perfect running condition, been in good hands; £22 10s., or nearest offer.—"Gazette," Jedburgh.

3 1/2 h.p. Spring Frame, two-speed gear, with sidecar, perfect order, very low; £22, or nearest offer.—Douglas, Laighcartside House, Johnstone.

19 08 Featherweight Rex, in good condition, not run 500 miles, spare valves, etc.; need more power for sidecar; will accept nearest offer to £16.—Alec Bain, Ashlea, Dolmellington, Ayrshire.

4 h.p. Bat, Stevens engine, Amac carburetter, Clincher tyres, Riche's tubes (one spare), two E.P.R. accumulators, Lyett's leather belt, headlight, all new, engine re-bushed; bargain.—S.A.B., 19, Montrose St., Clydebank, N.B.

THE Largest Stock, largest variety, and the best makes!—Alexander's Motor Exchange, Rex, V.S., Moto-Reve, Norton, Roc, Excelsior, Zenith, Douglas, Minerva. We can supply you with these or any other make; some special bargains presently in superior second-hands.—Alexander's, 110, Lothian Rd., Edinburgh.

SECTION XI.

Ireland and Isle of Man.

TRIUMPH, Tourist Trophy, 1909, practically new (500 miles), superb spares, accessories; £40; owner getting car.—Triumph, Linavady, Co. Derry.

LOWEST PRICES

ALWAYS OUR MOTTO.

M M M		
BRADBURY, 1909 model, magneto, spring forks, practically new, not done 200 miles	£26	
ROVER, 3 h.p., low built, handle-bar control, smartly enamelled, in splendid condition	£14	
MINERVA, 4 1/2 h.p., 1907 model, Longuemare, 2 1/2 in. Continental tyres, spring forks	£23	
BAT, 3 1/2 h.p., spring frame, footrests, 26in. wheels, low built, vertical, long bars	£15	
BRADBURY, 1908 model, latest Bradbury spring forks, in A1 condition throughout, only done about 500 miles, will climb anything	£25	
MINERVA, 3 1/2 h.p., vertical engine, 26in. wheels, spring forks	£16	
REX, 3 1/2 h.p., 1906 model, spring forks, spray, good order throughout	£15	
ALCYON, 4 1/2 h.p., twin Minerva engine, spring forks, very good condition	£17	
TWIN REX, 5 h.p., spring forks, low built, aluminium finish, splendid condition	£17	
QUADRANT, 3 h.p., spray, spring forks, good tyres, etc.	£10	
MOTO-REVE, 2 h.p., 1908 model, twin-cylinder, spring forks, perfect order ..	£25	
HUMBER, 2 h.p., spring forks, spray carburetter	£9	
RIP, 3 1/2 h.p., Peugeot engine, spring frame, Longuemare spray carburetter, footrests, low built, unscheratched	£18	
RILEY, 3 1/2 h.p., 26in. wheels, spray trembler, low built, long bars, etc.	£14	

TRICARS.

REXETTE Tricar, 8-10 h.p., two speeds and reverse, open frame, water-cooled, perfect	£50
60/- deposit secures under-mentioned, balance 5/- weekly.	
QUADRANT, 2 h.p., spray	£8
SINGER, 2 h.p., magneto	£6
BARTER, 2 1/2 h.p., geared pulley	£6
PHENIX, 2 1/2 h.p., J.A.P. engine	£10
LLOYD'S, 2 h.p., vertical	£8
WERNER, 2 h.p., 26in. wheels	£6
MINERVA, 1 1/2 h.p., coil and accumulator ..	£5
EXCELSIOR, 2 1/2 h.p., spray	£8

We carry an exceedingly large stock of new and second-hand motor cycle accessories at London. Prices lowest.

90/- Beautiful Forecar Attachment, 26in. wheels, Dunlop tyres.	90/-
£6 Forecarriage, PHENIX, practically new, 1909 model, not ridden above fifty miles	£6

SPECIAL BARGAINS.

Combined Tube and Belt Carriers	7/6
F.R.S. Lamp, brand new, bargain	£1
Mudguards, 4in., well finished (per pair) ..	3/6
Mudguards, 3in., well finished (per pair) ..	2/11
Trinote Horns, best quality plating	7/3
Treble Twist Horns, very noisy	6/6
Hella Searchlights, best plating, separate generators, divided glasses	16/9
Long Handle-bars, best quality (per pair) ..	5/6
Rex pattern ditto, dropped ends (per pair) ..	6/6

We have special facilities for the repairing of magnetos at London. Best work. Moderate charges.

CLINCHER TYRES.

31/6 FOR 25/-	
Genuine { 26 x 2 1/2 in. Clincher studded.	
{ 26 x 2 in. Covers.	
Maker's price, 31/6 Our price, 25/-	
All brand new roo goods, and in no way faulty or perished. APPROVAL.	
Tubes with valves, Red quality, 5/6; Grey, 6/-	
Large Stock CONTINENTAL TYRES.	
Good Allowances on Old Covers.	

High-class Motor Cycles Wanted for Cash.

NOTE THE ADDRESSES:

Powell St., Victoria Hall, Halifax.	
Telephones: 433 day, 904 night.	
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Also at 136, Great Portland St. (off Oxford Street), LONDON, W.	
Telephone 552 Mayfair.	

TRICARS FOR SALE.

6 h.p. Triette, 2-cyl., Clinchers, new condition;—Sidney, 852, Garratt Lane, Tooting.	
8-10 h.p. Rexette, two speeds, twin wheel, perf £34.—255, Earlsfield Rd., Wandsworth.	
4 h.p. Open Frame Wheel Steering Two-speed coach-built.—Motor, The Ham, Old Wind	
3 1/2 h.p. Rover, water-cooled, two speeds, bu £20; seen and tried.—55, Park Walk, S.E.	
OPEN Frame, 6 h.p., three speeds, reverse, r tion; £40; Motosacoe part.—61, Derr S.E.	
TRICAR, in excellent condition, to be sold able offer refused.—Moor View, Barton quay.	
1908 Rex Litette, 6 h.p. twin, water-cooled, two speeds, as new; £35.—406, Garr Wandsworth.	
RILEY, 9 h.p., three speeds, reverse, splen tion; £45, or near offer.—Reper, Cheriton Rd., Taunton.	
5 1/2 h.p. Garrard, water-cooled, three speeds, thing for serious touring; £25.—27, Rd., Dalston.	
8-10 h.p. Rexette, seats three, splendid cond tyres; £40; exchange.—26, Lansdowne Norwood, S.E.	
BAT Tricar, 3 1/2 h.p., fan-cooled, new Clin Palmer back, splendid order; bargain, £2 Hampton Wick.	
RALEIGHETTE, 3 1/2 h.p. Fafnir, water-cool top condition; £25 for quick sale.—Hensh wright, Stockport.	
WOLF Tricar, three-speed gear box, wa coach-built, splendid condition; £20 High St., Watford.	
REN 5-6 h.p. Tricar, equal to new, two spe steering; £35, or typewriter in part pa Albany Rd., Cardiff.	
9 h.p. Riley, three speeds and reverse, non-sk all wheels, perfect order; £35.—Maudes Portland St., London, W.	
3 1/2 h.p. Excelsior, free, coach seat, footboa grand condition; £14 for quick sale. lington Rd. N., Stockport.	
4 h.p. Humber Tricar, water-cooled, coach-b lamp, spares, splendid condition; £18 Potternewton Lane, Leeds.	
6 h.p. Twin Kerry, open frame, two speeds, coach-built; appointment; 14 guineas.—Villas, Clapham Rd., S.W.	
MUSWELL HILL.—1908 Rex Litette, ty cooled, magneto, two speeds, well s accessories; £38 10s.—Below.	
MUSWELL HILL.—Humber, 6 h.p., open fr steering, chain drive, two speeds, perfe order; 43 guineas.—Archer, 3, Leaside Av., M	
ARIEL-MINERVA, magneto, three spee starting; fan-cooled, perfect; £25, cos Withers, 22, Wardour St., W.	
3 h.p. Humber, with forecar, less front wheel, summer or winter mount; £7 15 Motor Exchange, Westgate, Halifax.	
9 h.p. Riley, three speeds and reverse, fin throughout; £60; motor cycle or light exchange.—785, High Rd., Leytonstone.	
4 h.p. Fafnir, two-speed gear box, Chater B. and B. carburetter; splendid bargain, Townsend, 162a, Dalston Lane, London.	
3 1/2 h.p. Runabout, free engine, open fram h.p. twin Minerva, coach-built, nan d £18 10s., gift.—128, High Rd., Tottenham.	
9 h.p. Riley Tricar, magneto and accumulat splendid condition; any trial; all tools, £75, or near offer.—Frost, High St., Grays.	
6 h.p. Tricar, three speeds, free engine, whe fast, trembler; £20, or 3 1/2 h.p. motor cy preferred.—45, Charles St., Commercial Rd.	
4 h.p. White and Poppe, car controls, two steering; also 4 h.p. Simms ditto, se Smith, 158, Fulham Palace Rd., Hammers £22 10s.—4 h.p. Humber tricar, two spe cooled, etc., tyres as new, climb any change for smart turnout.—Wilding, Stand	
£13.—6 h.p. Rexette twin, two speeds, chain footboards; any examination and trial liable, spare cover; no offers.—10, Old Tow	
TRICAR, 6 h.p., 2-cyl. Fafnir, coach-built, Palmer cord tyres, complete; £55, b £130.—Bailey, 151, Beulah Hill, Upper No	
3 1/2 h.p. Excelsior Tricar, fitted with Brown and free engine, all in splendid con trial; £20; going abroad.—Phillips, Spa La	
5 h.p. Kerry Engine Coach-built Tricar, free, fan-cooled, tyres excellent, steel splendid condition; £30; photo.—Welwyn, Kent.	
SPLENDID Beeston Humber Tricar, 3 cooled, coach-built front, bucket seat re car gear, metal plate clutch, electric lamps thing; buying car; offers.—Jackson, Claren ton.	

TRICARS FOR SALE.

Tricar, bucket seats, Stevens engine, chain drive, two speeds, for sale, or exchange for light car; offers wanted.—Dance, 2, Percy Rd. N. 1.

1907 model, live frame, torpedo back seat, exceptional condition; bargain, £25; bike part payment.—Sinclair, Walton Rd. N. 1.

D Riley Tricar. 1908 design, 5h.p. engine, running perfect, Grose tyres, Guenet coil and battery; price 50 guineas.—Motorist, 273, Park Rd. N. 1.

Lagonda, 10-12h.p., three-speed, Cape hood, just overhauled, in grand condition, tooling; exchange entertained; photo; £35.—Len Hill, Enfield.

Tricar, Chater-Lea open frame, wheel steering, built bucket seat, three-speed, water-cooled, improvements, equal new; £27.—Private owner, Bruce Grove, Tottenham.

Exette, 2-cyl., water-cooled, very fast and light, torpedo body, seats three, excellent condition trial and examination courted; seen any M., 170, Queen's Rd., Peckham.

D Riley Tricar, new condition, coach-built, speeds, reverse, Bowden control, all accessories, luxurious, sprung all wheels; £60; 4-cyl. exchange.—164, Coventry Rd., Hay Mills.

6h.p. Water-cooled Tricar, unpunctured, new car tyres, two speeds, silent chain drive; £30, or exchange powerful twin bike and helmet, 65, Earls Hall Rd., Eltham, S.E.

Tricar, Open Frame Tricar, Chater, three wheel control, ready for touring; sell £30; 1909 motor bike, 5-6h.p. F.N. wanted; ap Randall, 102, Martin's Lane, Shortlands.

under 2 cwt., three new Shamrock studded, built tubes, unpunctured, new Advance front little belt in perfect running order; buying to. 2,919. The Motor Cycle Office, Coventry.

Tricar, 3h.p., Anglian two speeds, coach, just overhauled, everything in excellent condition; nearly new, good climber; £20, or will exchange motor cycle.—Evans, 92, Ashbrook Rd., Upper Holloway, N. 1.

Tricar, 3h.p. M.M.C., front wheel complete, forecar, band brakes, double sprung long seat, spares; sell, or exchange modern bike, 1h.p. magneto preferred.—Booker-Hill, St. Mary, Bungay.

E, 5-6h.p., fast, good climber, greatly improved condition better than new; offer wanted; use; any examination or trial; good motor; payment; worth seeing.—Edwards, Oakwood, Birmingham.

RY Tricar, 5h.p., water-cooled, two speeds, engine, handle starting, Bosch magneto, chain drive, steering, open frame, coach-built bucket seat, splendid condition; £39.—411, Stratford Road, Birmingham.

Tricar, two speeds, coach-built body, cream, lined green, dashboard, nearly new Dunlop on rear wheel, complete with spares; best offer; pedals to push.—Thorp and Simpson, 2, Nottingham.

6h.p. Bradbury Tricar, water-cooled, two metal-to-metal clutch, coach front, 26 by 24, etc., new May 1908, perfect; cost £24 10s., or exchange 3h.p. magneto bike level 3h.p. magneto 1908 Bradbury bike t., Pitsmoor, Sheffield.

LEA Tricar, 4h.p., water-cooled Forman, three-speed gear box, foot clutch, latest control, automatic air valve, Bowden spark, lamps, all in good condition, engine and chassis, will carry two adults and child; a can be seen any day after 2; £25; any 254, Barking Rd., East Ham.

Trimo, coach-built throughout, special seats, spring footboards, 3h.p. Minerva, water-cooled, Hans Renold chain drive, hand engine, two speeds, three new 26 by 24, cord rear, new accumulator, lamps, and rear light, handle-bar mirror, spare tyres, chains, repair outfit, full accessories, overhauled and ready for touring; price Apply, J. Miller, dentist, 7, Brockley Rd., Sharnbrook, W.

Tricar, 4h.p., water-cooled, three-speed gear box, foot clutch, latest control, automatic air valve, Bowden spark, lamps, all in good condition, engine and chassis, will carry two adults and child; a can be seen any day after 2; £25; any 254, Barking Rd., East Ham.

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IMPORTANT.

Having considerably increased our plant for the production of motor cycle belting, we have pleasure in announcing that all orders can now be executed from stock, same day as received.

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1/1	1/4	1/9	2/4	3/6	

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35, Gt. Eastern St., E.C.
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SIDECARS AND FORECARS.

LIBERTY Sidecar, 26in. Dunlop, left, faultless, £4; Triumph frame, tank, £3 15s.—25, Tamworth Park, Mitham.

MILLS-FULFORD, complete, 26in. wheels, excellent condition; £4 10s.—15, Little Essex St., Kingsland Rd., N.

RIGID Roomy Sidecar, 26in. new Dunlop, mahogany toolbox; £4 10s.—Wright, Cedar Lawn, Knott's Green, Leyton.

SIDECAR, 26in. wheel, upholstered green, Clipper tyre, band brake, splendid condition; £4 10s.—A.P., 134, Shooters Hill Rd., Blackheath.

FITEASY Sidecars, for narrow doors, wholesale and retail.—Middleton and Co., Manufacturers, Watson St., Newington Green, London, N.

NEW Sidecars for any make of motor cycle, 24in., 26in., or 28in. wheel, smart, good delivery, from stock; approval; £4 17s. 6d.—Farrar, Square Rd., Halifax.

SIMPSON'S Sidecars are reliable, comfortable, elegant; entirely different to other makes; write us; our prices are right.—Orchard Mills, Belinda St., Hunslet, Leeds.

RIGID de Luxe Sidecars, enamelled and plated, luxuriously sprung, everything of the best, fit any machine, 26 by 24 tyres, £6; cheaper quality, £4 17s. 6d.; second-hand sidecars taken in exchange.—Halifax Motor Exchange, Westgate, Halifax.

MOTOR TRICYCLES.

24h.p. Singer Tandem Tricycle, lady-back, recently overhauled, perfect running order; £5, or nearest.—Tamplin, Twickenham.

MOTOR Tricycle, two speeds, free, just overhauled, ready for road; £11, or near offer, or part exchange.—Machin, 274, Bramall Lane, Sheffield.

FOR Sale, Abingdon motor tricycle, equal new, B. and B. carburettor, handle-bar control, Minerva engine, 3h.p., box fitted between wheels for tools, spare tyres, etc.; cash £15, cost £50.—Milward, Dovelers, Utteter

CARS FOR SALE.

PALMER.—9h.p. Jackson, 2-seater, bucket seats, pressed steel frame, latest, in beautiful condition £105.

PALMER.—12h.p. Duryea, 3-cyl., 2-seater, two speeds, artillery wheels, cheap and good; £20.

PALMER.—8h.p. De Dion, swing seat body, seat five, engine under bonnet, solid tyres; £35.

PALMER.—8h.p. Regal, tonneau, seat five, single-cyl., wood wheels, direct top drive; £35.

PALMER.—12h.p. M.M.C., tonneau, seat five, 2-cyl., 810-90 tyres, very fine bargain; £40.

PALMER.—6h.p. Ridley, 2-seater, single-cyl., two speeds, wire wheels, cardan drive; cheap, £20.

PALMER.—12-16h.p. Panhard Delivery Van, 4-cyl., four speeds, solid tyres, strong body; £65.

PALMER.—18h.p. Prunel Landulet, side entrance, 4-cyl., very fine car for hire; £125.

PALMER.—40h.p. Lorraine-Dietrich, side entrance car, latest model, guaranteed over 60 m.p.h.; £325.

PALMER.—12-14h.p. Humber, tonneau, seat five, 4-cyl., nearly new car, silent, reliable; £85.

PALMER.—10h.p. Panhard Limousine, seat six, 4-cyl., Krebs carburettor, wheel control; £100.

PALMER.—16-20h.p. De Dietrich, side entrance, 4-cyl., magneto, hood, screen, perfect; £145.

PALMER.—17-21h.p. Mors Limousine, 4-cyl., magneto, pressed steel frame, late model, very silent; £150.

PALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208 Streatham. Cars seen here any day. Thursdays and Sundays before 2. Photos, details, per return. Easy terms arranged; exchanges entertained.

14h.p. Good Touring Car, must be sold, cheap.—67, Wellington St., Woolwich.

10h.p. 2-cyl. Ariel, seats four, grand little touring car; £55.—9, Parkholme Rd., Dalston.

£45.—20h.p. 4-cyl. touring car; accept cycle or tri-car in part.—283, Clapham Rd., S.W.

6h.p. 1906 Rover, wire wheels, Dunlop grooved; trial; sacrifice £47 10s.—61, Denmark Hill, S.E.

£50.—6h.p. Clyde, 2-seater, two-speed, Aster engine, many improvements.—Sully, 10, Old Town, Clapham.

8-10h.p. Beeston Humber, 2 cys., racing model, electric lamps; £59; smaller car part.—C/o Brockley Cycle Wks.

SMALL 2-seater Car, excellent condition; £18, or exchange for good motor cycle.—H. Eykyn, engineer, Kenilworth.

12-14h.p., detachable tonneau, four cys., four speeds; £55; tri-car, motor cycle part.—20, Potterneton Lane, Leeds.

LANCHESTER. 2-seater, 20h.p. R.A.C., perfect; 90 guineas; wanted, Triumph.—5, Pitts Head Mews, Park Lane, W.

CARS FOR SALE.

- ECLIPSE**.—20-32h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.
- ECLIPSE**.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.
- ECLIPSE**.—12h.p. National, 3-cyl., 2-seater, hood, very good condition; £45.
- ECLIPSE**.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £52.
- ECLIPSE**.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.
- ECLIPSE**.—14h.p. Brooke, tonneau, 3-cyl., three speeds, in excellent order; £36.
- ECLIPSE**.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £65.
- ECLIPSE**.—6h.p. Vauxhall, 2-seater, three speeds and reverse, very good condition; £18.
- ECLIPSE**.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.
- ECLIPSE**.—10-12h.p. Gnome landaulet, four seats inside, splendid order; £92 10s.
- ECLIPSE**.—9h.p. tonneau car, 1-cyl., in good running order; £25.
- ECLIPSE**.—6h.p. Hummerette, 2-cyl., three speeds, good little runabout; £22 10s., bargain.
- ECLIPSE**.—7h.p. Pope-Tribune, 2-seater, £32.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 1135 Putney.
- 6 1/2** h.p. Aster, 2-seater, wind screen, re-upholstered and painted, two speeds, splendid condition; £20.—26, Church Gate, Loughborough.
- £35**.—8h.p. Argyll, detachable tonneau, exceedingly good condition, smart appearance, economical and efficient little car.—Below.
- 6 1/2** h.p. De Dion-Regal, new condition and appearance, detachable dickey; closest examination invited; latest type of this make; £38.—Sully, 10, Old Town, Clapham.
- 14** h.p. Blake, 4-cyl., tonneau, three speeds and reverse, steel frame; any trial; perfect; £67 10s.—Sidney, 852, Garratt Lane, Tooting.
- 10** h.p. Rheda Cab, Gnome engine, 2-cyl., three speeds and reverse, good hire or station cab; £65.—Thomas, Sandfield Rd., Thornton Heath.
- PANHARD**, 7-11h.p. Centaure engine, Krebs carburetter, 5-seated tonneau body, Cape hood, wind screen; £45.—Bailey, London Rd., Redhill.
- 5 1/2** h.p. O.T.A.V., magneto, hood, electric lamps, pale green body, a handy, simple, economical 2-seater.—Hame, Newstead, Buttonstone Lane, York.
- RILEY** de Luxe, 9h.p., double front seat, mahogany dash and box, perfect condition; £55; seen any time.—Chester Fox, 3, Corsica St., Highbury, N.
- HORLEY** Car, 2-seater, 8-10h.p., twin-cyl., White and Poppe engine, high side doors, all in good condition; trial and examination; £85.—Frost, High St., Grays.
- 5** h.p. Alldays, 3-seater, two speeds and reverse, fine condition, spare cover and tube, £24; 6 1/2 h.p. Gladiator, detachable tonneau, £60.—Rawsley, draper, Servia Rd., Leeds.
- 6** h.p. De Dion, 2-seater, fine condition, three speeds and reverse; thorough bargain, £50; motor cycle or tricar part payment.—17, Kenmore Rd., Mare St., Hackney, London.
- WOLSELEY**, 6h.p., two bucket seats, good condition, fast, good hill-climber; would take motor cycle or tricar in part payment; price £45.—Louis B. Davis, 3, New St., Birmingham.
- 8** h.p. Rexette, water-cooled, seats three, in new condition, good reliable car, climb anything, two lamps, spare tools, new tyre back; any trial; £42 10s.—Darby, 257, Wick Rd., Homerton.
- 8** h.p. M.M.C., three and reverse, 4-seater, £25; 12-16 h.p. Darracq, 2-cyl., three and reverse, £50; 9-11 h.p. Peugeot, three and reverse, magneto, 2-cyl., £50.—128, High Rd., Tottenham. Photo and particulars.
- WOLSELEY**, 12h.p., 2-cyl., 4-seater, four speeds and reverse, Dunlop tyres, perfect condition, splendid hill-climber; price £60; would take tricar or motor cycle in part exchange.—Louis B. Davis, 3, New St., Birmingham.
- GREAT** Sacrifice.—10-12h.p. Humber 1907 Car, hardly scratched, hood, screen, speedometer, lamps, Steppay, all tools, spares, £165; also 6h.p. Rover, good condition, £50; exchanges.—Hurlock, 73, Denmark Hill. Phone, 20, Brixton.
- 8** h.p. 4-Cyl. Humber Car, 2-seater, glass screen, and detachable covered body, good tyres, mechanically sound, appearance like new, spare cover and tube, gas lamps, etc., complete; £70, ridiculously cheap.—Riddelsell, Boxford, Suffolk.
- A GENTLEMAN**, having bought a 4-seater, is willing to sacrifice his miniature racing type 5-6h.p. Aster engine car, long bonnet, wire wheels, raked steering, painted French grey, bucket seats, for £38.—Elmside, Widmore Rd., Bromley, Kent.
- HERALD**, 20-24h.p., 4-cyl., side entrance body, Dunlop tyres, head lamps, side and back lamps, spares, etc., very little used, practically new, paint perfect; price £125; would take tricar or motor cycle in part payment.—Louis B. Davis, 3, New St., Birmingham.

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I mean "Biz." Write me for anything "Motorical."

HIGH-CLASS MACHINES WANTED FOR SPOT CASH, 1908 and 1909 models.

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RELIABLE SINGLES.

1909 VINDECS from	£48 10
1909 Two-speed HUMBER (New)	39 gns.
1909 4h.p. N.S.U. DE LUXE, NEW	£39 0
1907 3 1/2 h.p. Magneto ROC	£27 10
2 1/2 h.p. MINERVA, handle-bar control	£12 10
3 1/2 h.p. N.S.U., spring forks, magneto	£19 19
3 1/2 h.p. WERNER, used with sidecar	£13 10
2 h.p. TRIUMPH-MINERVA, spray	£9 10
3 1/2 h.p. REX, spray, vertical engine	£9 10
3 h.p. LLOYD'S, low frame, 26in. wheels	£13 10
3 1/2 h.p. light, low REX	£12 10
2 h.p. MINERVA, M.O.V., spray	£8 0
3 1/2 h.p. REX, John-o'-Groat's model	£10 10
4 h.p. ANTOINE, very powerful mount	£16 0
3 h.p. REX, long bars	£7 15
2 1/2 h.p. ANTOINE, trembler, long bars	£9 10
1906 3 1/2 h.p. REX, spring forks, long bars	£15 10
2 1/2 h.p. KERRY, spray	£11 0
2 h.p. LALEIGH, splendid condition	£7 10
2 1/2 h.p. BUCHET, spray, long bars	£9 10
3 1/2 h.p. ARIEL, vertical, M.O.V.	£15 15
1906 3 1/2 h.p. REX, spring forks	£14 10
1907 3 1/2 h.p. N.S.U., two-speeds	£21 0
1908 3 1/2 h.p. Magneto MINERVA, spring forks	£23 10
1908 4 1/2 h.p. Twin MINERVA, Roc gear	£32 0

£3

deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

TOURIST TROPHY WINNERS.

1909 Twin ROC, two speeds	£57 15
1909 Twin VINDEC	£64 0
Four-cylinder F.N., 1908 model	£27 10
1908 Twin REX DE LUXE	£32 10
Twin REX DE LUXE, two speed	£32 10
6 h.p. Twin ANTOINE, ROM	£16 0
5 1/2 h.p. Twin REX, spring forks	£17 17

BROWN AND BARLOW and AMAC Carburetters, with handle-bar control. B. and B., 30/-; Amac, from 29/-. Exchanges promptly made from stock.

£6

TOP-CLASS SIDECARS to suit all makes. Beautifully plated, enamelled, and upholstered; to suit right or left side; three-bolt fastening, 2 1/2" best make tyre.

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Three-note Horns, shift a "Loco"	8/-
The Latest in Headlights	16/6
The Latest in Magneto Cut-outs	2/-
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SYRENS—"What a shriek"	6/11
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Duck-voiced Horns, double twist	5/3
MINERVA Spring forks, as new	£1 17 6
COWEY SPEEDOMETER	£4 4 0
New XL'ALL Spring Forks	17/6
Swan-neck Seat-pillars	4/-
Separate Generator Headlights	8/6
Rex Pattern Handle-bars, heavy gauge	6/6
Enamelled Mudguards, complete with stays; 3in. 2/11, 3 1/2in. 3/6 per pair.	

100 GUARANTEED E.I.C. ACCUMULATORS: 25-hour 9/6, 50-hour 17/6.

England's Best Rubber Canvas Belting, with fastener. 3in. 9d., 3 1/2in. 10d., 3 3/4in. 1/-, 4in. 1/4 per foot.

NEW COVERS, all sizes, best make	19/6
SPECIAL—NEW 26 x 2 COVERS	12/6
TUBES, 4/11 each. 26 x 2 1/2	13/6

GERALD COLLIER,
37, Park Cross Street,
(Facing Town Hall.) **LEEDS.**

CARS FOR SALE.

8 h.p. Progress Car, 2 cyls., three speeds, really good condition, smart little car, climber; take good 2 1/2 or 3h.p. motor cycle in ment, or sell £65.—Tullis, c/o Williams Bros., Lancashire.

4 SEATED Car (Decauville), 2-cyl., cardan drive on top, four speeds and reverse, grooved tyres, two spare covers, non-skid on complete with lamps, in perfect running order; can be tried any time during the next two weeks. Rochester Rd., Earlsdon, Coventry.

1908 6-7h.p. Laurin and Klement (developed more), 2-cyl., magneto, thermo syphon, new, little used, well looked after, smartest, available 2-seater on the road, hood, spares; trial at guineas for immediate sale; motor cycle or tricar payment.—Stanton, 619, Lea Bridge Rd., Leyton.

INSURANCE.

PLEASE Send for full covering Motor Cycle from 18s. 6d. per annum.—Bass, Insurance, Ongar.

INSURANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance, Norwich; fire. 2s. 6d.; third party, 7s. 6d.; a 15s.; please write for particulars.

FINANCIAL.

R.O.M. Tyre Shares.—50 £1 fully paid part preference shares for sale at 45s. each, in or would sell part. The increasing reputation company's tyres is phenomenal, and, considering small capital of the company, the shares are worth a much bigger price by the end of the year.—Letters to D., 14, Dysons Rd., Upper E. Middlesex.

BUSINESSES FOR SALE.

CYCLE, Motor, main road, good workshop, tools, stock; £45, a bargain.—Box 3,023, Cycle Offices, Coventry.

SITUATIONS WANTED.

YOUNG Gentleman desires position in sound business, willing to take interest in same. £100.—Verden, Y.M.C.A., Leicester.

A LADY highly recommends a very superior man as under chauffeur, well trained; 10/- Apply, H.B., 27, Heath St., Hampstead.

SITUATION Wanted as assistant manager of established garage works, fully qualified engineer, sales experience, expert driver, steady, hard working holding similar position, highest testimonials, sound references.—No. 3,024, The Motor Cycle Coventry.

MOTOR EXPERTS.

IF Your Motor does not pull as it should cannot do better than to let me overhaul pistons, re-boring, re-bushing, replacements, competitive prices in consistence with reliability. Stanton, 619, Lea Bridge Rd., Leyton.

ENGINES.

4 1/2 h.p. De Dion Water-cooled Engine, spare parts, offers.—90, Banner St., E.C.

PHILON and Moore, must be first-class of approval, cash.—Full particulars to Attlee.

2 1/2 h.p. Givandan, as new, fast, splendid machine; £4.—61, Wanstead Park A Park.

2 1/2 h.p. Rex Engine, less piston and tap; 2 1/2 tandem fitment, 10s., new.—A. Spencer, Wilts.

30 S.—2h.p. Quadrant Engine, spare valves, controlled ignition, perfect.—57, North Brentwood.

3 h.p. Air-cooled Engine, standard maker, date; approval.—Particulars, Burrell, Rochford, Essex.

ENGINES for Cars, cycles, boats, and aeroplanes. Send for particulars to Advance Motor Ltd., Northampton.

MADISON, Littleover, Derby.—Genuine Motor manufacturing 3 1/2 h.p. air-cooled engine, with mare and lever control; price £4 19s. 6d., b.

4 h.p. Buchet Engine, overhead valves, crank silencer, B24 Longueunere carburetter, s forecar, very powerful; £6.—24, Woodford E Gate, London, E.

NEARLY New 3h.p. Engine, done about complete with exhaust box, etc., sacrifice or exchange for good forecar attachment, carburettor, tyres, etc.; approval willingly; reason bought 4h.p. engine.—Shirley, Coventry Rd.

IGNITION APPLIANCE

TREMBLERS for all makes of engines, pure platinum tips, 1s. 3d. each.—G.O.M., Birmingham.

IT is a fact.—Pure platinum is best for contact.—Meredith, G.O.M., Summer Lane, Birmingham.

DREADNOT Contact cure misfires. 2s. 6d. each.—Fellows, 49, Hertford St.

THE MOTOR CYCLE

Vol. 7. No. 336.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

The Tourist Trophy Race.

THE date of the Tourist Trophy Race is drawing near, and in a little more than three weeks from now we shall be in a position to declare the name of the winner and the make and type of machine he rode. From all we can hear, number of entries will be large, but *The Motor Cycle* being published on the same day as the date fixed for the closing of the entry list, we can only give the names of those received up to and including Monday 28th. These will be found elsewhere in this issue. There is one item in connection with the race which may have escaped the notice of some of the readers, and that is the dimensions of bore and stroke of some of the engines on machines which have been entered are so dangerously near the limits of cubical capacity laid down for the race that some of them may be unknowingly overstep the mark. That is to say, assuming the bore and stroke of any engine entered is laid on paper by the dimensions to work out at 499 cubic centimetres, it is possible for the wear which takes place between the time it is assembled and the completion of the race to account for the odd cubic centimetre. An engine which may not honestly exceed this size when it is newly machined may with several hundred miles of practice spins, and the mileage of the machine itself, be found to be in excess of the limit. We put this out so that those who may have ordered machines to very close limits may not be deceived into the belief that an engine which complies with the rules when new will remain the regulation size for several hundred miles.

The donations to the Tourist Trophy Fund are coming in very slowly, and we would take this opportunity of reminding our readers that every 20s. they

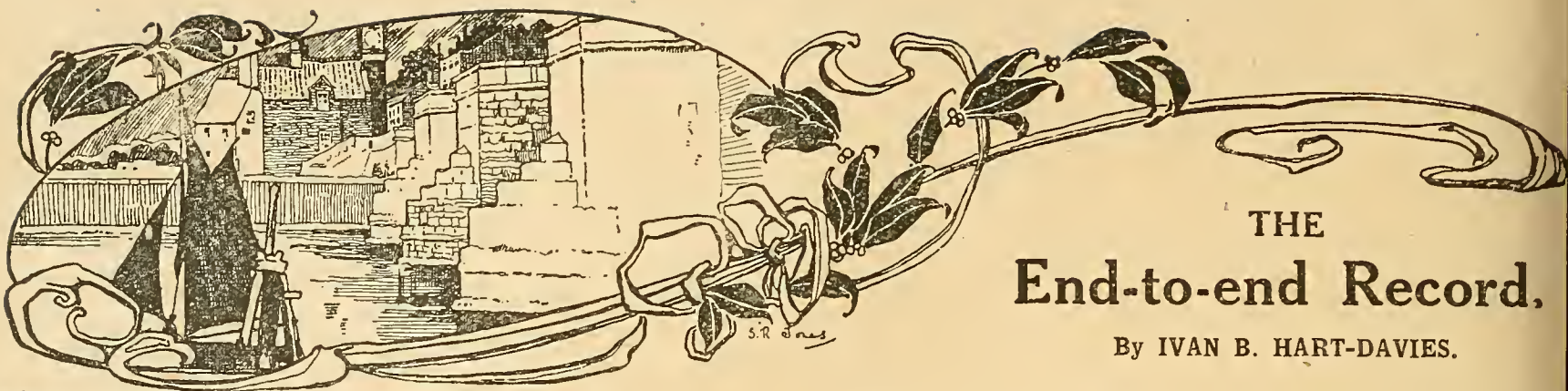
contribute will mean a still further increase of 1s. to the Fund, as *The Motor Cycle* has promised 1s. for every £1 contributed up to £100. Donations already received are acknowledged elsewhere in this issue.

"The Autocar League."

AS was briefly mentioned last week, a league of motorists has been formed by our contemporary, *The Autocar*, for the purpose of banding together the whole of the motorists of the kingdom. Motor cyclists will, of course, be welcomed to the ranks of the league, as it is only by means of presenting an undivided front that a league such as the one outlined can bring to bear the necessary weight and influence to secure reform in any direction where the interests of motorists are attacked.

One motor cyclist who has enrolled wrote to *The Autocar* last week as follows: "At present things are so hot in this quarter (Sussex) that, being a man of very moderate means, I am afraid to drive, and my machine is now laid by till a more convenient season." This rider is afraid that motor cyclists are to be left out in the cold. However, he and others need have no fear. *The Motor Cycle* is about to issue an enrolment form on similar lines to the one already sent out by *The Autocar*.

Although we do not recommend the extreme policy pursued by the correspondent referred to, we think that motor cyclists can in many instances influence the actions of county authorities who are in the habit of ordering pernicious police traps to be set on deserted stretches of road for the purpose of collecting sums of money in so-called fines. They can also by uniting under one banner help themselves in a way that would be quite impossible by any other method.



THE End-to-end Record.

By IVAN B. HART-DAVIES.

THOSE who have only read accounts of record rides over the classical End-to-end route can have little idea of the enormous amount of preparatory work an attempt on present day figures involves. It was not until I seriously set to work to arrange for my attempt on record that I realised what heavy correspondence meant. First and foremost I had to consider the machine on which success or failure rested, and for a long time I hesitated whether I would ride my Triumph on which I had done over 5,000 miles or order a new one. Finally the lot fell on a new machine with a specially large tank,

and I never regretted the choice, for not even a nut shook loose, and the engine was not touched from start to finish. At the very outset I found myself faced with a serious difficulty, for I had been presuming that the Triumph Company would assist me in every way, but they straightway refused to help me at all, and I was left with the pleasing alternative of letting the matter drop or arranging the long ride myself. This was perhaps a blessing in disguise, since I had at any rate a free hand, and was able to arrange exactly what I wanted. I had prepared my time schedule for thirty-eight hours, with ten minutes stops every 130 miles, and relied on having a good square meal at Wigan, the intermediate food consisting chiefly of porridge, bacon and eggs, a boiled

fowl, and milk pudding, etc., whilst at each checking place a packet of sandwiches was handed to me, made up of bread and butter and potted meat, to munch on the way. Each checker was also supplied with telegraph forms to wire time of departure to the next control, and since every man concerned had a printed schedule of distance and time, he could soon work out my average, and know when to expect me. During the night the telephone took the place of the telegraph, Exeter being in constant communication with Gloucester and Wigan. Over the rest of the details I will draw a veil—my test runs before breakfast, the angry clients who rang me up on the telephone to know whether I had retired from business, and my

constant anxiety concerning the weather, for I was backing my luck in starting from North to South.

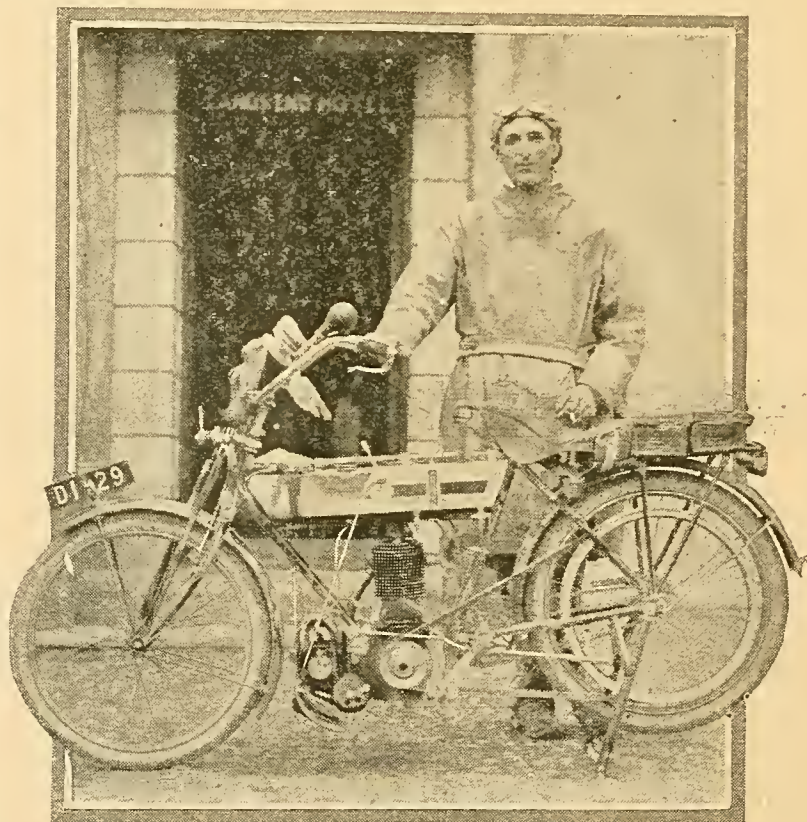
A Change in the Weather Conditions.

However, luck was with me, for I left Rugby on the Friday evening on the night express in torrents of rain from the south-west, only to arrive at Wick on Saturday to find a keen-edged nor'-easter blowing with bone-dry roads. Such luck cannot last, I thought, and went in to peruse the visitors' book at Groat's, to read the details of the famous rides of the past, such as G. P. Mills's motor and cycle records, and those created by G. A. Olley, Tom Peck, Arthur W. Bentley, and others who have made the long journey.

I consider that such a book should not be left about, for it is the reverse of encouraging to the green aspirant for record honours. However, I scribbled my name, shut the book with a bang, and went off to bed at the early hour of six. Strange to say I fell asleep immediately, and was engaged in a frantic struggle to coax a 1 h.p. Mouse over the last forty miles to Land's End at an average of thirty-five when "Half past one, sir," brought me back to life. I was soon into my motor kit and enjoying a meal with three keen riders, one of them Mr. Robertson, of Wick, who not only was to time me out, but intended to ride south with me. There was just time

for a pipe, and before I could realise it the record ride had commenced.

From the first no time was lost, and in half an hour from the start Wick was reached. Thereafter my attention was fully occupied with corner work, especially in descending Berriedale. Hereabouts I parted company with Mr. Robertson, he having rendered me yeoman assistance during the first hour's ride. Down the Ord I flew, trickled through Golspie, following the confetti which had been laid for me on the doubtful corners, and picked up Mr. Herlihy close to Bone Bridge, only to lose him a few miles further on having an argument with a nail which I had missed by inches. Near Dingwall the float stuck up, and I was stranded



The writer immediately after his arrival at Land's End Hotel in record time. Few record breakers have finished such a long ride as fresh as Hart-Davies did.

The End-to-end Record.—

At 6.30 a.m. in a remote part of Scotland without petrol, so I had perforce to wait for Mr. Herlihy, get some from him, raid a garage in Dingwall which was luckily open, and before many minutes had passed was sitting down to an excellent breakfast at the Lovat Arms, Beaulieu, whilst Mr. Morrison attended to the machine. In twelve minutes we were off on the run to Perth, Mr. Adamson being my companion this time on a fast T.T. Triumph. Near Viemore my back tyre sat down so suddenly that I nearly followed its example, a big one or a piece of iron going right through the cover and both sides of the tube. Naturally, we made a poor job of it, being in a hurry, and had in consequence to pump up every twenty-five miles.

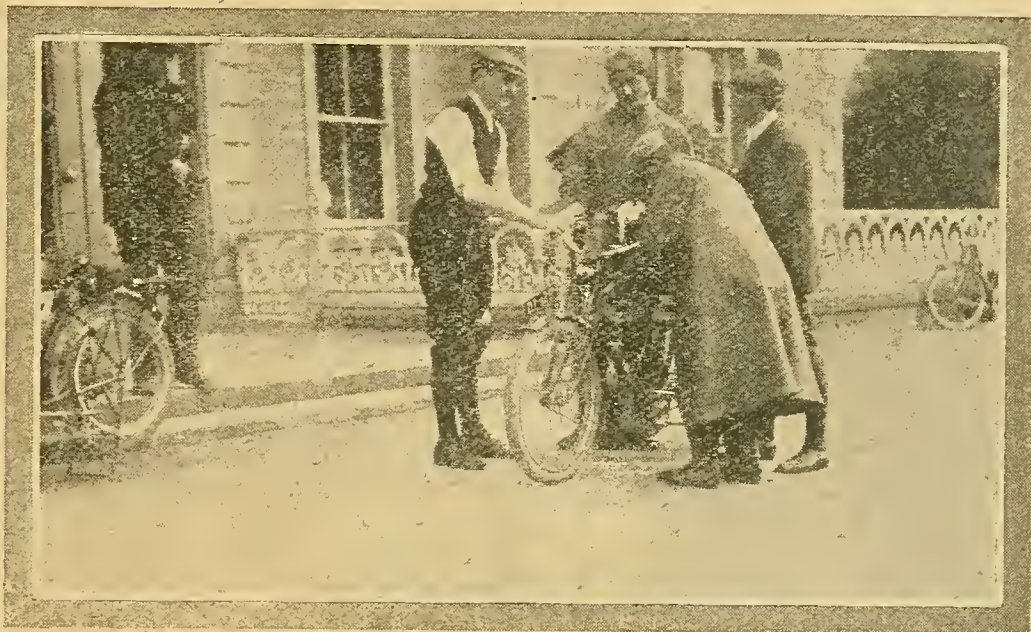
The Road over the Grampians.

The Grampians were in a disgraceful state, nothing but loose stones forming the road, and I varied proceedings between dodging boulders and riding on the grass at the side—a risky proceeding, since the boulders were often partly hidden and only discernible at the last moment. Perth hove in sight, and I could almost smell my lunch, whilst poor Adamson, I am sure, must have been thinking of it for many miles, for he started without breakfast, owing to my early arrival at Beaulieu. Here the tyre was promptly changed by Mr. McFarlane, machine and man “stoked,” and we were on running through Stirling. Lanark was passed (3.36 miles) at three o'clock, and here I again filled up with petrol. Half past four saw me at Lockerbie doing my best to eat three eggs and slabs of bread and jam in ten minutes.

Outside Lockerbie the back Dunlop picked up two flat nails at the same time, and some minutes were

wasted in trying to make the tube hold air, but a look round soon discovered the second nail, and thereafter all was peace from the puncture fiend until Land's End.

Scotland was soon left behind, and now the record began to appear a safe thing, barring accidents. The excellent machine made light of my weight, and so far the weather had been magnificent. Shap proved

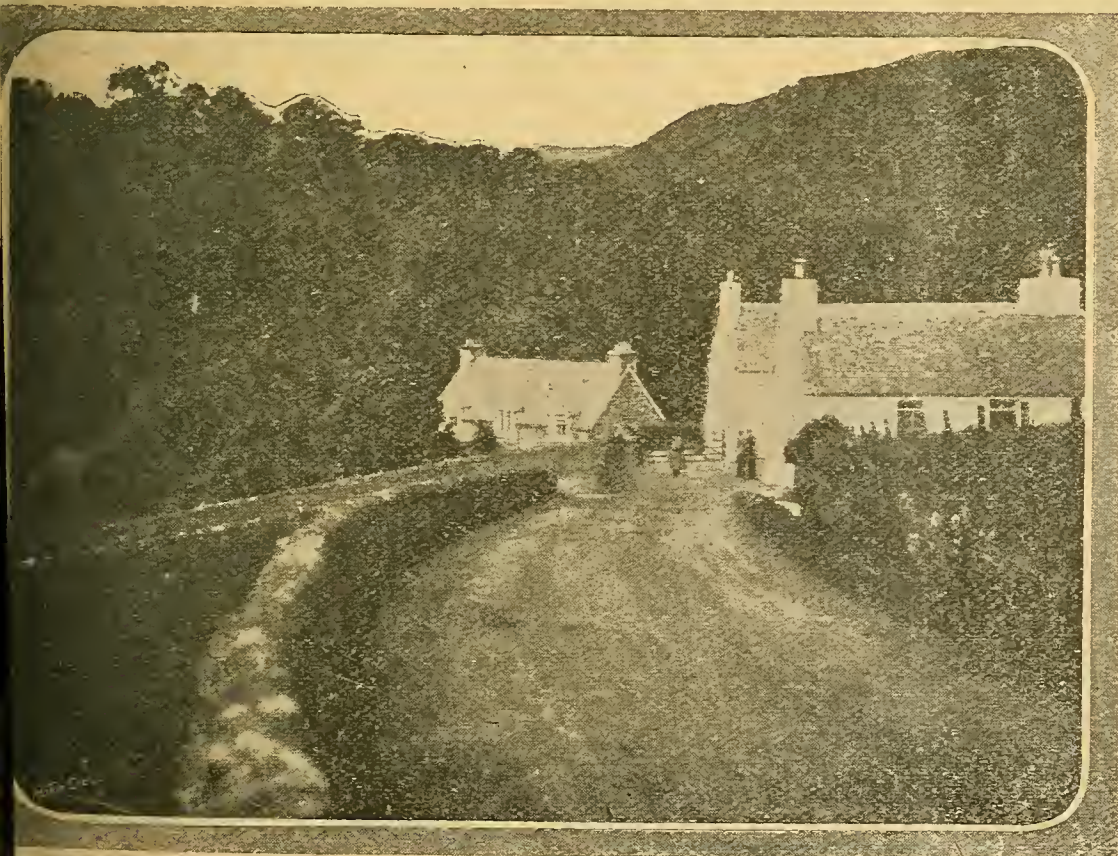


The End-to-end record holder leaving the Lovat Arms, Beaulieu, after breakfasting.

light work, and with an “easy” through Lancaster and Preston we ran into Wigan at 9.30, just in time to avoid lighting up. After supper a council of war was held, for I now had to tackle the worst section of all in the dark—twisty roads, narrow lanes, and at least twenty points at which we could lose our way.

The Most Difficult Section of the Route.

Luckily, in view of Mr. Bentley's harrowing experiences, I had arranged for confetti to be laid by a friend named Rupert May, and, bidding J. H. Brereton good-night, we were soon “hopping” it six strong through the night. Nearing Tarpörey I took a wrong turning, and pulled up suddenly, receiving the full weight of one of my followers who was unable to stop in time in the middle of my back, luckily without any further damage than a crumpled number plate. This contretemps laid my assailant's machine out and reduced our numbers, for which I was secretly thankful. But a greater surprise was in store for us. It appeared that the confetti could not be seen in the dark, and Rupert May, J. C. O'Rafferty, and H. Potts, on discovering this, hurried to Tarpörey to guide me through. I almost fell on their necks in my joy, for I had been dreading this section. Details were soon arranged; May was to lead and I to follow, whilst the rest had to hurry along in the dust and dark



One of the acute bends on Berriedale, which hill is descended if the rider travels southwards. Here was that Tom Peck, riding a Rex, came to grief last month, as already reported.

The End-to-end Record.—

as best they could. From what I gathered afterwards, the "back seats" were not in favour, and I know that I had my work cut out to get round the various corners, steering by May's back. It was a marvel to all of us how he managed to see so well, and

never made a false turn. Had he done so and suddenly stopped we should all have piled ourselves up on top of him, for I was steering by his white coat, and he was riding by my light, which threw a splendid beam some distance ahead. In the early hours when no one was about two of the party failed to get round a corner, and fell with a clashing and grinding of metal. O'Rafferty punctured in Kidderminster, and did a marvellously quick repair, reaching Gloucester only five minutes after me. Poor Gibson came a heavy cropper on a

with every hope of success. Once more the miles slipped by; Clifton Suspension Bridge loomed up and disappeared, Red Hill was pushed behind, and before long we began to pick up the Exeter contingent of followers, several of whom, warned by the telephone, came out to meet us, whilst Mr. Williams, of Exeter, kindly sent out a car to guard an awkward turn, and also stationed a man with a white flag to guide us to Deller's Café. I certainly did not need much guiding, since my appetite had been troubling me for some miles, chiefly owing to the fact that I spent my time in Gloucester laughing at the dirty faces of my followers, especially O'Rafferty's. I can only conclude that they were too polite to return the compliment, since I had not shaved since the previous Saturday, and one glance at a mirror was sufficient to drive me to the wash basin. More porridge, which I shared with Gibson, ham and eggs ditto, and we were heading for the twisty Cornish lanes and Land's End.

Nearing the End.

There is a nasty little hill out of Exeter once you have slithered down the heavily watered tramlines, but "Miss Triumph" took her load to the top, as if she had only run 5 miles instead of close on 800. Once again thirty-four miles were devoured in the first hour, but the claims of live stock, frisky horses, and corners innumerable demanded caution with the goal almost in sight. A short stop in Bodmin for petrol was made, narrow Camborne safely negotiated, and the throttle was closed a trifle, since the record was safe, and I was well in front of time. Penzance was passed at 12 o'clock, and I could picture to myself the timekeepers listening for the sound of my engine, since there was a thick sea mist, and it was difficult to see more than 100 yards. How long those ten miles seemed! But at length I turned the corner, and



To show there are two prominent motor cyclists of the name of Davies. Ivan B. Hart-Davies, the End-to-end record holder, is on the left, while the other is Basil H. Davies, a regular contributor to the columns of this journal.

nasty corner near Kidderminster, which I just succeeded in scratching round by the skin of my teeth, and for a few minutes I thought he was seriously hurt. However, he pluckily remounted, and continued right through to Land's End. All through Bridgnorth and Kidderminster we were anxiously watching for the dawn, which seemed as if it were never coming; but the darkness of the night was to some extent relieved by the furnace flames of the Black Country, proving at any rate that we were on the right road. Perhaps the night seemed longer than usual owing to the strain of fast driving mile after mile in close company, and it was with feelings of relief that we saw the Malvern Hills slipping past on the right, with Tewkesbury close at hand. Now the light rapidly strengthened as if to make up for its former tardiness, and in a few minutes we were slowing up at the Bell Hotel in Gloucester with C. F. A. Cooper on guard.

Porridge, bacon, and eggs, cooked to a turn by my brother Aubrey, soon vanished, and, reinforced by F. C. Mustard, fresh from the Six Days' Trials, the last two stages were entered on



Land's End at last. I. B. Hart-Davies seated in the centre of a group of motor cyclists who acted as followers and assisted him to annex the record.

End-to-end Record.—

ould dimly see the dark shadow of the hotel, with shadowy figures running excitedly to and fro. "12.22, did you have beaten the record by 7h. 16m.," was the announcement, and my ride was over "thirty-three years of glorious life" was my mental comment, and one that you will never experience again" was added as an afterthought.

The attentions of the photographer had first to be satisfied, and then lunch claimed us, whilst the cavalcade of followers poured in—Hobgen on the 6 h.p. Bat, rider of a 2 h.p. Motô-Rêve, Hugh Gibson (who had puncture and then lost his way, going right through the south of Cornwall), F. C. Mustard (who had stopped to wash the dust out of his throat, presumably with water), and others who had joined in the hunt at various points.

Reflections on the Ride.

Of the trusty Triumph I cannot speak too highly. The figures prove its worth, for a machine that can carry a fourteen-stone rider over every variety of road from John-o'-Groat's to Land's End at the speed required to break a record deserves unbounded praise. I feel that the honour must be divided between the machine, the weather, and my followers and helpers. The weather must have been specially lent for the occasion, whilst every man was in his appointed place and did his share ungrudgingly. It was a complete surprise to me to find such keenness and enthusiasm from one end of the kingdom to the other, and to all who assisted I tender my heartiest thanks. The record has been beaten, and will be

beaten again, and I can only hope that the next man will be equally favoured by luck. To this combination of circumstances I owe it that I finished so fresh. In fact, beyond a slight swelling of the hands, due no doubt to vibration, I felt as fit as when I started; there is therefore little doubt that the modern machine is not the nerve-racking vehicle its detractors assert it to be. Moreover, J. Robertson told me before starting that Tom Peck was quite fresh at the finish when he timed him in at Groat's in May. I thought the Scottish scenery magnificent, especially down to Brora, whilst the approach to the Grampians is grand. Naturally, one missed much of the beauty, owing to the vileness of the "road" and the necessity for keeping a careful eye on the corners and sheep, but a ride over the Scottish portion at a gentler speed is a pleasure I hope to experience at a later date. It was my first experience of Scottish scenery, for I had never been north of Perth before, and perhaps a Scotch mist would cause me to alter my views.

It is pleasing to be able to record no mishaps or inconvenience to the general public, for the roads were singularly deserted and free from traffic. This, perhaps, can be partly accounted for by the fact that I started at 3 a.m., and therefore only had one afternoon, which was chiefly spent on the broad high road over Beattock summit and Shap. Such a speed as I averaged does not necessarily mean reckless driving, and all motorists will doubtless be able to appreciate the distinction. Late in the afternoon we returned to Penzance for tea and dinner, and caught the 10.30 next morning for home and arrears of business.

OCCASIONAL COMMENTS.

By "IXION."

The Tourist Trophy Race.

Never have we been able to look forward to such a T. Race as we are promised this year, and I hope one of the big clubs will organise a trip to the island inclusive prices, so as to attract a good muster of spectators. I should like to see Marshall and Collier fight out the rubber, but the inclusion of the twins has made the event extremely open, and I doubt if either Marshall or Collier are feeling remarkably sanguine about finishing first, though probably each of them is convinced he is just a bit too hot for the other. Who said Lee Evans? I happen to know the Indians which have been winning at Brooklands are the same machines which have been used all the year on the roads. Wells is just doing a little missionary work at the present, until he can get regular deliveries from the big Hendee factory. A machine that can do better than sixty miles per hour on Brooklands and go to gain a gold medal in the Six Days is a formidable competitor in a road race. Then there are several very dark horses in the twin-cylinder class, and altogether I am more than doubtful whether the experiment of lumping twins and single-cylinders together will be repeated. If I may presume to offer a word of advice to one or two amateur entrants I have heard of, it is this: You have not just got to get the fastest bat obtainable out of your engine, but you have to keep it up for a good many hours on end. I fancy several who will dazzle us the first time round

will be travelling badly on the second circuit, and out of it altogether on the third. The fuel limit forbade such a generous carburetter adjustment as is now permissible, but the need of combining stamina with pace will have a very similar effect, and many carburetters will be adjusted in the Isle of Man almost as stingily as if there were a fuel limit still in existence.

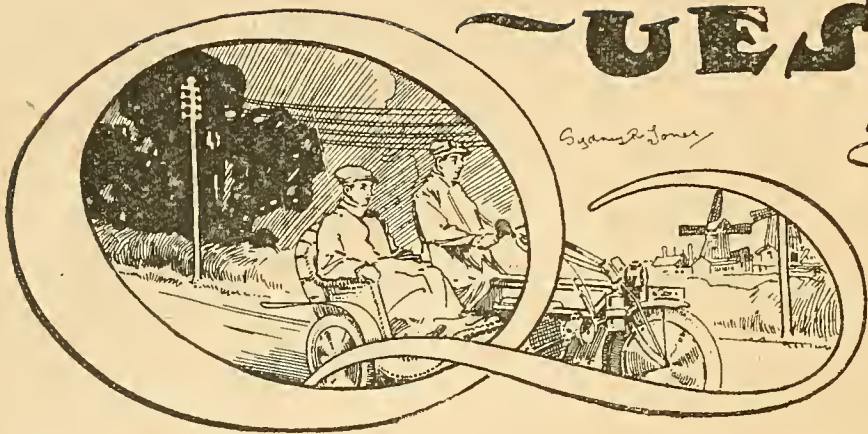
Carburetter Air By-passes.

A good many riders are accustomed to run down steep hills with the throttle shut, using engine compression as an auxiliary brake, though more with the idea of cooling the engine than of utilising additional braking facilities. It is astounding that the modern motor cycle is minus an air by-pass, *i.e.*, a means by which pure air is fed into the cylinders when the throttle is shut. If the rider has a switch he can switch off and leave the throttle open, so cooling the engine but wasting fuel. This is better than sparking with the throttle shut, but is not maximum efficiency, because fuel is being wasted. The idea is that when the throttle is shut a fresh air by-pass should be opened, which has three advantages:

- (a) The engine is cooled.
- (b) No fuel is being vaporised.
- (c) The switch, with those possibilities of trouble which it always connotes, can be dispensed with.
- (d) The engine acts as a brake.

Yet I doubt if three standard makes are provided with this simple and desirable fitment.

QUESTIONS AND REPLIES



The Reason for Coiling Petrol Pipes.

Q. A friend and myself have different opinions as to the use of the coils in a petrol feed pipe. My friend says that the coils are to lessen the flow of petrol to the carburetter and stop flooding. I maintain that they are to serve as a spring to prevent breakage of the pipe. We have decided to take your decision as final.—W. F., Sussex.

Your explanation is perfectly correct. The coils in the pipes are to prevent breakage, and, in the event of breakage close to the union, to allow a fresh joint to be made without unduly shortening the pipe.

Inland Revenue Tax Exemptions.

Q. Please inform me whether I am exempt or not from the Inland Revenue licence for a motor cycle? I am in the insurance business, and have a long and straggling country district to work, and I use my motor cycle for this work. I judge from the case at Spalding I am exempt, but would like to know for certain.—E.L.H., Holywell.

Unless you can satisfactorily prove to the Inland Revenue authorities that you use your motor bicycle solely and entirely for business purposes, and never, on any occasion, for your own pleasure, you cannot be exempted from the tax.

Shipping and Freight to Melbourne.

Q. What is the cost of sending a motor bicycle to Australia, also cost of duty? Should the motor cycle be entirely closed in a wooden box? In Melbourne the price of a first-class machine is £70 to £75. Do you advise me to send one out there, or instruct my friend to purchase when landing?—M. GROVES, Bolton.

The cost of shipping a motor bicycle to Melbourne is 47s. The duty is 25% *ad valorem* for a British-made machine, and 30% *ad valorem* for a machine of foreign manufacture. Full particulars regarding shipment to Australia can be obtained from Davies, Turner, and Co., Ltd., 52, Lime Street, E.C. They would probably undertake to pack the machine for you. It should, of course, be packed securely in a wooden case. We advise purchase in Melbourne. Nothing can be saved by shipping a new machine to Australia after freight, duty, etc., are paid.

Chronic Misfiring.

Q. I have an old pattern 3½ h.p. Rex motor bicycle, and it has misfired from the time it was newly purchased. I have tried everything I can think of to remedy it, but have failed up to now. I have fitted a new trembler coil, also a new wipe contact breaker to the engine, tried various-sized spraying jets in the Longuemare carburetter, but it still misfires. Have tried different sparking plugs, the timing is correct, petrol tube is clear from tank to the carburetter, and valves appear to work freely. Engine has plenty of power for hill-climbing, but I cannot get more than about eighteen miles an hour on the level, gear 5½ to 1. Engine misses at all speeds whether the spark is advanced or retarded. If you can suggest a remedy I shall be much obliged.—H. SKINNER, Dover.

We should recommend you to carefully adjust trembler on coil, see that accumulators are fully charged, then look to both inlet and exhaust valve springs. If the springs are by any chance too weak the engine will misfire exactly as if the ignition were wrong. If you can by any means get a magneto fitted to the engine you

will find it will make it far more reliable. The machine is quite capable of travelling at a good speed.

Clutch Leathers on Tricars.

Q. The clutch of my 6½ h.p. tricar gives me a lot of trouble. The leathers burn out quickly, sometimes in 100 miles. I have tried all sorts of leathers, and all dressings as advised in "Hints and Tips," and by "Ixion" in 1907. The fact is the clutch is too small (6in. by 1in.), but there is not sufficient room to enlarge it. Can I with safety try brake lining, such as canvas, fibre or copper? I can put the clutch in and out very gently, as it is operated by hand, and there is no spring. Can you suggest a cure, other than enlarging clutch? I can remove old leathers and fit a new one in an hour, but of course it is a dirty job.—B.W.J. Stafford.

You might try a canvas or composition brake lining on the clutch, such as Frood's patent, which can be obtained from almost any of the well-known accessory dealers. We have never heard of it being tried in connection with tricar clutch, but it would be an experiment worth attempting. Have you tried using the very best quality sole leathers and dressing it with "Collan" oil at fairly frequent intervals?



The tea interval was a popular feature at the Coventry and Warwickshire M.C.'s Motor Cycle Hill-climbing Competition at Newnham, near Daventry. Officials, competitors, and spectators are here seen enjoying their tea and the splendid view obtainable from the field at the summit.



O. C. Godfrey (3½ h.p. Rex Speed King) at the summit of Newnham Hill, Daventry. Godfrey obtained sixth position on time, a companion machine ridden by J. C. Smyth making the fastest single-cylinder time of the day.

Misfiring in One Cylinder at Slow Speed.

I have a twin-cylinder Vindec, 1907 model, and cannot get both cylinders to fire at low speeds. If I slow down to about twelve or fourteen miles an hour, the rear cylinder immediately stops firing. Both inlet valve springs are of an equal tension. I should be much indebted to you if you could advise me what to do.—R. O. HASTINGS.

The trouble is probably due to the failure of the carburetter to supply a rich enough mixture at low speeds to ensure regular firing. Fitting such a device as the White's Economiser may possibly cure the trouble, or, if you can reduce the space round the jet of the carburetter in any way and enlarge the additional air openings to compensate, you will probably be able to run quite slowly with extra air closed.

Touring in Devonshire.

I am contemplating visiting Lynmouth shortly on my 7-9 h.p. Bat-J.A.P. and sidecar; total weight of passengers 21 stones. I have only a single gear with adjustable pulley, and I am a little doubtful whether I should be able to get up Porlock Hill and also the hill out of Lynmouth towards Minehead. Do you think I could get up these hills, and if so what gear do you think I should use? I know the road from Minehead to Lynmouth well, having travelled on it several times by coach, and from what I remember of Porlock Hill it would be almost dangerous to attempt it with an empty sidecar on account of the bend half-way up it. Am I correct?—ENGINEER, Lancs.

We should advise you to gear quite as low as 6 to 1 for these excessively steep hills, and it is even then doubtful with a gear as high as this you would climb them with a passenger. It would certainly be difficult to negotiate the corner on Porlock with no weight in the sidecar, but with a low gear and are you should be able to manage it in safety. Your machine is a powerful one, and a trial of these ascents would certainly be interesting. Why not have two-speed gear fitted?

One or Two Silencers.

Do you think I can render my 3½ h.p. motor cycle more silent if I were to fit a second silencer beyond the present one? The present silencer is in front of the crankcase. I propose to leave it just where it is, and carry a pipe from the outlet to the back of the crankcase, and there fit a second silencer. Would this cause back pressure, the exhaust having to pass through two silencers? There is 4in. clearance between bottom of crankcase and the ground. Would that allow for a 1in. pipe to be carried underneath the crankcase, and would the pipe be likely to catch obstructions on the road?—W.B.G.

We should recommend you to remove the present silencer and fit another one. There would be no object in having two unless you remove all the baffle plates from the present silencer and use it simply as an expansion chamber. There is sufficient clearance underneath the crankcase if machine is ridden only on good roads.

Advice re Purchase of a Second-hand Machine.

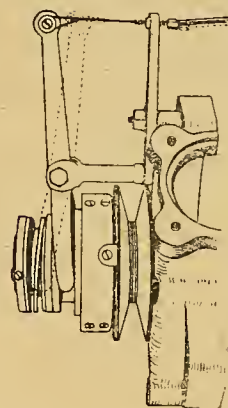
I know nothing whatever about motor cycles, but I thought of buying a second-hand one so that I could ride to my work and return home daily—about thirty miles the double journey. A few stiffish hills in it. I intend riding the machine all the year round. (1.) Can you give me any advice as to the most suitable type and power to buy? Could I get one for £10 that would not always be breaking down? (2.) Can you give me some idea of the cost of petrol, say for 200 miles per week? (3.) How much should it cost for the upkeep per week, repairs included? I expect you cannot answer the third question definitely, but perhaps you can give me some idea of the average total cost.—T. MILLS, Cleckheaton.

(1.) What you had better get is a single-cylinder machine of about 2½ to 3 h.p. £10 is a low price for a good second-hand machine. It would be advisable to study the miscellaneous advertisement columns of *The Motor Cycle* and write to some of the best known dealers, and ask them to let you know what they have on their books at the price you are prepared to pay. (2.) An average motor cycle of 2½ to 3 h.p. will cover about eighty miles to the gallon of petrol. The present price of petrol is 1s. 3d. to 1s. 4d. per gallon. (3.) You should have no difficulty in running a machine 200 miles a week for 5s. to 7s. 6d. per week. It is impossible to estimate repairs, but these should be few and far between if machine is a good one to start with and in good order. If you care to send us a numbered list of the machines which you think might suit you, keeping a copy by you for reference, we will place them in order of merit, but second-hand machines should always be examined by an expert before purchase, failing that adopt the deposit system.

READERS' REPLIES.

Clutch Slipping on Steep Hills.

I notice in reply to a query in *The Motor Cycle* regarding Mabon clutch slipping that over-oiling is mentioned as the likely cause. I am inclined to think the Bowden wire is adjusted too tightly at the stop. This would put the pressure of the clutch spring on the fork and wire instead of the clutch plates, and would have the same effect as keeping it partly disengaged. I enclose an illustration showing the incorrect method of adjustment by dotted lines. You will see from this that it is possible to entirely free the engine by tightening the wire too much at the stop.—A. MABON.



close an illustration showing the incorrect method of adjustment by dotted lines. You will see from this that it is possible to entirely free the engine by tightening the wire too much at the stop.—A. MABON.

Loss of Power on Hills.

In reply to "G.A." in the issue of August 18th who enquired re 3 h.p. Quadrant, I have one and substituted rigid for the spring forks supplied, also a spray carburetter for the surface type. I should advise "G.A." to do the same, also to rewire the machine, especially the contact breaker, replace worn contact breaker parts, fit new valve springs and check timing. Fit the release valve outside contact case, solder a copper pipe to the nut on hollow shaft and stop up present holes and so avoid dirty wires and contacts. Check inlet valve for wear on guide and stem. My Quadrant will take me anywhere.—G. F. C.



An unofficial weighing in at Daventry on August 21st. V. A. Holroyd, chief marshal of the Newnham Hill-climb, on the scales. Weight 239½ lbs. minus his four-cylinder F.N.



Gear Ratios and Flexibility.

By ENGINEER.

OF all the hill-climbing competitions that have been held from time to time it is very questionable whether any real good has been done in the development of motor cycles from the amateur owner's point of view. These competitions are usually held on hills which permit of a good flying start; therefore the steepest gradients can be rushed and taken at very fast speeds. The course is usually kept clear of other traffic, and there is nothing to obstruct the riders in their upward flights. The engines have generally been specially tuned up—in fact, in only a few cases are they engines which are fitted to touring machines. It is no uncommon sight to see a few rider spectators on standard machines attempt to climb a hill either before or after the contest, and if the hill is a steep one such machines more often than not fail to get up without pedal assistance, whereas the same makes of machines invariably romp up the hill in competition.

Generally speaking, an engine specially tuned up for hill-climbing competitions is unsuitable for everyday use. Such an engine is not flexible, and cannot be slowed down nicely to suit various conditions, such as traffic. High speeds and hill-climbing power have usually been gained at the expense of comfort and ease of control.

Change Speed Gears Wanted.

Most motor cycle engines are necessarily light and of comparatively small dimensions. The majority of motor bicycles have a fixed gear ratio, so that speed and hill-climbing depend upon the engine being powerful and flexible enough to do all that is required without an alteration to the gear ratio. Motor cars have two or more gear ratios which can be varied at the will of the driver, and in addition the engine is usually more flexible and powerful than a motor cycle engine, so that there is not much difficulty nowadays in tackling the worst hills in the country.

In the opinion of the writer a motor cycle should be so designed that it is the equal of a motor car in hill-climbing without recourse to excessive power. The obvious course is a change speed gear box or some method of altering the gear ratios whilst running. My requirements in a motor cycle for daily use under all conditions are to be able to take the very worst corners on hills safely at a speed which depends upon the state of the surface and the traffic, and yet be able to pick up speed after the corner is passed.

No motor cycle has yet been made which will do all these things without a variable gear of some sort.

In theory the so-called infinitely variable speed gear is ideal for hill-climbing and general touring purposes. In any contest between equally skilled riders where the horse-power of the engine, the weight of machine and rider, and the wind resistance are equal the infinitely variably geared motor cycle must win against the one with a fixed gear ratio. This is only commonsense for the following reason. Every professional tester or amateur tuner up of petrol engines knows that there is a certain crankshaft speed at which an engine develops its maximum power. In modern engines the power curve usually rises in a straight line, and keeps on rising until very high engine speeds are obtained—



E. Kieckham, 7-9 h.p. Leader-Peugeot, on the steepest part of Newnham. This rider accomplished the second fastest time of the day at the Coventry and Warwickshire M.C.'s Open Hill-climb.

in fact, much higher speeds than are desirable when sustained effort is required from the engine. An air-cooled engine will run for a very considerable period at a high speed and develop satisfactory power, but at a certain point is usually found above which it is not desirable to run, because the engine soon overheats. For practical purposes it may be assumed that the critical engine speed is the best to run at for any sustained effort. If such an engine is fitted into a bicycle which has an infinitely variable speed gear and a speed counter is connected to the engine-shaft the best results can be obtained from that bicycle by simply altering the gear ratio whilst running, and by

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67 entries

Against the pick of machines and cream of riders.

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(Touring
Machines.) 1st, 2nd & 3rd, ZENITH GRADUAS, 3½ h.p.
The ONLY Zeniths competing.

Class II.—On formula. OPEN (Engine power
unlimited).
(For any special
or racing models.) 1st & 2nd, ZENITH GRADUAS, 3½ h.p.
The ONLY Zeniths competing (and the same machines)
as in class I.

Class I.—Private Owners.
1st on formula—ZENITH GRADUA.
Fastest Time—ZENITH GRADUA.
Club Members.
1st on formula—ZENITH GRADUA.
Fastest Time—ZENITH GRADUA.

Class II.—Private Owners.
1st on formula—ZENITH GRADUA.
Club Members.—No ZENITH competed.



The three riders of 3½ h.p. ZENITH GRADUA machines. From the left the names are Messrs. W. H. Bashall, F. W. Barnes, and R. T. Exshaw. Competing in ten events, they won seven 1st Awards.

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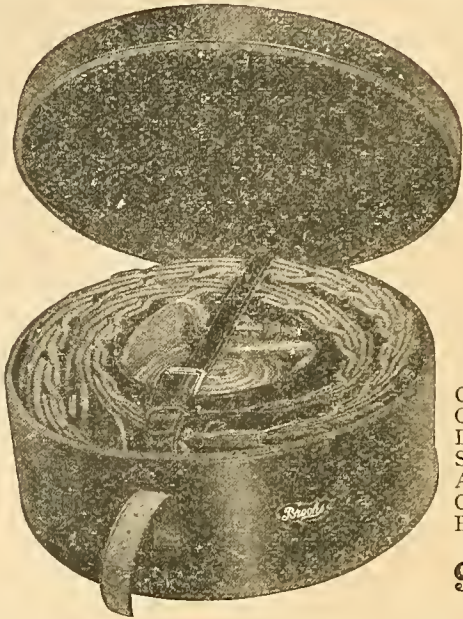
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Ratios and Flexibility.—

When the speed counter the engine revolutions may be allowed to keep up to the above mentioned critical speed. No better result than this can be obtained.

If a hill is being climbed with a variably geared machine and the engine speed rises above the critical at the gear ratio can be raised until the maximum is obtained, and then if the engine still runs faster than critical speed it means that there is a reserve of power, and the engine would stand a higher maximum without fear of overheating. Overheating takes place when the rider tries to flog the machine along on a high gear, and therefore a lower engine speed is the critical one.

This critical speed is also usually the best for least petrol consumption. In hill-climbing competitions it is noticeable that the machines doing fastest usually occupy low positions in the formula table, though petrol consumption is not taken into account. They would also show excessive petrol consumption if the fuel were measured, and this goes to prove that engines are not highly efficient.

Those who study the subject carefully will, I think, see that a straightway rush up a hill is not a fair test of a machine's capabilities. It is no uncommon thing for competitors to protest against sharp bends on a hill; they say they are dangerous, and that they cannot negotiate the curves safely. Of course, they cannot with a single geared machine, and if they slow

down for the corner they possibly cannot pick up again. Hill-climbing competitions should be arranged on hills which are as twisty as possible, in order to make it impossible for ridiculously high powered machines to attain such a speed that they become a source of danger to the riders. On reaching a bend the engine should be flexible enough to enable the curve to be negotiated safely and to pick up again. If similar slowing and restarting tests were introduced in all climbs it would be obvious to the prospective purchaser that a machine that could be safely handled at corners would be most useful for touring purposes.

A hill-climbing competition has been announced by the A.C.U. to be held in the Isle of Man after the Tourist Trophy Motor Cycle Race on the 23rd inst., and I would suggest that the most tortuous hill in the island be selected for this event. We should then see a real test of flexibility. There is a good road leading out of Ramsey up which motor cars have been raced for the *Graphic* Trophy. Another is just beyond Glen Helen on the Kirk Michael side, and there is also the hardest test hill in the island, *i.e.*, the mountain climb from Ramsey to the Bungalow. I fear the latter would be too big a test for air cooled engines, although it would prove whether the cooling ribs are really sufficient for cooling an engine on a long mountain climb.

I hope some of the suggestions thrown out in this article may meet with the approval of those who are making the arrangements for the hill-climb.



Newnham Hill-climbing Competition. A scene in the yard of Reynolds's Garage, Daventry, on August 21st. Officials checking and weighing the competitors and their machines.

Ariel Motor Bicycles.

A FEW SLIGHTLY SHOP-SOILED
2 $\frac{1}{2}$ h.p. LIGHTWEIGHT
 AND
3 h.p. MODELS.

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End-to-end Record.

Will J. C. Smith, of Schull, who beat A. J. Kettle in the Irish End-to-end Record on June 12th, kindly communicate with the Editor?

Reminiscence of the 1908 End-to-end Trial.

Gordon Gibson, who is touring in the North of Scotland, informs us that he saw one of the old 1908 A.C.U. cars still in use and in a very conspicuous position at Brora one day last week.

Motor Cyclist Banned at Fallowfield.

We understand that Harry Rignold, well-known a few years ago as a prominent racing motor cyclist, was used permission to ride at Fallowfield Sports by the Manchester Athletic Club on Saturday last. Rignold had been billed all over the city as one of the attractions of the meeting, and the news naturally caused a great stir. No action has been given.

German Motor Cycle Trials.

To-morrow (Thursday, September 2nd) a big trial for motor cycles and small cars will be held by the Lorraine branch of the German Motor Cyclists' Association. Machines must be in touring trim, and will be divided into five classes, comprising machines from 3 h.p. to 8 h.p. The start will be at Metz and the finish at Strasburg.

Kilometre Race Meeting.

Six motor cycles, five N.S.U.'s and one Puch, were entered for the one kilometre Race Meeting organised by the Frankfurt Motor Club. Eugen Kieners, on an N.S.U., won the race in 32.6s., which is equal to a speed of 68½ miles an hour. A. Noll, of Bisseldorff, on a Puch, was second in 4s. The meeting was well attended, the Grand Duke of Hesse and his consort being among the spectators.

Police Traps.

We are informed that from August 1st till September 26th all motor cars and motor cycles will be timed from the Green Man, Sparham, to Bawdswell, and the Bell Hotel, Bawdswell, to the Green and Hounds, Foxley. Both these positions are on the main road from Norwich to Fakenham.

In the vicinity of Maidstone, on the Ashford and London roads.

On the road between Banff and McDuff. All the traps in Banffshire appear to be about four miles in length, and the twenty miles limit is strictly enforced.

A measured 220 yards in Whitehall, W., usually worked on Sundays.

In the Albert Bridge Road andattersea Bridge Road, worked alternately by three policemen.

Within five or six miles of Helston, on the Truro-Falmouth-Helston road, and anywhere between Helston and Lizard. These roads are intermittently trapped.

Between Pitlochry and Dunkeld, through Auchterarder, and a timed mile speed limit near Dunkeld.

One mile north of Petersfield, on the London-Portsmouth road, beginning at a spot known as Adhurst Hill, etc. Over twenty motorists were timed at Petersfield last week.

The Return of Borrowed Parts.

Will the motor cyclist who borrowed a Darop sparking plug and a spanner from a gentleman on the London-Folkestone road on August 7th kindly return the articles to C. Smith, 19, Cheriton Square, Balham, S.W.? We are pleased to say the owner of the borrowed accumulator referred to last week has recovered his property through the instrumentality of *The Motor Cycle*.

Are Special Motor Roads Wanted?

A memorandum explanatory of the Development and Roads Improvement Funds Bill was issued on Thursday evening last. The Road Board is the section which is of the greatest interest to motorists. This board is to be given power to construct new roads which it is intended will be primarily confined to motor traffic, and the speed limit will not apply on such roads. The question is, are special motor roads required or desired by motorists, and particularly by motor cyclists? We think not, because the present roads are, generally speaking, suitable. If the suggested motor roads are ever

FUTURE EVENTS.

Sept. 1.—Entries close for the Tourist Trophy Race on Sept. 23rd.

Sept. 4—M.C.C. Members' Petrol Consumption Trial Start 4 p.m.

Sept. 5—Mont Ventoux (France) Hill-climb.

Sept. 12—Semmering Hill-climb (Austria).

Sept. 23—THE TOURIST TROPHY RACE FOR MOTOR CYCLES IN THE ISLE OF MAN.

Oct. 6—Race meeting at Brooklands.

Oct. 9—Proposed Two Hours' Record Race at Brooklands, organised by the British M.C.R.C.

Oct. 16—A.C.U. Fourth Quarterly Trial of 1909, Uxbridge to Banbury and back.

constructed, it is probable that the present speed limit on ordinary roads will be reduced. In other words, motorists may be told that speeds in excess of some ridiculous limit, which may be fixed, are only permissible on the special roads which have been constructed for their use. On ordinary roads they will be expected to travel at the speed of a market gardener's cart. A bill to spend the money collected from motor and petrol taxes on improving the present roads would be far more sensible, and would, we feel sure, meet the wishes of the bulk of motorists. We do not want special motor roads! We want the present ones made suitable for modern traffic conditions.

Bluejackets' Sports on Whale Island.

A motor bicycle potato race was included in the H.M.S. Excellent sports on Whale Island last Saturday. There were over 8,000 visitors. In the potato race the officers had to start and ride to top of track, take a potato from a table, and return and put potato in a bucket. Lieut. Hart won, riding a 3½ h.p. Triumph. Other competitors rode Brown, Triumph, Vindec, and White and Poppe engined motor cycles.

Hill Climb in the Isle of Man.

The A.C.U. has decided to hold the hill-climb which is to follow the Tourist Trophy Race in the Isle of Man at Kiwague Hill, on Friday, September 24th. There will be four classes, as follows: Class I., for genuine standard touring machines not exceeding 750 cc. Class II., for single-cylinder T.T. models as used in the race. Class III., for multi-cylinder T.T. models as used in the race. Class IV., for privately owned machines with engines not exceeding 750 cc.

Motor Cycle Stolen.

With regard to the theft from F. Horner and Co.'s premises on August 8th, mentioned in the issue of the 18th ult., through an error in punctuation, we were led to believe that a frame only was removed. We now learn that the loss was more serious. A new 3½ h.p. Rex motor bicycle, numbered on frame 20398, was stolen on the night in question.

Brooklands October Meeting.

In view of the success which attended the meeting held on Wednesday, 30th June last, and as a result of numerous representations made to Major Lindsay Lloyd on the subject, especially by B.A.R.C. members, it has been decided to alter the date of the October meeting to Wednesday, October 6th. Two motor cycle events will be run—(a) the autumn handicap, cylinder capacity limit 500 c.c.; (b) the October handicap, cylinder capacity over 450 and under 1,000 cubic centimetres.

German Motor Cycle Corps.

The Imperial Treasury and the military officials have fixed the following rate as pension for disabled volunteer motor cyclists. The average yearly earnings of a motor cyclist will be assumed to be £182. The army pension allowed for total disablement on this income is £95 yearly during life, with a contingent extra war pension of £15. A motor cyclist's pension might therefore amount to £110 per annum. Married men will not be enrolled in the Corps, because in the event of a motor cyclist being killed his family would not be entitled to receive more compensation than the family of an ordinary soldier.

Speed Limit applied for in Saxmundham (Suffolk).

At a meeting of the Saxmundham Urban District Council, held on Aug. 19th, it was unanimously agreed to petition the county council to reduce the speed of motor vehicles in Saxmundham to ten miles an hour. One member of the council said that he thought motor cars and motor cycles were driven through the town at a reckless pace, whilst another confined his remarks to motor cycles. *The Chairman reminded the council that in some districts where police traps were set traders were petitioning to have them removed because trade was leaving the towns near where they were set.* The Clerk to the Rural District Council said that a car which passed his office nearly shook him out of his chair. Perhaps the urban council's offices and furniture are not of the most substantial construction, or maybe the motor car referred to was a steam tractor.

Essex M.C. Twenty-four Hours' Ride.

SPLENDID weather favoured the club for its annual ride from Woodford to York and back, which took place on Friday and Saturday last. The following took part: A. E. Parsons (5 Acacia Special), G. L. Andrews (2 Moto-Rêve), C. J. Janssen (2 Moto-Rêve), F. A. Hardy (3½ Norton), F. E. Hardy (5 V.S.), A. V. Deacock (2 Moto-Rêve), W. Pratt (3½ Phelon and Moore), W. Cooper (3½ Triumph), W. H. Wells (5 Indian), G. Lee Evans (5 Indian), F. C. Wood (4 N.S.U.), G. L. Fletcher (2½ Douglas), B. C. Siffken (5 Rex), F. G. Smith (3½ Triumph), A. G. Peppercorn (3½ Triumph), W. H. Applebee (3½ Rex), F. W. Applebee (5 Rex and sidecar), B. A. Hill (2½ Douglas), W. Pershke (8 Colibri car), and M. Krause (7 V.S. car).

The riders were accompanied by two official cars. The first, a 14 h.p. Austin, kindly lent by L. B. Feeney, started fifteen minutes ahead of the first man, with Timekeeper Ebbelwhite aboard. The other car was a 15 h.p. Rover, placed at the disposal of the club by F. J. Jenkins, who was accompanied on the run by R. H. Head. The Rover car started last, and took the hon. secretary through.

The route was from Woodford *via* Bishop's Stortford, Cambridge, Huntingdon, Stamford, Grantham, Retford, Doncaster, and Ferrybridge, to York. Arrangements had been made for food at Grantham on both journeys and at the Windmill Hotel, York. The course was well marked by arrows and coloured lanterns, red meaning a left turn and green a right. The lanterns made it very easy to follow the road during the night. We occupied a seat on the Rover car, and very soon began to pick up the men. Among the earliest in trouble was W. Pratt, trying to light his lamp, and this seemed to be the cause of delay to a good many. At Stamps Cross, just before Cambridge, we caught the Austin car busy with tyres, so we took Ebbelwhite on to set the watch at Cambridge. On the way to Huntingdon E. J. Bass, the trials secretary of the Essex Motor Club, was seen trying to pulverise the twenty-four hours' pedal tricycle record. Several suffered trouble before Huntingdon. Parsons had belt trouble, but was nevertheless in to time. Pratt could not get his lamp to burn, and was compelled to retire. He rode to Grantham, and spent the rest of the day assisting with the checking. Apparently the whole population of Wansford Bridge had turned out to take the times there, and all the competitors got a good cheer as they pulled up. At Stamford one enthusiast had put up a big notice "To York," and there was no difficulty in finding the Colsterworth Road. At Grantham everyone was ready for the hot supper at the George. Deacock, Pershke, and Krause had fallen out from unknown causes.

From Grantham to Doncaster was the most trying part of the journey, as there was a very thick fog, and several men lost their way. Five miles from Doncaster the riders were stopped for a secret check. Ferrybridge was the only place not properly marked. The following checked in at York: Janssen, the two Hardys, Cooper, Wells, Evans, Wood, Fletcher, Smith, Peppercorn, the two Applebees, and Hill. Parsons had run out of petrol near Doncaster in consequence of having lost his way in the fog, and this, coupled with belt troubles, caused his retirement. Peppercorn had been in collision in the fog, and had to be medically treated at York.

On the return journey the unfortunates were picked up. Siffken found that he was out of the running, and instead of returning to town started off for Scotland for a holiday. A secret check was placed five miles from Doncaster. The fog had now cleared off, and it was very pleasant running. Lunch was served at Grantham. Here we learned that the Austin car had got as far as Retford, and had there experienced more trouble, which had caused another stop. At Stilton there was a secret check being worked by Pratt. At Woodford a large crowd had again assembled, and the

following men were checked in within twenty-four hours: Janssen, F. A. Hardy, W. Cooper, Wells, Lee Evans, Wood, Fletcher, Smith, Peppercorn, F. W. Applebee, and Hill. The final results will be issued when the committee have examined the whole of the time sheets. In a competition of this nature, where times are taken at secret checks as well as the known places, it is impossible for the results to be known until the committee have had an opportunity of going through the figures.

W. H. Bashall asks us to state that the reason he made comparatively slow time in Class 2 at Newnham on August 21st was because the petrol pipe of his 7-8 h.p. Bat-J.A.P. unfortunately broke.



Some of the riders who took part in the Twenty-four Hours Run of the Essex Motor Club on Friday and Saturday last. Our photograph was taken at Woodford.

TOURIST TROPHY RACE.

THE following are the entries received up to date for the Motor Cycle Tourist Trophy Race, to be held in the Isle of Man on September 23rd:

The entries total forty-eight, and it is confidently expected that the number will reach between fifty and sixty before the list closes this evening.

J. Marshall (3½ Triumph) (holder)	A. J. Sproston (5 Rex)
H. Reed (5 Dot) (holder of Twin Trophy)	Jas. Adamson (3½ Triumph)
Norton Mfg. Co. (3½ Norton, 496 c.c.)	L. C. Munroe (5½ N.S.U.)
Noel E. Drury (5 J.A.P., 630 c.c.)	R. M. White (3½ Brown)
C. B. Franklin (7½ Triumph)	R. M. Brice (3½ Brown)
W. H. Wells (5 Indian)	J. Baxter (5 Rex)
W. H. Wells (5 Indian)	J. C. Smyth (3½ Rex)
S. C. Perryman (5 Norton)	R. Lord (3½ Rex, two-stroke)
R. Ellis (3½ Rex)	G. E. Stanley (3½ Premier)
F. A. Applebee (Rex)	B. B. Jones (3½ Premier)
O. C. Godfrey (Rex)	Wm. Heaton (3½ Rex)
W. Grimstead (5 Rex)	H. L. Cooper (3½ Triumph)
J. F. Jones (3½ Triumph)	F. C. Bagshaw (5 Rex)
W. O. Bentley (3½ Rex)	A. J. Moorhouse (5 Rex)
C. E. Murphy (3½ Triumph)	Rein Fowler (5 Rex)
Jas. Stewart (3½ Triumph)	Thos. Greer (5 Rex)
H. A. Collier (6 Matchless)	C. Wilson (3½ Rex)
H. V. Colver (3½ Matchless)	N.S.U. Motor Co. (4 N.S.U.)
C. R. Collier (5 Matchless)	F. W. Barnes (3½ Zenith)
W. H. Bashall (Bat)	H. H. Bowen (Bat)
J. T. Bashall (Bat)	G. L. Fletcher (Bat)
Hugh Gibson (3½ Triumph)	W. Newsome (3½ Triumph)
T. A. Carter (5 Rex)	A. G. Fenn (3½ Triumph)
	P. Butler (5 Dot)
	H. D. Blake (3½ Triumph)
	W. G. McMinnies (3½ Triumph)

ARE SCRUTINEERS NECESSARY ?

By B. H. DAVIES.

A PROPOS of the recent hill-climb controversy, readers may be interested to hear my experiences as a scrutineer at the recent Coventry and Warwickshire M.C. hill-climb. In company with three or four others I was deputed to examine all the machines at the scales, and to transfer to the racing class any machines which were not tourist mounts. Our instructions were to debar any machine which did not comply with a touring specification published in the regulations. For instance, machines must have 3½ in. mudguards, spring forks, two brakes, touring saddles, standard size tyres, 5 lbs. of tools, stand, and horn. We were further supposed to see they possessed efficient silencers. These regulations compelled competitors to enter no machines which did not fit this specification. Some twenty special machines, with flimsy accessories, special tyres, frames, etc., were only entered in the racing class, although several of them had competed previously in at least half a dozen so-called tourist classes, and had proved victorious. So far the institution of a scrutinising committee was a complete success. In fact, we only objected to two machines. The nett results of employing scrutineers were, therefore, that some twenty special machines were automatically relegated to the racing class.

Efficient Silencers and Cut-outs.

In one department of our instructions we were absolutely helpless. We were instructed to see that the tourist machines possessed efficient silencers. It is impossible to judge this detail at the scales, and the rule was futile since competitors were allowed to open their cut-outs on the hill. The only satisfactory way of penalising special silencers is to seal the cut-outs at the scales, and then to post observers on the hill at intervals of fifty yards, and to disqualify any machine which is reported to be noisy by a majority of observers. It is no use testing the silencers anywhere else than on the hill, for some of the pedalless machines cannot be run on the stand at the weighing yard, and if the entrant be ordered to run his machine on the road, he will naturally throttle down the engine. This part of the regulations caused me some discomfort, as when, say, six machines of one make were brought before us,

we noticed that one or two had drilled larger holes in their exhaust boxes, whereas others were using the standard silencer. As a matter of fact, certain machines figuring in the prize list were using special silencers of the apologetic order, but the committee did not see their way to post observers on the hill when they had not announced such an intention on the schedule. I should, therefore, recommend officials at future climbs to seal the cut-outs at the scales, and to post silence observers on the hill itself during the climb. If this method had been followed at Newnham I think one or two successful machines would certainly have been disqualified.

Assisting the Genuine Amateur.

Though scrutineer committees undoubtedly are useful to the extent detailed above, it is obvious their value is limited. For instance, we had no power or opportunity to disqualify machines consisting of a special racing engine mounted in a genuine tourist frame; and undoubtedly such machines passed through our hands on August 21st. Several machines of this description were ridden in the touring class, and I cannot invent any mode of debarring them. None the less, things are better than they were. The amateur can bring to a hill-climb nowadays the machine he uses in his ordinary road work, and be assured that all the machines he has to beat will be of equal weight with his own. The only thing he has to fear is that a machine of similar make and weight may possess a racing engine; and most of the big firms are now ready to supply the amateur with one of their racing engines to special order. Whether the genuine amateur prefers this state of things to undisguised racing on the fastest machine he can buy, beg, borrow, or steal is an open question. I am inclined to think the touring class, with a committee of scrutineers to limit it, is the best alternative, for it means that the sporting amateur need only possess a single machine. If all limitations are removed, it means that the *bonâ-fide* amateur motor cyclist must be the possessor of one machine for roadwork, and another with light frame and flimsy accessories for competition work; and genuine amateurs are in the minority who can afford to own more than one machine at a time.

THE TOURIST TROPHY RACE FUND.

AS already announced, the Auto Cycle Union respectfully invites all who are interested in motor cycling to subscribe towards the above fund. *The Motor Cycle* is contributing rs. for every £1 up to £100 sent in by club secretaries or others. Contributions should be addressed *The Motor Cycle*, Coventry. Collecting sheets can be obtained from the Editor, *The Motor Cycle*, or the Secretary, the A.C.U., 8, Down Street, Piccadilly, W. We have pleasure in acknowledging the receipt of the following sums, and hope that next week the subscription list will swell to such large proportions.

	s.	d.
G. A. Burnand	1	6
Lieut. F. Hastings Bostock	3	0
L. Bunting	1	0
Thomas Greer	10	0

The A.C.U. announce the receipt of the following sums:

Cambridge University M.C.C.	£1	1	0
Collier and Son and employees	2	9	0
R. E. S. Spender		5	0
W. Cooper		10	6
Phelon and Moore and employees	1	15	6
Dr. H. R. Mayo	1	1	0
Vacuum Oil Co.	5	0	0
Dr. E. W. Brewerton	2	2	0

It is pleasing to note that the entry list promises to be large. In fact, it is already longer than that of any previous race, so that a most interesting and instructive event is practically certain. Already public interest, especially in the Isle of Man, where the race is to be run, is being centred in the event, and the hill-climb to be held on the following day.



LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Pre-tio 1 of Th:ft.

[4225.]—I notice a correspondent, "F. H.," asks how to put his motor cycle out of action. The simplest and most effective method that I know of is to insert a dummy sparking plug (i.e., one with the points broken off). I have heard of a case where this remedy was the means of hauling and securing the thief.

H. N. D.

Hotel Accommodation and Charges.

[4226.]—There are plenty of small hotels with usual home comforts and tariff of, say, 3s. 6d. to 4s. for plain but substantial tea, clean beds, and meat breakfasts, boots, etc., in most towns and fair-sized villages, but many of them lack accommodation for motor cycles. Arrangements could, however, be made for storing them in cycle depots or covered yards in the immediate neighbourhood, and I would suggest that a suitable form be issued to tourists, and more particularly commercial travellers who work their ground on motor cycles, to place with the proprietors of such establishments, a list to be compiled from those who were willing to make terms.

Y 168.

[4227.]—I am glad you have voiced the question of hotel accommodation and charges. Last summer I had the misfortune to be stranded late at night and was overcharged, but by threatening to report the matter to one of the motor organisations I obtained a rebate. Another motorist, when charged 6s. for a cold luncheon, adopted the plan of paying half-a-crown and giving his card, saying they could summon him for the difference, with the result that he heard no more of it.

At the same time, I think you ought to voice the matter of extortion which garage proprietors make for attempts at repairs to motors. I recently had the misfortune to get into one of these shops, where they kept my machine for three weeks, altered the inlet valve so that the engine caught fire twice, and nearly lost me the machine, lost me over 12s. worth of tools, and in the end I had to send two men with a car to tow it back, and for all this I received a bill for £12 odd. It took two men a week to put the machine to rights.

This is not the only occasion, as I had similar extortion meted out to me when buying a new cylinder top for an Antoine engine, and again when exchanging an old engine and cash for a new one, which turned out to be faulty. There seems to me to be more sharks awaiting the novice in things pertaining to motors than ever existed in horse dealings.

I am glad to note the formation of "The Autocar League," which organisation will I hope help to counteract the evil ways of such men. As things are, it is driving men out of the field and bringing the whole trade into disrepute. Unfortunately, I notice a spirit of cowardice in the motor journals, as they attempt to keep back from the public the fact that such proceedings are going on.

THECLA W. ALBUM.

[The Deposit System is open to all readers of *The Motor Cycle*, and is especially recommended when dealing with unknown persons.—Ed.]

The Lightweight Question.

[4228.]—I have been riding a $5\frac{1}{2}$ h.p. motor bicycle for the past six months with a friend whose cycle is only $1\frac{1}{4}$ h.p. His work was quite easy as regards starting and handling the machine generally, and he seems to keep with me on hills, etc., without any trouble. I have since invested in one of these little machines and find motor cycling is quite a pleasure to me. I have a motor bicycle now not a car on two wheels, and would not go back to the heavy weight for anything.

PLEASURE.

No Fortune waiting in Glasgow.

[4229.]—I hope you will allow me space to refute the statements made by "Glasgow Motor Cyclist." The number of motor cyclists in Glasgow is extremely small for three reasons. Firstly, the weather conditions. We seldom have a week without rain in summer; in winter it rains every day. Secondly, up to last year no machines were made that were really suitable for Scotch roads. Thirdly, all Glasgow lives in flats. This means that machines must be kept at a garage—always a fairly expensive item. I hope I have made it clear why it is impossible for any firm to make a fortune out of motor cycles in this town, or to keep a large stock of spares.

G 1361.

[4230.]—I was somewhat surprised to read the letter from a Glasgow motor cyclist in last week's issue of *The Motor Cycle*, for while in Glasgow in May last it was my good fortune to find there a large establishment devoted almost exclusively to the sale, storage, and repair of motor cycles. I refer to Templeton Bros., Sauchiehall Street. I saw there more machines of different makes stored and being overhauled and repaired than I have ever seen at any other garage; a complete factory, with enamelling and plating plant, was in full swing, and many of this firm's own specialities such as lamps, brackets, brakes, stands, etc., were being manufactured. I was pleased to see that the mechanics were real motor cycle men, and not, as is so often the case, "car men," who look at the motor bicycles as small fry, or cycle makers who call themselves experts, but are far from it.

The T. B. garage is opposite Charing Cross, so could hardly be more central, and the wonder is that a "Glasgow Motor Cyclist" has not noticed the very place he appears to be looking for. As for making a fortune out of the business, all I can say is that, judging by what was charged to me for what work was done for me, there is no fear of this particular garage being closed on that account for many many years.

J. VAN HOOYDONK.

A Motor Driving Wheel.

[4231.]—Why not a motor driving wheel? A pedal bicycle weighing 25 lbs. will carry a rider at 30 m.p.h. A tandem weighing under 40 lbs. will carry two riders at this speed. A light engine weighing, say, 30 lbs. will supply the power to carry a bicycle and rider up a steep hill. Yet a motor car to carry four passengers may weigh two or three tons and cost £500. It is a monstrous machine. Why? Is it not because as soon as the frame is placed upon four points of support the frame must be stronger and heavier, the engine

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RELIABLE ACCESSORIES AT
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THE NORTH ROAD DUST AND RAINPROOF OVERALLS.

These meet a long-felt want; they can be instantly slipped on over the ordinary trousers, they fasten round waist with a leather strap and buckle. Being made in one piece they are a great protection to the stomach, also it is impossible for the rain to drive in as with the ordinary overalls. Made in three lengths—short, medium, and long. Shaped to go over boot. Patent Side fasteners. Price, in fawn waterproof material, 16s. 6d. Postage 6d.

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Will not rust. Made in aluminium. Will fit all handle-bars. Complete with sapphire watch that is specially constructed to stand vibration. Watch can be set and wound without removing same from case. Each watch has a written guarantee given with it for 12 months. Price, complete, 8/6. Case only, 3/6. Post free.



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Suitable for magneto or accumulator ignition. Spark brought well away from all cold metal surfaces, enabling maximum power to be obtained from spark and extremely weak mixtures to be fired. Three spark points and centre rod all of absolutely pure nickel and substantial in size. The spark will not burn them away. Porcelain sleeve round central electrode, which keeps hot enough to prevent the deposit of soot or any condensation, and this without the possibility of preignition common to plugs with projecting porcelains. Each plug guaranteed. Price 4/-. Post free.



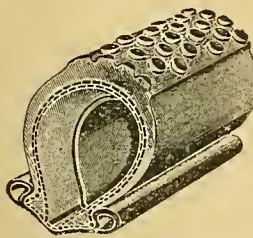
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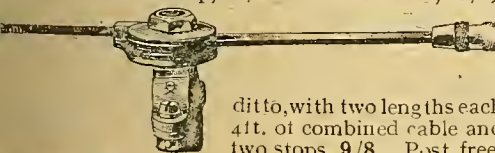
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Price 2/-. Postage 2d. extra.

Protects the magneto from dust, dirt, rain, etc.

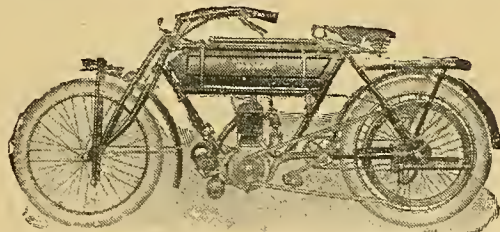


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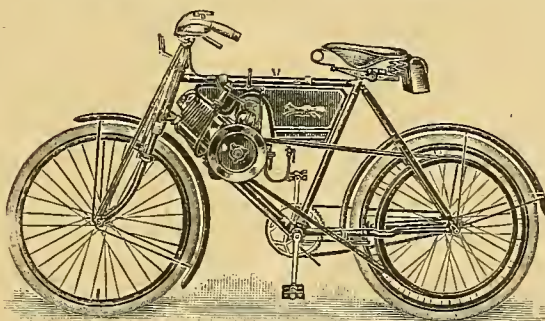
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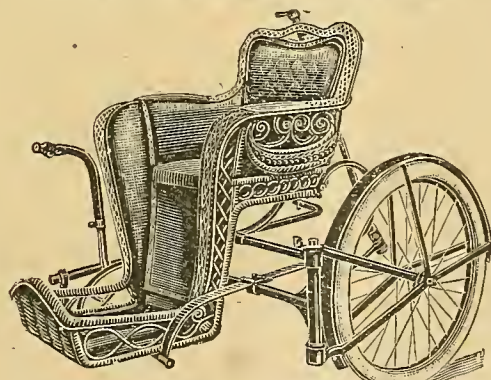
Cash Price, with Bosch ignition—2 1/2 h.p., £36; 3 1/2 h.p., £37; 4 1/2 h.p., £45; 8 h.p., £48 10s. Catalogue post free.

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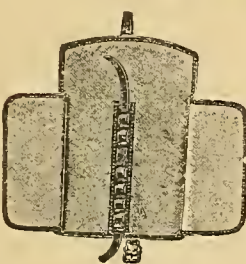


SPECIFICATION. Engine—A. J. Stevens' 1 1/2 h.p. R.A.C. formula over 2 h.p., bore 2 1/2 in., stroke 2 1/2 in. Carburettor—New design, spray, float feed with adjustable air lever and throttle. Belt—Best chrome leather. Jockey Pulley—Ball bearing, with adjustment for taking up belt when riding. Coil—"Fuller." Accumulator—"Premier." Controls—Valve lift and switch from handle-bar. Ignition air and throttle from tank. Tank—Petrol capacity, 5 pints, sufficient for 70 miles. Oil capacity, 3 pints, sufficient for 112 miles. Frame—Specially built of the highest grade materials. Wheels—Best tangent, 26 in. Tyres—"Wasp" No. 1, 1 1/2 in. diameter, fully guaranteed; made specially by the Dunlop Rubber Co., Ltd. Brakes—Powerful roller or inverted levers to front and back wheels. Finish—Best black enamel, four coats, lined in two colours. Weight—About 70 lbs. Price £19 19 0. Full range of models on view. Free trials arranged.

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Size 15 x 7 1/2 in. A useful little accessory, keeps all the tools clean and separate. Can be carried in the ordinary tool bag, is fitted with pocket for spares, manufactured of soft pliable leather and has strong leather binding strap. Price 3/-. Postage 2d.

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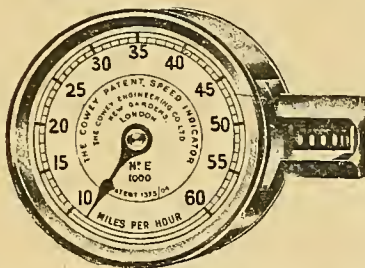
Give absolute immunity from skidding under any road conditions. Are long of life, and yet resilient. Are capable of being ridden equally well in summer or winter. Present the greatest possible resistance to puncturing materials, and yet have no leather in its composition (leather making the tyre "dead").

Price, 26 x 2, 52/-; 26 x 2 1/2, 55/-; 26 x 2 3/4, 57 6; 24 x 2 1/2, 53/-;

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THE COWEY SPEED INDICATOR & MILEAGE RECORDER (Guaranteed).

Protection from Prosecution.—To the careful rider the Cowey is invaluable, for the exact rate at which the cycle is travelling can be seen at a glance, and it is impossible to unknowingly exceed the maximum legal speed. Motorists generally know the difficulty of correctly estimating the speed at which they are riding, and have been "trapped" when travelling—as they imagined—well within the limit.



Registers a speed up to 60 miles per hour. Mileage recorder registers up to 10,000 miles, then automatically starts again.

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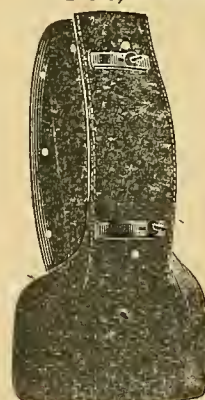
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THE NEW MODEL MUD PROTECTOR.

With Side Wings.

Manufactured of best patent leather, strengthened with iron supports. It is attached by means of thumb screws to front mud guard, and can be fitted to any make of machine in one minute; protects both rider and motor from all dust and mud thrown up by the front wheel.



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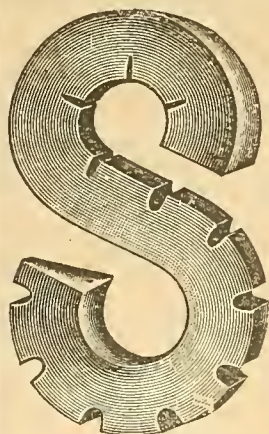
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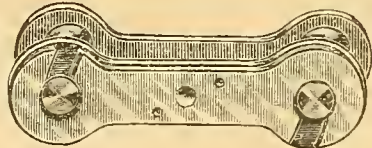
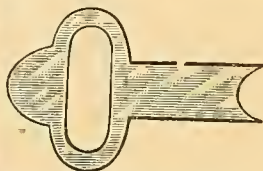
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Mr. T. Olsson, on V.S.
Motor and Sidecar with
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PRICES FOR 1909 REDUCED.

5 in. 1 1/2	3 in. 1 1/4	2 in. 1 1/8	1 in. 1 1/16	1 1/2 in. 2 2/3 per foot.
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With
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1 s.
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S.G. Detachable and Adjustable Fasteners.

Very flexible. Accurate fit. For 3/4 in., 1 in., 1 1/4 in. S.G. Belts.
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"GREAT" END TO END RECORD.

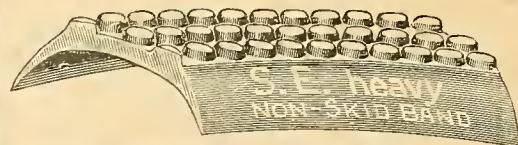
Mr. T. Olsson writes:

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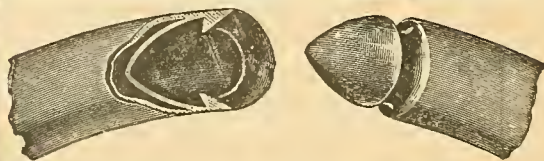
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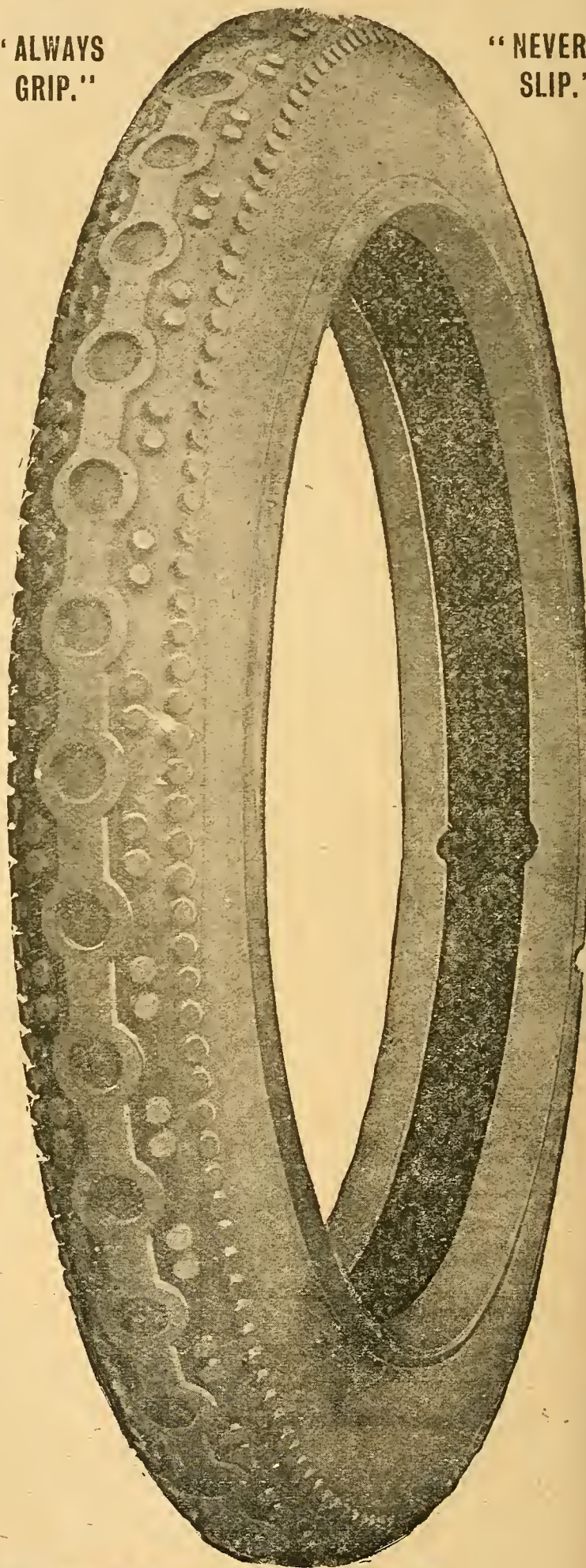
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KEMPSHALL GOLD MEDAL TYRES

should be fitted by all motor cyclists who do not
want to risk their necks.

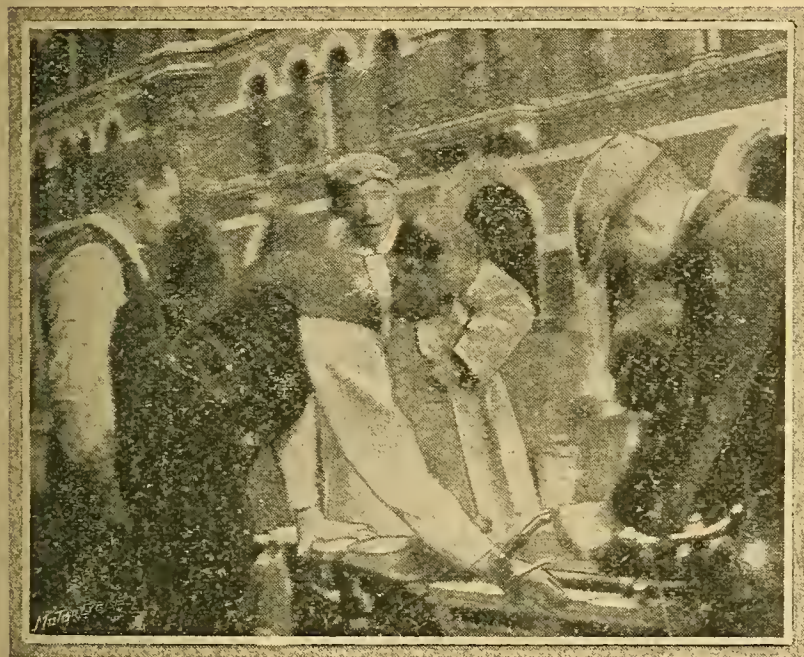
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must be more powerful, tyres and wheels must be heavier, springs must be stronger, and so on, until the 40 h.p. car is the outcome? It would seem as if the really light fast car were impossible. Witness the progress of Phoenix Motors, Ltd., from the car on cycle lines to the car on car lines. But if two pedal bicycles or two tandems were placed side by side and a separate driving wheel carried the motor and tanks—placed by preference between the two back wheels of the cycles—a light passenger machine with light frame, light wheels, light tyres, and at light expense would be evolved. Two bicycles would carry the riders, and only the driving wheel would be relatively heavy and require a relatively heavy tyre.

Perhaps some of your expert correspondents can say if two Moto-Rève engines, placed one each side of, or suspended from, the axle of the driving wheel, would not be sufficient to carry four riders up a gradient of 1 in 6. If so, why not a motor driving wheel? C. S.

Irish End-to-end Record.

[4232.]—With reference to the description in last week's issue of *The Motor Cycle* regarding my ride in the Irish End-to-end Record, I would like to say that the route I took was believed by me, and others whom I consulted, to have been the one used by all who have made attempts on the record, as well as by Mr. A. J. Kettle, the late holder. As regards this route being shorter and the roads better, this is not so. I used a Cowey speedometer, and I find the



The Irish End-to-end Record. C. E. Murphy checking and having the tanks of his Triumph replenished at Cork on August 16th.

distance to be almost the same; but as regards the roads, I am perfectly satisfied that I could make a great deal better time *via* Dublin than by the route I took. The roads from Portarlinton (forty-eight miles) are not nearly so good, and even putting this on one side you have to traverse a number of very narrow country roads with nothing but turns, which really means that you are only able to average about twenty.

I can speak with experience of both routes, as I was a competitor for the Palmer Cup Trophy on the 13th ult., which I succeeded in winning (and not knocked out in the hill-climb as stated), besides the coveted medal presented by *The Motor Cycle*. C. E. MURPHY.

Police Methods against Motorists.

[4233.]—In *The Autocar* of August 7th there is a good deal with regard to police persecution of motorists. On page 222 are the following words with regard to Perth and Forfar, "Police activity is very virulent—and not too scrupulous." Now could not your valuable paper give, say, at the head of Current Chat a weekly list of counties in which this extravagant persecution is carried on. I am sure that if all motorists were to make a point of carefully avoiding such counties the loss to tradesmen in those counties would be so great that their outcry in consequence would have its effect on the police.

At the same time to show that I have no prejudice against the police as a body, who are thoroughly dutiful men, I

should mention that I have personally never come to trouble through them and have always found them most obliging.

I think myself that most of the trouble is owing to that small section of the motoring fraternity, "the road hogs."

Also to a certain extent it is due to ignorance of one's own speed. Before I got a speedometer I honestly thought I was going at 10 m.p.h. or less in villages, etc., but since investing in one I found that my machine (a twin) would not fire at less than 15-18 m.p.h. with any regularity. Since then I have parted with that machine and got one more amenable to orders.

In conclusion, I would sum up as follows:

First.—Let all motorists shun counties where trapping seems overdone or unfair.

Second.—Let all motorists combine against the road hog, even to the extent of informing the police.

Third.—Let everyone be in a position to estimate his speed accurately, by speedometer or otherwise.

I am in no way whatever connected with the sale or make of any speedometer. E. F. L.

Sunday Competitions.

[4234.]—Replying to letter No. 4210 regarding competitions held on Sunday—personally I am in favour of Saturday competitions, and can take part on either day. However, when a club is organising a programme of events the wishes of the members have to be studied. I do not know whether "Anti-humbag No. 2" knows the position of the members of the Western District M.C., but I will inform him. The very large majority are connected with business, which prevents them taking part in competitions held on Saturday. That is our sole and only reason for holding our competition on Sunday. "Anti-humbag No. 2" appears to know the feeling in the club more than myself towards the A.C.U. in this matter. Is he aware at the half-yearly meeting of this club the resolution passed by the A.C.U. was strongly condemned by all present with only one dissentient?

With all due respect to "Anti-humbag No. 2" there is a touch of glory about his views. He appears to think a competition cannot be held unless riders wear armlets and machines carry numbers, and there are flags and bunting at the start and finish, which to me seems quite unnecessary.

I fully appreciate the value of the A.C.U. as a governing body, but consider the resolution passed most unreasonable, and trust same will be rescinded in the near future, as Sunday events are in no way detrimental to the pastime.

HARRY E. VOWLER,

Captain Western District M.C.

Petrol Consumption.

[4235.]—Are the performances of the first and second machines in the consumption trial held by the Nottingham and District M.C.C. on the 14th ult., and described in *The Motor Cycle* of the 18th, in any way miraculous?

It appears that the winner, a 5-6 h.p. twin Brough, with cylinder capacity of 662 c.c., averaged between 16½ and 19 m.p.h. over a circular course, doing sixty-six miles on 2 pints 15 ounces of petrol. This works out at 192 miles per gallon, and, supposing the gear to have been about 4 to 1 and road wheel 26in., is equivalent to about eight explosions per minim of petrol. The performance of the second, a 3½ h.p. Triumph, is little less remarkable, this machine having averaged 211 miles per gallon.

I do not know at all what the course was like or whether any hills had to be climbed, but the circular course precludes any help from the wind. I should have thought that in ordinary practice 115 miles per gallon was very good for a twin of 660 c.c., and 130 miles per gallon rather unusual for a 3½ h.p. Triumph.

The performances quoted above are so very much better than the average that it could hardly fail to be of considerable interest to many of your readers to hear how it is done. The speed, of course, is much lower than the average of such machines on the road, but the petrol consumption is almost exactly half the touring average of a well-timed machine. The other four 3½ h.p. machines in this particular trial averaged 127 miles per gallon—a most remarkable difference from Nos. 1 and 2.

We should all like to be able even feebly to emulate these performances of Messrs. Brough and Reilly. From London to Edinburgh on something under two gallons of petrol for a 3½ h.p. Triumph would be really economical.

F. C. JAMES.

Motor Cycle Taxation.

[4236.]—The Motor Cycle Committee of the Motor Union have had under consideration how they might best combat the proposed excessive taxation on motor cycles. Amongst other suggestions put forward was one that, inasmuch as the text of the Finance Bill apparently makes no distinction between machines of the type of the Motosacoche and heavy tricar, a tax of so much per unit of h.p. would be much fairer than a tax of £1 all round. This idea has the great merit that it would give relief to the riders of low-powered lightweights, and also to that class of riders by whom taxation is most severely felt, viz., those who have purchased old machines (second-hand) for a few pounds. I have not the actual rating of all machines before me, but I should imagine that a tax of 2s. 6d. per h.p. by R.A.C. formula would work out roughly somewhat as follows: Lightweights not exceeding nominal 2 h.p., 7s. 6d.; old machines 2½ h.p., 10s.; modern machines 3½ h.p., 12s. 6d.; twins (unlimited), £1. I should very much like to have the opinion of individual riders on this point.

F. W. HASSARD-SHORT,

Chairman Motor Cycle Committee of the Motor Union.

[It is only fair to state that the above letter was unavoidably held over for two or three weeks.—Ed.]

The Newnham Hill-climb.

[4237.]—I think all true sportsmen must have felt a little disgusted at the amount of grumbling heard from certain unreasonable competitors at the recent Coventry and Warwickshire M.C. Climb—grumbling which has been the sequel of several climbs this year. It seems to be the regular thing for a handful of riders to growl whenever they do not win. Although I did my best I did not have the luck to win a prize at Newnham myself, but I must admit I thought the event exceedingly sporting, and was not a little pleased at certain novelties in the arrangements.

At the average open hill-climb we see phenomenal speeds registered by a little group consisting principally of trade riders. The venue of the hill has generally been semi-public knowledge for weeks, and these experts visit it in advance, arrange their gear, etc., to suit that particular hill, and as a consequence they divide the prizes amongst themselves to the exclusion of the amateurs or the struggling trade riders who have come from a distance and have perhaps never seen the hill before.

The Coventry Club surprised those very wide-awake gentry. It refused to publish the venue, and all that competitors knew was that they would have to climb an unknown hill. The wide-awake group took it for granted that Newnham would be the venue, that the start would take place in the village at the foot, and that they would have a known distance and gradient upon which to work up speed. When they got on the hill they found they were to be started two-fifths of the way up, so that they only had about fifty yards of 1 in 25 in which to get up speed, and that all their real travelling was to be up a real hill. As a consequence they were all caught napping with standard gears which were too high for the job, and were beaten to the wide by machines prepared to face any gradient, and that, if necessary, from a standing start.

In other words, they found themselves in exactly the same position as any amateur who suddenly encounters an unknown hill-climbing job on his tour. One would have imagined they would have been sportsmen enough to grin at their own discomfiture, especially as they were all in the same boat, but not a bit of it. They are accustomed to have everything cut and dried at a hill-climb so that they can make sure of dividing the prizes between them, and when on one single occasion in the course of several years a sporting club so arranges matters that there is an absolutely fair field and no favour, the air is blue with furious complaints and innuendoes.

Personally, I devoutly hope that other clubs will adopt a similar plan, and make it impossible for a select few to rely on scooping every award in the list. It would possibly be to the advantage of both the sport and the industry if some of these men who grumble were permanently to abstain from competitions and leave the events to be contested by men who know how to take an occasional licking without growling.

UNSUCCESSFUL COMPETITOR.

Surface Evaporation.

[4238.]—The letter of "Cygnus" interested me a good deal, for I gave a lot of attention to the question of surface and spray carburettors in the early days (1900-1902) of motor cycles. The "surface" was then very unfairly condemned by many riders. When any trouble arose the carburettor was blamed, but the fault was generally with the ignition.

About this time I built several precisely similar machines, fitting some with surface and others with spray carburettors, and found the "surface" ones always pulled far better on hills, and proved the more satisfactory machines to their owners. The chief point I consider in favour of the surface is that it traps the road dust, and the life of the cylinder is more than doubled. I had one little 1½ h.p. engine surface machine through my hands that did over 20,000 miles before the original set of rings was renewed. On the other hand, I have known a 2 h.p. engine with spray carburettor fitted rather low down in the dust that required a new set of rings in less than 1,000 miles, and the cylinder was completely worn out with the first year's riding.

The dust trouble is even now on up-to-date machines not fully guarded against. It is a curious thing that I have never seen the matter alluded to in any motor paper till about twelve months ago, though I am sure the free entrance of dust into the cylinders through the carburettors must have caused a lot of undue wear in the bulk of motor cycle engines. Possibly dust may have some relation to the wear on the cylinder spoken of by other correspondents.

L. S. HICKS.

Standard Machines in American Competitions.

[4239.]—I have followed with interest the discussion in your paper on the subject of standard machines in competition. It is evidently very much the same in England as it is in America. In this country the really important motor cycle events are won by trade riders mounted upon special racing machines. These racing machines are very different from the standard product, being very much lighter, having engines of higher compression and differing structurally in several important points. Furthermore, I hardly see how any different results could be expected. In motor cycle competitions you can hardly blame the manufacturer if he tries to get the very highest possible speed from a given cylinder capacity. Furthermore, from our experience we have found it is almost impossible to draw a sharp line of demarcation between the standard touring machine and the special racing one. This is due to the fact that what one man considers a standard touring machine another may not. Many of our riders prefer to ride as a touring mount the racing motor cycle. Many of our riders, probably like many of yours, wish to be in the position to be always ready for a road race. On this account they prefer to ride a light machine driven by a special high compression engine.

In our Federation of American Motor Cyclists we practically govern everything by piston displacement and let the best man win. We believe this is the only solution of the difficulty. Make your private owner class, and make your rules so strict that only private owners can ride; but if they are private owners of their machines let them do anything they wish to their mount.

Our definition of a private owner is:

"A private owner is one who has never competed in motor cycle competitions as a trade rider; who actually owns the motor cycle used in competition; who is not connected in any way, either directly or indirectly, with any person, or firm who manufactures, assembles, sells, or repairs motor vehicles; who has never received, either directly or indirectly, any compensation whatsoever for engaging in motor cycle competition or exhibition, or who has never sold or in any way realised pecuniary benefit from a prize."

E. L. OVINGTON, President F.A.M.C.

SUMMARY OF CORRESPONDENCE.

Will the gentleman who left a motor cycle for a small repair with the N.S.U. Motor Co., 186, Great Portland Street, W., bearing the registration number LC 472, kindly communicate with the Editor?

EXPERIENCES WANTED.

"A. B. V." Launceston, would like readers' experiences with the 3½ h.p. Minerva, particularly as regards hill-climbing and wear on engine.

"The alternate steel and rubber studded tyre."

SCOTT NON-SKID COVER



GRIPS!

WHEN OTHER NON-SKIDS FAIL.

THE SCOTT

NON-SKID MOTOR
CYCLE COVER,

"The alternate steel and rubber studded tyre."

BRITISH MADE
and
Unsurpassed for strength and durability.

WILL NOT SKID ON WET OR DRY ROADS.

Constructed with rows of alternate steel and rubber studs, which cannot tear out or damage cover by rust—in short, it is a "perfect" tyre, which reduces the risk of puncture and side-slip to a minimum, and makes motor cycling a pleasure on all roads.

Agents—Harrod's Stores, Brompton Road, S.W.
Hunt's Stores, 104, Newgate Street, E.C.
Bond, Euston Road.
Reid & Evans, New North Road, EXETER.
McLaren and Cox, High Street, N. FINCHLEY.
E. Young, London Road, NOTTINGHAM.
F.N. Motor Agency, 106, Great Portland St., W.

MAKERS—
J. LIVERSIDGE & SON, LTD.,
(Estab. 1858.) 196, Old St., E.C.

TELCO.

The Only Coupler on the Market . .

WHAT A MAN WHO SELLS THEM SAYS:

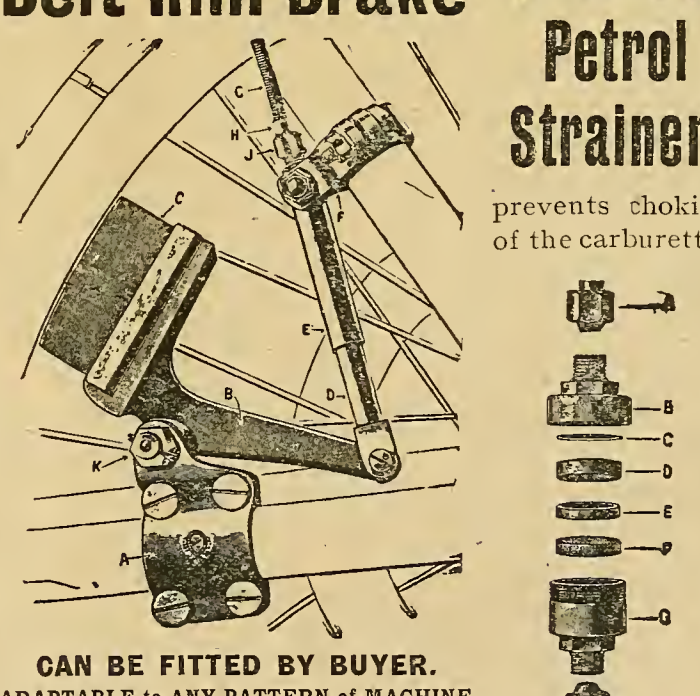
"I should be glad if you will let me have the Telco Couplers ordered on 'phone to-day as soon as possible. I have been riding for the last two months, and have covered 1,500 miles, and find that it is absolutely satisfactory. It steers easily; my arms do not ache so much after 200 miles run with Coupler as they do when riding singly. Your Coupler is far in advance of any other make, both in design and workmanship, and it is a pleasure to sell an article of this kind."

W. E. BOYCE, 23, Grand Parade, Highgate, N.

Write for Lists—
TELCO CO., 102, WESTCOMBE HILL, BLACKHEATH, S.E.

THE BOWDEN Belt Rim Brake

THE BOWDEN Petrol Strainer



prevents choking of the carburetter

CAN BE FITTED BY BUYER.
ADAPTABLE to ANY PATTERN of MACHINE
PRICE, complete (with lever and length of Bowden Wire Mechanism),
17/8 to 21/- Price **3/-**

E. M. Bowden's Patents Syndicate, Ltd.,
29, Baldwin's Gardens, Gray's Inn Rd., E.C.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, 10 lines. Name and address must be counted.

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

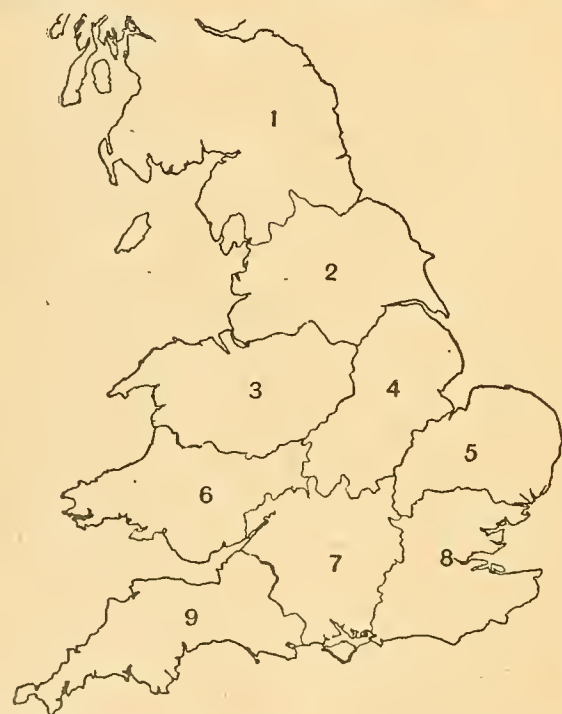
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent by London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, and the Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.

SECTION XI.
Ireland and Isle of Man.

PREMIER

MOTOR CO., LTD.

BARGAINS.

The following have all been **EXAMINED** at our Works. Any machine may be had on **APPROVAL**.

Second-hand Machines in Stock.

SINGLE-CYLINDER.

REX Tourist, 1909, magneto, 3½ h.p., good as new	£34 0
TRIUMPH, 1907, magneto, 3½ h.p., good condition, perfect running order	£26 0
VINDEC, 3½ h.p., magneto, Truffault forks, just overhauled, re-enamelled, and plated	£25 0
VINDEC, 3½ h.p., magneto, Truffault forks, two-speed gear, perfect order	£25 0
N.S.U., 2½ h.p., magneto, two-speed gear, 1907	£21 0
N.S.U., 3½ h.p., magneto, 1908, perfect	£22 0
ROC, 3½ h.p., magneto, clutch, good order	£14 0
CLARENDON, 3 h.p., low Chater-Lea frame, attractive mount	£10 10
REX, '06, 3½ h.p., good order	£10 0
REX, '05, 3½ h.p.	£9 0
LINON, 3½ h.p., very good order	£8 0
MINERVA, 2½ h.p.	£6 10
REX, John-o'-Groat's Model, perfect running order	£5 10

TWIN-CYLINDER.

REX DE LUXE, 5 h.p., 1909, like new	£42 0
N.S.U., 4 h.p., magneto, 1908, two-speed	£34 0
ROC-PEUGEOT, magneto, 5 h.p., 1908	£35 0
ROC, 1909, run 300 miles only, special bargain	£41 0
REX, 1906, splendid condition	£13 0
KERRY, 5 h.p., low saddle, handle-bar control	£17 0
FAIRY Lightweight, 1909, ridden 200 miles	£24 0
MOTO-REVE, very little used	£25 0

TRICARS, ETC.

CHATER-LEA tricar, Garrard engine, excellent machine	£10 0
HUMBERETTE car, fine bargain	£30 0

Fullest particulars of any of above on application.

WE SUPPLY ALL MAKES OF MOTOR CYCLES.
EXCHANGES. DEFERRED PAYMENTS.

TRIUMPHS FROM STOCK.

£50 worth for £42

THE REX TOURIST

supplied only by the

PREMIER

MOTOR CO., has FREE ENGINE CLUTCH in back wheel, J.A.P. AUTOMATIC LUBRICATION, and BAND BRAKE on front wheel.

Despite these valuable additions the price is the same as the ordinary Tourist Model,

— 40 GUINEAS. —

WRITE FOR ILLUSTRATION & SPECIFICATION.
GUARANTEED FOR 5,000 MILES.
SEND FOR LIST OF SHOP-SOILED ACCESSORIES.

Premier Motor Co., Ltd.,

ASTON ROAD, BIRMINGHAM.

Telephone 430. Telegrams, "Primus, Birmingham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle." When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be forwarded for replies. Only the number will appear on the advertisement. Replies should be addressed, 20, c/o "The Motor Cycle," Coventry"; or if "London," added to the address, then to the number given. "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of registration. The time allowed for a decision after receipt of the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and all bank and money orders should be made payable to Illions Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answers to their enquiries are requested to regard this as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

- 23 h.p. Singer, magneto, good order, splendid condition.
- 24 £7.—Gibson, Wordsworth St., Penrith.
- 1908 3½ h.p. Minerva, spring forks, £3 spares; 19 new Sunbeam taken part.—Hoskins, Laycock, and Llesbrough.
- 41 h.p. Minerva, 1907, twin, magneto ignition, £42 belt and tyres, B100/4; £18.—Forster, N. Cross, Durham.
- 5 h.p. Twin Vindec and rigid sidecar, 1908 model, in condition, tyres good, B. and B.; £35, 0 Drinkall, Castle St., Carlisle.
- 21 h.p. 1909 Twin N.S.U., magneto, perfect condition, very little used; £32.—Apply, Hodgson's, Northumberland St., Newcastle-on-Tyne.

TRIUMPH, 3 h.p., magneto ignition, back tyre Shamrock, front tyre Clincher, new belt order; £22.—Rae, Thornton St., West Hartlepool.

41 h.p. Twin Minerva, spring forks, Palmer tyre, clutch, H.B. control, in splendid order, also wheel sidecar, nearly new, just finished holiday lot £30.—Walsley, Thornton Rd., Carlisle.

13 h.p. F.N. Lightweight, magneto, handle-bar control, new last year, in grand order, 17 g 5 h.p. twin Rex, winner in competitions, £15; sole for Triumph, Humber, and N.S.U. motor cycle for booklets.—Turvey and Co., The Motor People, London.

32 h.p. Fafnir-Chater-Lea, Bosch magneto, Amal carburettor, non-skid tyres, S.G. belt, with carrier, horn, etc., new June, perfect running approval; expert examination invited, excellent selling; nearest £32.—L. Learmonth, Gosforth, Newcastle.

SECTION II.

York and Lancashire.

- 1908 Twin Rex, all complete, almost new; £20 Poplar St., Bolton.
- 1909 2½ h.p. Twin N.S.U. Lightweight, only done 100 miles; £29 10s.—Below.
- 1909 2 h.p. Moto-Reve, £29, done 400 miles; Phenix Trimco, two-speed, in perfect order, all three guaranteed, perfect.—Ewbank and Co., Bradford.
- 1909-Triumph (almost new), studded tyres; £20 time; £43.—Hyde, Aughton St., Ormskirk.

REX, 2½ h.p., 1908, magneto, good condition, £10s., bargain.—33, Lord Duncan St., Saltley.

50 Guinea Rex, free engine, H.B. control, Clutch, plates, etc.; any trial; £20.—Evers, Sheffield.

REX, 3½ h.p., 1906, in splendid running order, good, accumulator; £12.—83, Hawkshead St., Bradford.

34 h.p. Rex, handle-bar control, good condition, £12, offers.—F. Hirst, 13, Greenfield Rd., Bradford.

MINERVA, 7-8 h.p., 1908, in perfect order, powerful, suit sidecar; offers invited.—14, Sheffield.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

DS. — 5h.p. N.S.U., large pan seat, footboards, pulle-mote horn, good running order; £20.
DS. — 5h.p. Rex, footrests, tyres as new, spring seat-pillar, just overhauled; £16 16s.

DS. — 4h.p. Twin Peugeot, Truffault spring forks, O.M. contact breaker, nice condition; bargain.

DS. — 3h.p. Fafnir, water-cooled, fitted Osborne ur-speed pulley, spring handle-bars, etc.; £13

DS. — 3h.p. Rex, 26in. wheels; £9 9s.; exchanges retained.—Leeds Motor Exchange, 28, Dock St.,

—Clement Lightweight, good running order, 1½ h.p.—W. Henry, 7, Newcross St., Weaste, Man-

—Humber, chain drive, footboards, good condi- tion; must sell; sacrifice £8.—48, Oakhill Rd.,

2h.p. N.S.U. Twin Lightweight, new; list £43, offers wanted.—31, Somerset Rd., Almondbury, field.

ENT-GARRARD, just rebored, new piston, two- ed gear, V belt; bargain.—white, 22, Brooks Liverpool.

1 M., 1908, handle-bar control, new non-skid; would exchange 1908 Triumph.—Davies, Shole- treford.

MPH, 3h.p., handle-bar control, new tyres, new awata, spare belt, belt carrier, perfect; £28.— Alderley Edge.

MPH, 3h.p., 1909, absolutely new, run less n 200 miles; must sell; £42; any trial.—G. th, Pocklington.

MPH, 1909, new April last, complete with lamp, horn, spare belt, in excellent condition; £37.— 1, Smp Hotel Yard, Wigan.

POOL. — Triumph and Douglas motors in k at Hitchings, 74, Bold St., the sole agents. iety of accessories at lowest prices.

TIONLESS Douglas, the best lightweight on market and British made; send for list and al.—Hitchings, Ltd., 74, Bold St., Liverpool. uts for Douglas and Triumphs.

PH, 3h.p., late 1908, magneto, handle-bar con- , perfect condition; £32 cash; tyres equal to trial allowed.—F. Lee, Pocklington.

BOILED 1909 Magneto Rexes, all models, in k; immediate deliveries; liberal exchanges.— Motor Exchange, Westgate, Halifax.

J.A.P., and J.A.P. carburetter, handle-bar con- , Price's stands, in fine order; first cheque £7; —Jackson, 39, Warwick Rd., Batley.

PH, 1908, horn, studded tyres, two spare and tube, plugs, and valve, etc.; £33, or with eedometer, £36.—16, Acton St., Wigan.

Zenette, 1909, magneto, Gradua gear, spring me, perfect condition, spares, new in March; in, Edge Lane, Stretford, Manchester.

ER Motor Cycle, magneto, spring forks, two ed gear, lamp, and accessories, only run 300 65; owner buying car.—Dean, Carnforth.

in Rex, magneto, Mabon clutch, Brown and ow carburetter, handle-bar control, with new effect order.—49, Aughton Rd., Birkdale.

RATED List of second-hand Rex motors, and er list of tricars and motor cycles on applica- ifax Motor Exchange, Westgate, Halifax.

months old, 2h.p. Douglas, like new, Whittle Continental non-skid, spares, etc.; £28 10s.— 65, Union Rd., Oswaldtwistle, Lancashire.

te 1907, black finish, twin Rex, Roc clutch, er-Lea sidecar (all spares), perfect, climb any- al invited; £30, or nearest offer; sell separate. King St., Batley.

ivance, Chater, spring forks, three accumula- stand, Antoclipse lamp, tyres good, spare ew), good running order; particulars; £15.— Priamrose, Bingley.

PH, 2h.p. J.A.P. engine, J.A.P. lubricator, . carburetter, handle-bar control, spring extra heavy tyres (cost £3), Brooks B100; Forshaw St., Barrow.

N.S.U., twin, magneto, just overhauled, with kers' spring forks, 24in. wheels, tyres little ing splendidly, with accessories; £25.— 54, Hall Lane, Hindley.

adbury, 1908, spring forks, condition as new, 2h.p. Ariel lightweight, grand order, £9; 28in. wheels, tyres good, engine wants slight or exchange.—53, Trafford Rd., Salford.

Twin Minerva, new condition, spring forks, by 24 tyres, as new, coil and accumulator and 3. and B. handle-bar control, horn, stand, car- or lower power and cash.—Motocist, Hoyland unsley.

VA and Rex.—We carry the largest stock of e parts in the provinces for these machines, new machines from stock at low prices; ange, or gradual payments; charged accumu- hire, 1s. per week. — Cockson Bros., 511, t, Old Trafford.

"CORONE" SIDECARS.

MODEL A, £4 17s. 6d. CASH.

Built of best weldless steel tubing, luxuriously up- holstered, and beautifully sprung on double C springs. Attached in three minutes; no side slip; fit either right or left side. Fully guaranteed.

BEST CASH OFFER

accepted for Two Brand New
1909 3½ h.p. TRIUMPHS

1903 3½ h.p. N.S.U.'s.

SIX, brand new, packed in crates, as received from makers, fitted with magnetos, 26in. wheels, stand and carriers, tool boxes and tools. List price £46. Our Price £32—or near offer, or exchange.

ALL OUR MACHINES ARE TESTED.

1909 3½ h.p. HUMBER, new	£45 0
1908 WOLF Lightweight, nearly new	£13 10
1909 3½ h.p. REX, two speeds, new	£52 10
1908 3½ h.p. REX Tourist, new	£29 10
1908 3½ h.p. N.S.U., brand new	£32 0
1909 3½ h.p. TRIUMPH, Continentals, new	£48 0
1909 3½ h.p. TRIUMPH, Palmer cords, new	£49 0
18 606 h.p. REX, magneto	£17 10
1908 2 h.p. MOTO-REVE, magneto	£25 0
1908 3½ h.p. N.S.U., magneto, nearly new	£25 0
1908 3 h.p. N.S.U., magneto, smart	£22 10
1908 3½ h.p. REX Tourist, magneto	£25 0
1907 3½ h.p. REX, magneto, 2½ in. tyres	£18 10
3½ h.p. THOS. SILVER, magneto	£18 10
5 h.p. Twin ROC, Roc clutch, magneto	£29 10
5½ h.p. REX DE LUXE, magneto, Roc clutch, handle starting	£27 10
4 h.p. Twin N.S.U., magneto, two speeds	£22 10
4½ h.p. Twin MINERVA, magneto	£22 10
3½ h.p. TRIUMPH, 1908	£35 0
3 h.p. QUADRANT, cost £45	£6 15
4 h.p. ANTOINE, M.O.V., 26in. wheels	£12 10
5 h.p. Twin REX, and Sidecar	£19 19
3½ h.p. REX, 1906, 26" wheels, spring forks	£12 12
3½ h.p. REX, 26" wheels, handle-bar control	£11 10
3 h.p. FAFNIR, 26" wheels, handle-bar control	£9 10
2 h.p. MINERVA, M.O.V., low	£8 15
2 h.p. MINERVA, M.O.V., smart	£6 15
3½ h.p. REX, cost 50 guineas	£6 15

Send for list of other bargains—best, biggest, and cheapest stock. Cash buyers receive special quotations.

£2 10s. and a push cycle secures—
2 h.p. HUMBER. 2 h.p. PIEPER.
2 h.p. WERNER. 2 h.p. LIBERTY.

TRICARS.

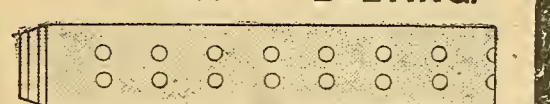
4 h.p. STEVENS, fan-cooled, powerful	£12 12
4½ h.p. REX, fan-cooled, free engine	£13 13
5½ h.p. REX, open frame, two speeds	£29 10
5½ h.h. REX TRIETTE, 1909 model, air-cooled, art cane chair, two speeds, free engine, magneto, handle-starting, cost £66 a few weeks ago	£37 10
8 h.p. FAFNIR, two cys., open frame	£35 0
Forecarriage attachment, with tyres	£3 15
5 h.p. Twin ROC, magneto, Roc clutch, handle-starting, fitted with new sidecar	£30 0

CORONET ADJUSTABLE PULLEY.



The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade. Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

"GRIPSKIN" BELTING.



Made from selected parts of hides, correct angle, perfect drive, the best leather belt on the market. Longer life than rubber. ½ in., 9d.; ¾ in., 10d.; 1 in., 1/1-; 1½ in., 1/1. Special terms to the trade.

CARBURETTERS

BROWN AND BARLOW. AMAC.
Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,

CHARLES STREET, off Square Road,

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

ROC (brand new), military model, 5h.p., twin, two speeds, magneto, spring forks, free engine; cost £60, £45, quick sale.—26, Offerton Lane, Stockport.

SECTION III.

Canarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

2 h.p. Triumph-Minerva, good going order; price and particulars.—Newport, Tattenhall, Chester.

TRIUMPH, 1909 model, special tyres, little used, splendid condition, guaranteed perfect; £39.—Moss, Wem.

3½ h.p. Kerry, perfect condition, fast, reliable, climb anything; bargain, £12.—Sudlow, Rishaw Lane, Winsford, Cheshire.

2½ h.p. Chater-Lea Motor Cycle, perfect, left blade of forks cracked; £4. exchange cycles.—Minshall, Stoneway, Bridgnorth.

BRADBURY, new this month; £38; perfect; trial allowed; lamp, horn, etc.—J. Knowles, Tailor, Blackheath, Birmingham.

2½ h.p. Motor Cycle, Minerva engine, Longuemare carburetter, in running order; £9 10s.—On view, Gradior Garage, Stafford.

3½ h.p. Ariel, and 3h.p. Haskard, excellent condition; best offer, or exchange magneto single or 4-cyl.—3,065, The Motor Cycle Offices, Coventry.

HITCHINGS, Ltd., specialise in Douglas lightweight motor cycles. Inquiries receive prompt and courteous attention.—74, Bold St., Liverpool.

DOUGLAS Lightweight, British made, twin cys., magneto, spring forks, a revelation in comfort, and reliability, absolutely vibrationless; write for lists.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

TRIUMPH, late 1908, nearly new, £32; Peugeot, 2½ h.p., Bosch magneto, sacrifice 14 guineas; Blickensderfer typewriter, as new, £10.—London House, Cradley Heath.

TRIUMPH, 1907, magneto, handle-bar control, new belt, studded tyres, F.R.S. lamp, plating perfect, done 136 miles per gallon; £29.—Edwards, 13, Queen St., Wellington (Salop).

5-6h.p. Peugeot, Chater-Lea No. 6 frame, winner three gold medals, perfect, spares, headlight, and footboards, gauges, etc.; £27; lower power part.—Particulars, Barratt, Fairfield, Buxton.

1908 Triumph, just overhauled by makers, unused F.R.S. Colonial lamp, front wheel stand, spare Rich tube, new Palmer tyre; £35.—Hill, Ashleigh, Stapenhill, Burton-on-Trent.

MINERVA, 3h.p., late 1908, magneto, Brown and Barlow handle-bar control, solid brass torpedo tank, accessories, little used, good going order; must sell; sacrifice £24, or nearest offer.—Grant, Bull Ring, Ludlow.

N.S.U., 3h.p., late 1908, magneto, two speeds, free engine, with sidecar fitted, quantity of spares and tools, absolute perfect condition; open expert examination and trial; £35, or offer.—36, Littledale Rd., Egremont, Cheshire.

POWERFUL Two-speed Phoenix-Minerva 4h.p. Motor Cycle, Longuemare carburetter, long handle-bars, etc., in perfect order, most suitable for hilly district or sidecar work; genuine bargain, £14 10s.—L. S. Fearn, Alfreton, Derbyshire.

3½ h.p. Magneto 1909 Bradbury, condition excellent, unpunctured, all tools, lamp, separate generator, handle-bar mirror, magneto cut-out, extra toolbag, horn, etc.; price £28, no offers; without a fault; tried any time.—Douglas Noble, 55, George St., Altrincham.

ROC, 4h.p., practically new, two-speed, handle starting, magneto, spring forks, H.B. control, new Michelin steel studded, unpunctured detachable tubes, ideal machine for sidecar; any trial; £29, or exchange for latest Douglas lightweight with cash adjustment.—Morgan, Mona View, Port Dinorwic.

5½ h.p. Twin N.S.U., 1908 model, Bosch magneto, Palmer cord tyres, back one just new, Shamrock 1½ in. belt new, with Chater-Lea sidecar, the set equal to new, guaranteed perfect, and to climb any hill; 30 guineas only, or would entertain exchange for a lower power, Triumph or Bat preferred.—Pugh, Station Hill, Buxton.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland Northamptonshire and Warwickshire.

2 h.p. Minerva, good condition, extra air; £9 10s. — Mobbs, Headlands, Kettering.

3½ h.p. 1909 Humber, two-speed, shop-soiled; £37 10s. —Main, 36, Parade, Leamington.

4 h.p. Antoine, very low, £6; 2h.p. Chater-Lea, both going order, £5.—25, Raglan St., Coventry.

EXCELSIOR, 3h.p., just overhauled, in good condition; £8.—137, Broomfield Rd., Coventry.

F.N., 3h.p., single cyl., fast, good hill-climber; any trial; £10.—Louis Davis, 3, New St., Birmingham.

REX, twin-cyl., 1907 model, long wheelbase, spring forks, Clincher tyres, very fast, splendid hill-climber; price £16.—Louis Davis, 3, New St., Birmingham.

MOTOR BICYCLES FOR SALE.

1 h.p. Minerva, in good running order, Watawata belt; 10 guineas.—No. 2,978, The Motor Cycle Offices, Coventry.

TRIUMPH, 1909, new July, unscratched, perfect; £40.—Sampson, Knighton House, Queens Rd., Coventry.

1 h.p. 1907 Rex, splendid condition, and going order; £12 10s., bargain.—Lloyd, boot manufacturer, Leamington.

F.N., 4 h.p., 4-cyl., Palmer cords, excellent condition; £22 10s., exceptional bargain.—22, Victoria Terrace, Leamington.

1909 Triumph, free engine clutch, Dunlop tyres, nearly new; £45, or offers.—Box No. 3,071, The Motor Cycle Offices, Coventry.

QUADRANT, 2 h.p., single cyl., fine little runabout, good condition, Clincher tyres; £8.—Louis Davis, New St., Birmingham.

1909 Humber Motor Cycle, delivered month ago, accept £38 10s.; also Montgomery sidecar, £5 10s.—358, Stratford Rd., Birmingham.

1 h.p. Aster, Chater-Lea, spring forks, 26in. wheels, £12; 1 h.p. Minerva, Longmeare, torpedo, £6.—Roberts, Rother St., Stratford-on-Avon.

MINERVA, 3 h.p., single cyl., Clincher tyres, splendid condition, fast, good hill-climber; price £11 0s.—Louis Davis, 3, New St., Birmingham.

1 h.p. White and Poppe, Chater-Lea No. 6, by good maker, comparatively new, and in perfect order; £15.—“Motorist,” King’s Mount, Wilson St., Newark.

1 h.p. Rex, perfect, spring forks, spare cover, two bags, stands, carriers, lamp, accessories; £14, or offer.—Webster, 123, Bowyer Rd., Salfrey, Birmingham.

1907 3 h.p. Minerva, 21 tyres, Mabon clutch, lamp, horn, watch, accessories; £17 17s., or best offer; clutch, £2.—Hart, 44, Trafalgar Rd., Moseley, Birmingham.

2 h.p. Excelsior, perfect condition, Palmer cords, new, perfect condition; reason for sale, buying triar; genuine bargain, £18.—Meerow, King Edward Rd., Rugby.

MINERVA, 7-8 h.p., new late 1908, with No. 2 ten guinea Montgomery flexible sidecar; £35; seen any time; sound bargain.—Stokes, Walton St., Sutton-Ashfield.

GOOD 1 h.p. Motor Cycle, low frame, long handlebars, in excellent condition; first remittance £5 as it.—Central Novelty Co., 93, Cornwall Buildings, Birmingham.

N.S.U., 1908, 3 h.p., magneto, splendid condition, new Rom tyres, butt-ended Michelin tubes, lamp, generator, carrier, spares, long handles; £30.—T. Black, Sherwood St., Nottingham.

1909 Minerva, magneto, spring forks, Brown and Barlow, several spares, including belt and valves, everything perfect, very little used; £29 10s.—Kendall, The Drapery, Northampton.

1 h.p. Riley, vertical, spray, trembler, Bates heavy rear, Dunlop front, overhauled, enamelled, plated, spare cover, tube, valves, plugs; bargain, £10.—2, Livingstone St., Leicester.

1 h.p. Minerva (1908), magneto, spring forks, in perfect order, scarcely used this season, not done 10 miles, just fitted with new cylinder, usual accessories, lamp, horn, etc.; £20.—Lockwood, Park Rd., Peterborough.

4-CYL. F.N., 4 h.p., 1908, Clincher, and three spare tyres, like new, butt tube, spring forks and foot-ests, spare valves, magneto parts, cylinder, watch, horn, antoclipse lamp, stand, carrier, perfect condition, quiet and powerful; £29, or exchange Triumph.—Motorist, Stechford.

APPROVAL Anywhere.—3 h.p. 1908 Minerva, mag-neto, £20; 5 h.p. twin Rex, £18 10s.; 3 h.p. N.S.U., magneto, £18; 5 h.p. twin Sarolea, £16 10s.; also Quad-rant, Roc, and plenty others; repairs, replacements, overhauling; lowest charges.—C.C.R. Motor Wks., Ford St., St. Ann’s Well Rd., Nottingham.

TWIN N.S.U., 5 h.p., magneto, two speeds, Amac carburetter, Tee Bee, hand starting, footboards, Whittle, Rom band, Riche’s tubes, perfect; also Mont-gomery sidecar, detachable frame, non-skid device; sell separately, or exchange lower power and cash; will ride half way meet purchaser.—Kelham, Bourne.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

REX, 3 h.p., 1906, little used, been stored; trial after 6; £13.—Rex, 34, Emery St., Cambridge.

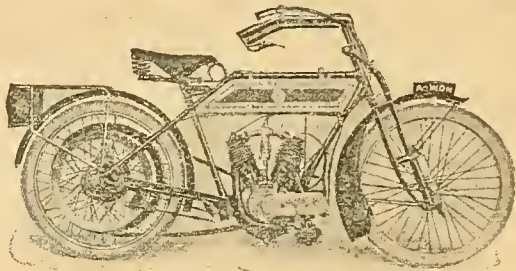
1 h.p. M.M.C., Chater-Lea No. 6, special heavy tyres, £2 torpedo tank; £14.—3a, Bridge St., Cambridge.

1908 2 h.p. Ariel, perfect order, Clincher tyres, spares, lamp, etc.; £16.—List, Carr St., Ipswich.

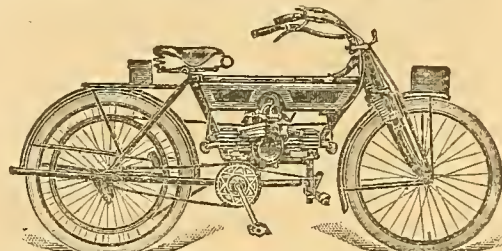
TRIUMPHS, two in stock, one with Triumph free engine clutch.—Crawley, Triumph agent, St. Mary’s, Bedford.

1 h.p. Minerva, with sidecar, perfect running order, magneto, spring forks; £22 10s.—Alex. Clarke, Mildenhall.

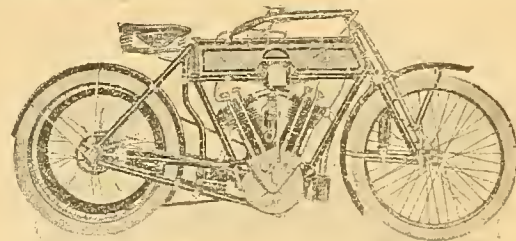
MOTOSACOCHE, in grand order, very low frame, two accumulators, spares; £15.—37, Searle St., Chester-on, Cambs.



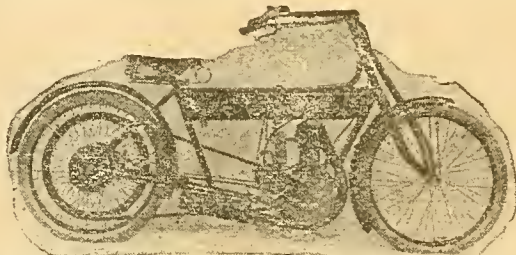
REX MOTOR CYCLES. You can get them at WAUCHOPE’S. Immediate delivery from stock. Call and inspect these models, or write and secure exchange terms. Lists on application. Single-cylinder models, 40 guineas.



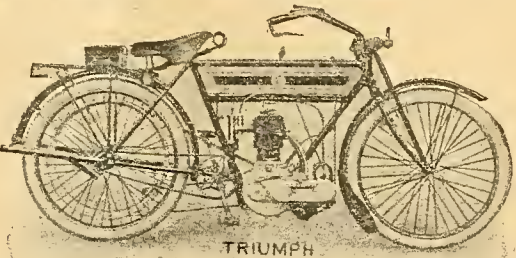
DOUGLAS MOTOR CYCLES, one model only, 2 1/2 h.p. twin-cylinder engine, lightweight 100 lbs. 36 guineas. You can get them at WAUCHOPE’S. Second-hand machines taken in exchange. Delivery from stock.



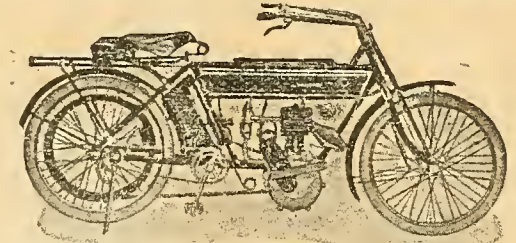
BAT MOTOR CYCLES. All models supplied. You can get them at WAUCHOPE’S. Good market value for second-hand machines of any make in exchange. Lists on application.



ROC MOTOR CYCLES, two-speed and free engine. You can get them at WAUCHOPE’S. Exchanges entertained. Immediate delivery from stock. 48 guineas.



TRIUMPH MOTOR CYCLES. You can get them at WAUCHOPE’S. Lists on application. Exchanges entertained. Immediate delivery from stock. Price £48.



QUADRANT MOTOR CYCLES. You can get them at WAUCHOPE’S. Delivery from stock. £47. We also supply Matchless, V.S., N.S.U., Moto-Reve, immediate delivery. Motosacoché, Brown, F.N., Bradbury, immediate delivery. Rex Speed King, immediate delivery. Ariel, immediate delivery. Rex de Luxe, immediate delivery. Rex standard, 3 1/2 h.p., immediate delivery. 4 1/2 h.p. F.N., immediate delivery. Also Lightweight F.N., two-speed size, £40.

WAUCHOPE’S, 9, Shoe Lane, Fleet Street, LONDON, E.C. Phone—5777 Holborn. Tele.: “Opifcer, London.”

MOTOR BICYCLES FOR SALE

1909 Triumph, new at Easter, Clincher studded to very little used; trial run at any time; all accessories; £41 10s.—Parker and Son, St. Ives, Hunts.

2 1/2 h.p. F.N., splendid condition, just overhauled; spring forks, magneto, new back tyre, new £17 10s.—English Cycle Wks., Stoke Ferry, Norfolk.

3 1/2 h.p. Quadrant and sidecar, spring forks, new £32 and belt, perfect order, new condition, spagenuine bargain, £22.—Champion, 3, Ipswich St., market.

MINERVA, 3 1/2 h.p., 1908, spring forks, excellent condition, Frankonia lamp, £21; Montgomery car, nearly new, £6 10s.; must sell; no room.—F. Jeweller, Ely.

GREAT Bargains.—5 h.p. twin Rex, absolutely perfect; £12; 7 h.p. twin, long, low, fast, £15; 2 1/2 h.p. fon-Zedel, as new, £8; 5 h.p. twin Peugeot, £1 Walkers, Motor Mart, Ipswich.

GRAND Bargain.—3 1/2 h.p. Fafnir, new Mate silencer, handle-bar control, brand new unp-tured Continental tyres, 26in. by 2in., brand new C-pede belt, two new accumulators, 20 and 10 amps. cellent condition; buying twin; £16, or nearest on Scrutton, Alderton, Woodbridge, Suffolk.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecon, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH, 1909, standard, £48; free engine 6 guineas extra; can deliver from stock.—Wit Stourbridge.

MOTO-REVE, 1908 model, twin-cyl., magneto, sp-forks, stand, lamp, horn, etc., perfect condi-tion; £19.—Hopkins, New St., Ledbury.

1908 Triumph, 3 1/2 h.p., just re-fitted with new eng-etc., and Palmer cord tyres, now same as price £30.—Parry, Bank House, Haverfordwest.

MOTOSACOCHE, 1909 model, magneto; cost £2 June; in perfect order; reason for selling, greater power; £24.—H. Morgan, Coedy-Gric, Vale.

1909 Triumph, best standard on the road, bear-condition, £38; also Montgomery Regent carriage, to suit same; expert examination.—T. Cowbridge.

MOTOSACOCHE, excellent condition, Druid two Lucas lamps, Palmer tyres, spare stand, carrier, toolbag; £17; dry cell ignition.—A 28, High St., Newport, Mon.

ARIEL-MINERVA, 2 1/2 h.p., lightweight, engine hauled by Minerva Co. this summer, new tyres, lamp, separate generator, and horn, tool, and spares, and fast; a cinch; 12 guineas.—Jones, Eagle H Stourbridge.

BAT, 1908, ridden 4,000 miles, engine 4 h.p. J. 1909, driven 1,000 miles, petrol and oil ga J.A.P. automatic carburetter, lubricator and pulley, den autolock for throttle, Bosch magneto and cu stand, carrier, new R.O.M. non-skid back tyre, ce-ental front, Whittle belt and spares; what offers? £55.—Gold, Lansdown, Newton, Mumbles.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

3 h.p. Rex, very little used, £14; also Fairy weight, new, take £16.—Eastleigh, Cockham Berks.

£10.—3 h.p. Humber, free engine, chain drive, bars, perfect order; seen any time.—Mills, F Lechlade.

3 1/2 h.p. Cyclone, M.O.V., 26in. wheel, trembler, tubes and tyres; £6.—Blanchett, 27, Bu Row, Salisbury.

3 1/2 h.p. Werner, twin-cyl., most reliable and fast chine; £15 15s.—T. Baker and Sons, Wks., Reading.

3 1/2 h.p. Triumph, 1908 model, Mabon clutch, sp- well kept, like new machine; £38.—T. Bake Sons, Motor Wks., Reading.

3 1/2 h.p. Humber, 1909 model, two-speed, not use miles, fully guaranteed; £36 10s., no of T. Baker and Sons, Motor Wks., Reading.

ROC, 4 h.p., special ball bearing engine, two-spee free engine, new R.O.M. tyres, sound, reliabl chine; £28.—C. J. Ramstedt, Seymour Hotel, Glouc

5 h.p. Rex, magneto, cantilever seat, spring forks 16s.; also 3 h.p. Triumph cylinder, valves, an-ton rings, 15s.—A. Browne, Ferry View, Bourne Bucks.

3 1/2 h.p. Fafnir, Chater-Lea, cane sidecar, two-spee and free engine, new condition throughout; or offer.—Dixon, 6, Longmead Av., Gloucester Bristol.

1908 Triumph, ridden under 2,000 miles, sp-condition, spare tyre, complete, usual spae accessories; owner going abroad; price £30.—Pangbourne, Berks.

3 1/2 h.p. 1909 Humber Motor Bicycle, new, never list price £45, to clear, £37 10s.—J. S. Willway Sons, L’d., St. Augustine’s, Bristol.

R BICYCLES FOR SALE.

(1907), spring forks, Palmer cords, 1909, e-bars, first-rate condition, all accessories; n Garage, 418, Romford Rd., Forest Gate.

h.p. Kerry, powerful, 26in. wheels, low, new on; sacrifice £11 10s., or with sidecar £15; 2, London Place, London Fields, Hackney.

nerva, low, fast, in faultless condition, com- with accessories; £12; any trial; part ex- sidered.—112, Navarino Mansions, Hackney.

a Sarolea, Palmer and Clipper, Whittle, forks, good sidecar machine, powerful; £16, ver power.—28, Bertram Rd., Hendon, Lon-

N.—3 h.p. motor cycle, Dunlops, Brown and 1, footboards, Watawata belt, lamp, horn, fast, reliable; £8.—66, Grange Rd., Ilford.

4-cyl., new Palmer cord on back, fine kit is, lamp, horn, perfect; must sell; buying, accept £26.—Locke, draper, Penge, Crystal

ugeot, Chater-Lea, racing type, very fast, ole, almost new; can be seen by appoint- —Dagwell, 71, Guildford St., Chertsey.

adrant, spring forks, magnificent machine, ntely perfect, specially selected engine, climb 15.—J.D., 58, Downs Park Rd., Dalston.

PEUGEOT, 5h.p., twin, very low, smart, me footboards, tyres perfect, spares; must asonable cash offer refused.—186, Peckham

H (late 1908), had very little wear, appear- and all working parts perfect; will send on £32. — Eastern Garage, 418, Romford Rd.

adrant, spring forks, spring seat-pillar, Pal- s, Longemare, quantity of spares, absolute ition; £17; or near offer.—13, Palace Rd., ent.

h.p. Twin, magneto, two speeds, all latest ovements, also M. Montgomery sidecar; £37; ate; almost equal new.—F. Hill, Princes Rd. Hill.

umph, not been ridden 1,000 miles, and well i for, studded tyres, Lucas headlight, Tri spares; £39.—Eastern Garage, 418, Romford Gate.

HAM.—4h.p. Roc, free engine, two-speed, o, excellent condition, £22; also 2 h.p. —Matthew's Cycle Stores, 96, West Green e, 1722.

S.U., 4h.p., magneto ignition, spring forks, horn, two spare butt-enders, inner tubes, perfect; bargain, £25.—Apply, 234, Black- Islington.

UL 4h.p. Motor Bike, magneto, No. 6 frame, er-Lea, handle-bar control, B.B. carburetter, perfect going order; £13 10s.—237, Hert- dmonton.

ightweight, magneto, built this season, low, e bars, weight 70 lbs.; take £13 10s.; going ve.

908 Brown, new September, handle-bar con- s; nearest offer £18, or exchange for twin. erva preferred; stamp, reply.—Montrose, Eastbourne.

ACOCHE 1909, magneto, in grand condition, new, all tools etc., or part exchange for 5h.p. eto. etc., or sell £20. — J. W. Lewsey, 80, l., Ponders End.

x, 1904, perfect running order, excellent con- , new back tyre, complete, and belt, Longe- uretter; trial given; 10 guineas.—Hostler, ich Rd., Charlton.

H. 1909, only delivered end July, run 150 , guaranteed absolutely perfect; £44; will or second-hand part payment.—No. 3,072, The e Offices Coventry.

Kerry, Chater-Lea, F.N. carburetter, Clincher s, long handle-bars, perfect condition; £8, change push bike; after 5 p.m.—Hartley, 64, l., Finsbury Park, N.

h.p. Brown and Sidecar, two accumulators, e valve, tube, cover, and belt, 26in. wheels, mp, horn, and tools; bargain, £25, or near Erpingham Rd., Putney.

ry Engine, 26 by 2 1/2, low, long bars, grand £15; 3 h.p. M.M.O.C., Palmers, Chater-Lea, copies of "Motor" and "Motor Cycle," to The Gardens, East Dulwich.

Rex, 3 h.p., Albion free engine, new Whittle, res, bottled tubes with new rigid sidecar, mid condition, and spares; £20.—A. Crowe, Sisters Rd., Tottenham, N.

5h.p., twin, not ridden 1,000 miles, mag- spring forks, Palmer cord, all accessories; ar offer; appointment.—Motorist, Strathmore, Rd., Worcester Park, Surrey.

Deciding on any motor bicycle or triar n or write to Pullman Bros., London Rd., London, who have the best selection of ma- London; motor bicycles from £4.

NO FANCY PRICES.

FARRAR'S 'HALIFAX' SIDECARS.

BETTER THAN THE BEST, and HALF THE COST.

Each £4 17 6 Each.

Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

£3 DOWN sec res any of these. Balance 5/- per week.

2 1/2 h.p. Singer, mag.	£6 12 1/2	h.p. Stevens	£5
3 1/2 h.p. Rex	£9 12 1/2	h.p. R. and P. ...	£7
3 1/2 h.p. Dux	£9 12 1/2	Minerva, M.O.V.	£8 10
2 h.p. Rex	£5 12 1/2	h.p. Humber ..	£5
3 h.p. Noble, M.O.V.	£7 12 1/2	h.p. King	£8
2 1/2 h.p. Whiteley ..	£6 12 1/2	h.p. King	£8

1909 "PREMIER" MAGNETOS.

Absolutely the finest magneto.

£3 15s each.

DELIVERY FROM STOCK.

50/- and a good push bike secures either :

2 1/2 h.p. Singer.	2 1/2 h.p. Stevens.
2 h.p. Rex.	2 1/2 h.p. Humber.

CASH OR EXCHANGE.

4 1/2 h.p. PHOENIX TRICAR, two speeds..	£15 0
5 h.p. REXETTE, two speeds.....	£21 0
5 1/2 h.p. REXETTE, two speeds	£14 0
3 1/2 h.p. 1907 REX, Rom tyre	£15 16
1908 5 1/2 h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34 0
3 1/2 h.p. BROWN, M.O.V., fine goer	£12 0
4 h.p. ANTOINE, M.O.V., fine goer	£11 0
5-6 h.p. ROVER Tricar, splendid goer	£18 0
3 1/2 h.p. BROWN, magneto, 2 1/2 in. wheels....	£18 0
1908 N.S.U. Light-eight, magneto.....	£22 0
3 1/2 h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
2 1/2 h.p. 1906 REX, M.O.V., spring forks ..	£13 10
REX DE LUXE, magneto, clutch	£26 10
5 1/2 h.p. TWIN REX a beauty.....	£15 10
4 h.p. REX, M.O.V., spray.....	£10 10
6 h.p. TWIN REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
3 1/2 h.p. FAFNIR, two speeds, free engine, spring forks	£16 0
3 h.p. QUADRANT, handle-bar control ..	£5 15

ONE ONLY.

1908 LINCOLN ELK, magneto ignition, brand new	£25 0
---	-------

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £17 10s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. 33% cheaper than any other high-class belt. 2in. 9d. 3in. 1/4. 4in. 1/3. 5in. 1/6 per foot.

ENGINES.

3 1/2 h.p. AUTO MOTOR.....	£2 5 0
2 1/2 h.p. KING.....	£1 15 0

SPECIAL BARGAINS.

1909 Amac or B. and B. Carburetter, H.B. control	27/-
3 1/2 h.p. Quadrant engine sets	37/6
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6

Send for Price List of Accessories—Pounds Saved.

Clincher Rubber Studded Covers, 25/- each.

Tubes with valve, all sizes, post free, 5/6.

High-class Machines Wanted. Cash Waiting.

E. FARRAR,

Albion Works, Square Rd., HALIFAX.

Telephone Nos.: Day, 910, Night, 10Y.

MOTOR BICYCLES FOR SALE.

3 1/2 h.p. Record, Chater frame, long bars, footboards, 32 low, torpedo tank, accumulator, fast and powerful, new Goodrich on back; ready to ride away; seen any time; £13 10s.—26, Halstead St., Brixton.

MOTOSACOCHE, special low, long frame, footrests, paraffin tank, cut-out, and all improvements, perfect order, and new condition, new spare cover, belt, etc.; photo; £25.—A. Scott, 82, Hazlewell Rd., Putney.

2 1/2 h.p. Lightweight, low, torpedo tank, very good condition, and running order, £8; also 1 1/2 h.p. lightweight, only weighs 66 lbs., perfect order, good tyres, 26 10s.—Gardner, 43, Eric Rd., Chadwell Heath, Essex.

4-CYL. F.N., magneto, perfect running order and condition, recently overhauled, spares, etc., offers, or exchange magneto single or twin. Triumph or Roc preferred.—Glenrosa, Colchill Rd., Teddington, Middlesex.

2 1/2 h.p. Genuine De Dion-Bat. and sidecar, Palmer, Dunkip, Advance pulley, very low, reliable, economical, really good combination, tools, all spares; £18; will sell separately.—Bracher, 50, Gailford St., London, W.C.

3 1/2 h.p. De Dion, Roc clutch and two speeds, beautifully sprung Chater-Lea fittings, handle-bar control, very low built, most reliable; must sell; £20, sacrifice.—17, Kenmare Rd., Mare St., Hackney, London.

V.S., 5h.p., twin, sound as a bell, very fast, climb anything; what offers? Minimum £30. Writer for list of spares, going cheap; any reasonable proposition entertained.—Stanley Phillips, 84, Alexandra Rd., South Hampstead.

3 1/2 h.p. Oracle-Chater (late 1908), powerful, long, non-skids, studded back, handle-bar or lever control, just overhauled, stand, carrier, accessories; £17; trial.—Hatch, Williamson House, Queen's Rd., Buckhurst Hill, Essex.

3 1/2 h.p. Raleigh-Fafnir, two-speed, H.B. control, Voltco, Continentals, Ritchie's tubes, brass tanks, recently overhauled, and rigid sidecar, all accessories; £18, or nearest offer; must sell.—Hodde, 45, Crofton Rd., Camberwell.

VINDEC Special, in perfect condition, 5h.p., twin cyls., adjustable pulley, good brakes back and front, magneto, searchlight, carrier, bags, tools, spares, etc.; genuine bargain, £25.—Motor Wks., Loftus Rd., Shepherd's Bush.

3 1/2 h.p. Triumph, April, 1909, all necessary spares, King of the Road lamp, outer cover, speedometer, spring seat-pillar, footboards, perfect condition; trial; £40; officer ordered abroad.—Lieut. G. P. Bowles, Torpedo Boat 053, Sheerness.

3 h.p. Clyde (lightweight), Bosch magneto, plate and enamel like new, B. and B. carburetter, Palmer tyre, Lucas motor lamp, carrier-stand, toolbag, large horn, number plates; sacrifice £11 11s.—12, Market Sq., Horsham Sussex.

6 h.p. 1908 Twin Phenomen, Nala two-speed, Bosch magneto, with 1909 Lowen coach-built sidecar, excellent condition, £10 worth spares and accessories; cost over £100, bought car; nearest £50.—Newbury, 12, Conway Rd., Southgate, N.

1909 Triumph, 3 1/2 h.p., standard model, in very nice condition, including all accessories and several extras; £39.—On sale at Wanchope's. Owner's name and address submitted if required.—Wanchope's, 9, Shoe Lane, Fleet St., London.

TRIUMPH, 1908, new, in magnificent condition, Clincher tyres, rubber studded, uns scratched, handle-bar control, brand new spare belt, three-note horn, tools, etc.; any trial or examination; sacrifice £32.—32, Rosebery Av., E.C.

4 1/2 h.p. Stevens Engine, new Chater-Lea frame, new Palmer cord tyres, 26 by 2 1/2, plated rims, Bradbury spring forks, footboards, very low, as new, ready for road; sacrifice £18; variable pulley also.—Apply, H. Sweetland, 13, Angus St., New Cross, S.E.

QUADRANT, 3 1/2 h.p., magneto, B.B. carburetter, spring forks, Clincher tyres new, re-enamelled French grey, and plated, long handle-bars, footboards, machine in first-class condition; £18 10s.—E. C. Reynolds, Rookstone, Woodford Green, Essex.

5-6h.p. Twin Peugeot, No. 6 Chater-Lea frame, latest Chater stand-carrier, footrests, and footbrake, handle-bar control, Brooks saddle, Advance pulley, lin. Dermatine, perfect condition, and locks equal to new; £20.—27, Montford Place, Kennington, S.E.

3 1/2 h.p. Fafnir (80 by 80), Chater frame (No. 6) Druid spring forks, footrests, handle-bar control, rubber studded tyres, Goodlad's speedometer, Autoclipse lamp, stand, carrier, spares, very fine condition; £19.—Eastern Garage, 418, Romford Rd., Forest Gate.

4 h.p. Roc, delivered October, 1908. two speeds, hand starting, magneto, Druid spring forks, Goodlad speed indicator, cyclometer, luggage carrier, spare valves and magneto parts, suitable for sidecar; price £36. —Box L23, The Motor Cycle Offices, 20, Tudor St., E.C.

VINDEC Special, 5h.p., twin, magneto, 1908, Trufault forks, Michelin steel-studded tyre on rear wheel, Clincher rubber studded on front, Gloria belt, 6in. adjustable pulley, complete with lamp, horn, tools, and spares; £30.—Apply, Pond, 349, West End Lane, Hampstead.

3 1/2 h.p. Brown, with Chater-Lea sidecar, late 1908, condition, sidecar fitted, apron, Bowden band brake, luggage board and tool box; trial by appointment; £30, or nearest offer.—Letter, Morris, 15, Greyhound Rd., Tottenham.

MOTOR BICYCLES FOR SALE.

5 h.p. 1908 Twin Vindec Special, complete with Montgomery Modele de Luxe sidecar, new Michelin non-skid tyre on back wheel, engine in thorough order, new pistons, sidecar only used twice; cost £69, price £35 complete; trial by appointment.—Jarvis, Moreton Av., Harpenden.

1909, delivered in June, done 892 miles, 3½ h.p. Excelsior, cost £60, accept £35, faultless order, complete with Cowey speedometer, Mabon rice engine, Auto-clipse lamp, and generator, new R.O.M. studded tyre; reason for sale, too powerful for owner; first cheque secured.—Hurlock, 73, Denmark Hill. Phone, 20, Brixton.

1909 Triumphs from stock, £48; 5 h.p. twin Sarolea and sidecar, £22 10s., complete; 3½ h.p. Kelecom, splendid machine, in good order, £12; 2½ h.p. 1907 Minerva, tyres unpunctured, adjustable pulley, two brakes, speedometer, Matchless spring forks, as good as new; £15 10s.—Godfree's, 124, Romford Rd., Stratford. Phone, Stratford, 243.

6 h.p. Rex de Luxe, twin, and sidecar (left), free engine, Roc clutch, handle starting, magneto ignition, spring forks and seat, twin wheel, handle-bar control, cantilever saddle, adjustable pulley, two brakes, lamps, spares, absolutely sound and reliable, climb anything; expert trial given; £36, or exchange for lightweight and cash.—Winch, Madeira Mount, Woodford Green, Essex.

5 h.p. V.S., 1909 model, two-speed gear and free engine, drumault forks, magneto, also Mills and Fulford 1909 castor wheel sidecar, this machine is fitted with Michelin non-skid back wheel, Whittle belt, horn, reflector, two butted tubes, separate generator lamp, with several extras; offers: owner's name and address submitted if required.—Wauchope's, 9, Shoe Lane, Fleet St., London.

5 h.p. Twin N.S.U., late 1908, two-speed gear, magneto, practically new, not ridden 800 miles, engine, gears, etc., in perfect condition, plating and enamel as new, ideal machine for sidecar work, exceptionally powerful and fast, tyres unpunctured, new Auto-clipse searchlight, Price's stand, lin. new Shamrock belt, spare valves, belt, springs, numerous tools, etc.; £35, or lower power part exchange (Triumph preferred).—S.B., 43, Southbrook Rd., Lee, S.E.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

3 h.p. Rex, 26in. wheels, metal studded back tyre, good order.—Below. £7 7s.

3 h.p. Quadrant, splendid motor, spring and girder forks.—Below. £10 10s.

3 h.p. Humber; particulars post; £8 8s.; part exchange good value.—Batten Bros., Culmpton.

3 h.p. Rex, perfect order, spring forks, adjustable pulley; £14 10s. or nearest.—Spear, Beacon Hill, Bodmin.

9—2½ h.p. J.A.P., in B.S.A. frame, perfect condition, guaranteed to climb Ridgway without assistance; any trial.—Reynolds, Broadway, Dorset.

3½ h.p. 1909 Triumph, fitted Roc, two-speed gear, pannier, bags, lamp, horn, Palmer cord tyres, spare tube and Michelin cover, other spares; also Montgomery sidecar, flexible, fitted to above, combination regularly used in hilly country, carrying 24 stones; cost over £75, cash £59, or separately £52 and £8, offers.—L. H. Higgin, Royal Artillery, Verne, Portland.

SECTION X.

Scotland.

TRIUMPH, 3½ h.p., 1908, good condition, R.O.M. and Palmer cord tyres; offers wanted.—Chapman, Kennedy Drive, Airdrie.

4 h.p. Antoine, H.T. magneto, B.B. H.B. control, spring forks, low machine, perfect, condition as new; £18.—Muir, Motor Agent, Newmains, N.B.

N.S.U., 3½ h.p., magneto, footrests, spring forks, splendid condition; £21 10s.; owner bought lightweight.—Scobbie, 59, Mollinsburn St., Springburn.

MOTOSACOCHE, 1908, accumulator, in new condition, fitted spare torpedo tank, Palmer tyre on rear, numerous spares; £18.—Baird, cycle agent, Motherwell.

1907 Rex, 3½ h.p., spring forks, magneto, Mabon clutch, Brooks B100, Rich tube back, lamp, horn, spares, and numbers; seen by appointment; £20, or near offer.—Gauld, c/o Russell, 103, Auchentochan Terrace, Glasgow.

THE Largest Stock, largest variety, and the best makes!—Alexander's Motor Exchange. Rex, V.S., Moto-Reve, Norton, Roc, Excelsior, Zenith, Douglas, Minerva. We can supply you with these or any other make; some special bargains presently in superior second-hands.—Alexander's, 110, Lothian Rd., Edinburgh.

TRICARS FOR SALE.

4 h.p. De Dion Tricar, Chater frame, Whittle belt; £12, or cycle and cash.—Birdsey, Hertford.

3½ h.p. Runabout, free engine, open frame; £12.

4½ h.p. Twin Minerva, Trimmo front, fine machine; £18 10s.; exchanges; photo and particulars.—128, High Rd., Tottenham.

3½ h.p. Humber Tricar for motor cycle, or push cycle, cash adjustment; sell £14.—72, Walmesley St., Hull.

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BRADBURY , 3½ h.p., vertical engine, 1909 model, Bosch magneto, handle-bar control	£36
ROVER , 3 h.p., low built, handle-bar control, smartly enamelled, in splendid condition	£14
MINERVA , 4½ h.p., 1907 model, Longuemare, 2½ in. Continental tyres, spring forks	£23
BRADBURY , 1908 model, latest Bradbury spring forks, in A1 condition throughout, only done about 500 miles will climb anything	£25
MINERVA , 3½ h.p., vertical engine, 26in. wheels, spring forks	£16
REX , 3½ h.p., 1906 model, spring forks, spray, good order throughout	£15
ALCYON , 4 h.p., twin-cylinder, Minerva spring forks, low built	£15
TWIN REX , 5 h.p., spring forks, low built, aluminium finish, splendid condition	£17
QUADRANT , 3 h.p., spray, spring forks, good tyres, etc.	£10
MOTO-REVE , 2 h.p., 1908 model, twin cylinder, spring forks, perfect order ..	£25
HUMBER , 2 h.p., spring forks, spray carburettor	£9
RIP , 3½ h.p., Peugeot engine, spring frame, Longuemare spray carburettor, footrests, low built, unscratched	£18
N.S.U. , 1908 model, 3½ h.p., 26in. wheels, very little use, owner ordered abroad ..	£26

£3 DOWN secures following, balance 5/- per week:

QUADRANT , 2 h.p., spray	£8
SINGER , 2 h.p., magneto	£6
BARTER , 2½ h.p., geared pulley	£6
PHENIX , 2½ h.p., J.A.P. engine	£10
LLOYD'S , 2 h.p., vertical	£8
WERNER , 2 h.p., 26in. wheels	£6
MINERVA , 1½ h.p., coil and accumulator ..	£5
EXCELSIOR , 2½ h.p., spray	£8
CUNARD , 3 h.p., spray	£9
MINERVA , 3½ h.p., vertical	£12
REX , 3½ h.p., beehive silencer	£9
HUMBER , 2½ h.p., chain drive	£9

80/- Beautiful Forecar Attachment, **80/-** 26in. wheels, Dunlop tyres.

REXETTE TRICAR, 8 h.p., two speeds and reverse, foot clutch, open frame, wheel steering, £48. Motor cycle part.

DARRACQ CAR, 18 h.p., four-cylinder, live axle, three speeds and reverse, four-seater, tyres 880 x 120 back, 870 x 90 front, all practically new, £79, or exchange.

SPECIAL BARGAINS.

Combined Tube and Belt Carriers	7/6
F.R.S. Lamp, brand new, bargain	£1
Mudguards, 4in., well finished (per pair) ..	3/6
Mudguards, 3in., well finished (per pair) ..	2/11
Trinote Horns, best quality plating	7/3
Treble Twist Horns, very noisy	6/6
Hella Searchlights, best plating, separate generators, divided glasses	16/9
Long Handle-bars, best quality (per pair) ..	5/6
Rex pattern ditto, dropped ends (per pair) ..	6/6
Amac Carburettors, handle-bar control, latest pattern	29/-
(9/- allowed on old carburettor).	
Brown and Barlow Carburettors, latest type, handle-bar control	30/-
Exchanges promptly made from stock.	

CLINCHER TYRES.

31/6 FOR 25/-
Genuine { 26 x 2½ in. } Clincher studded
 { 26 x 2 in. } Covers.

Maker's price, 31/6 Our price, 25/-
All brand new 1909 goods, and in no way faulty or perished. APPROVAL.

Tubes with valves, Red quality, 5/6; Grey, 6/-
Large Stock CONTINENTAL TYRES.
Good Allowances on Old Covers.

High-class Motor Cycles Wanted for Cash.

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TRICARS FOR SALE.

6½ h.p. Quadrant, two speeds, Longuemare, new tyres, thorough repair.—Below.

4½ h.p. Rover, w.c., two speeds, chains, met. spring frame, £20 each; offers.—31, La Stockwell.

WHITE and Poppe, 4 h.p., water-cooled, two car control; £18.—Below.

EXCELSIOR, 3½ h.p., two speeds, three brake condition; £12.—60a, Trinity Rd., Upper

4½ h.p. Noble, coach-built, good tyres, Osborn 2 speed pulley, perfect order; £20; seen pointment.—41, Stansfield Rd., Brixton.

6 h.p. Triette, 2-cyl., Clinchers, new condition;—Sidney, 852, Garratt Lane, Tooting.

LEEDS.—5 h.p. Humber tricar, open frame built, wheel steering, two speeds, tyres £30.

LEEDS.—4½ h.p. White and Poppe tricar, two speeds, wheel steering, tyres as new.

LEEDS.—3½ h.p. Raleigh tricar, open frame, speeds, fine condition; a real bargain at

LEEDS.—5 h.p. Triette, just overhauled; £20 Motor Exchange, 28, Dock St., Leeds.

6 h.p. Riley Twin, three speeds and reverse, condition, spares; £48.—147, High Rd Green, N.

5½ h.p. Two-speed Magneto Rex Triette, 1 month; any trial; £48.—22, Victoria Leamington.

1908 Rex Litette, 6 h.p. twin, water-cooled, Roc clutch, as new; £35.—406, Garra Wandsworth.

3½ h.p. Rex Tricar, in splendid condition, with £14, lowest. — Fairhead, builder, Mely Walthamstow.

6 h.p. Twin Tricar, free engine, footboards, condition; £16, or reasonable offer.—201, Town Rd., N.W.

3½ h.p. Tricar, coach-built, two speeds and free driven, fan-cooled; £20; trial.—Atkins, den St., Leicester.

10—12 h.p. Lagonda, water-cooled, three speeds, sonable offer refused; must sell.—38, dens, East Dulwich.

£13.—3½ h.p. Excelsior, Mills-Fulford forecar, spare belt, going order; photo, stamp, Poole Rd., Hornchurch.

TRICAR, 4 h.p., in excellent condition; £14 double; only wants seeing.—Apply, W Harrow Rd., Leytonstone.

9 h.p. Riley, three speeds and reverse, non-skid all wheels, perfect order; £35.—Maudes', Portland St., London, W.

RUNABOUT, open, wheel steering, two speeds, seat; £15, offers; exchange motor bike.—Walton Rd., East Meusey.

3½ h.p. Excelsior Tricar, coach-built, two-speed epicyclic, leather studded back wheel; £11 Russell, East St., Barking.

£13.—3½ h.p. Humber, two speeds, free engine, disc clutch, good tyres; any trial; must sell High Rd., Good naves, Ilford.

NEW 5 h.p. Kerry, two speeds, A Wons, extra back, faultless; £45, near offer; Longuemare 17s.—Canery, Doynton, Bristol.

TRICAR, open frame, wheel steering, down for ing; owner not time to finish; will accept cash offer.—76, Station Rd., Old Hill.

4½ h.p. Rover Tricar, two speeds, free engine, cooled, new tyres; exchange magneto motor or sell £20.—3a, Bridge St., Cambridge.

9 h.p. Riley Tricar, magneto and accumulator in splendid condition; any trial; all tools, spares, £75, or near offer.—Frost, High St., Grays.

6 h.p. Twin Antoine, Chater frame, three-speed main gear, Peter-Union tyres, built up 19 gain, £22 10s.—73, Church St., Camberwell.

3½ h.p. Tricar, nearly new Palmer cord tyres, running order; trial given; money wanted £12 10s.—Smith, 286, High Rd., S. Tottenham.

PHENIX Trimmo Tricar, 3½ h.p., coach-built, good condition, or exchange lady-back tandem, motor cycle and cash.—21, Alfred St., Bow Rd.

HUMBER, 5 h.p., single cyl., water-cooled, two Clincher tyres; open any trial; splendid condition; £25.—Louis Davis, 3, New St., Birmingham.

HUMBER Tricar, 3½ h.p., water-cooled, two speed free engine, good order, tyres almost new 10s., a bargain.—Rae, Thornton St., West Hartle

REXETTE, 6 h.p., water-cooled, wheel steering, drive, coach-built, good condition, new tyres Warrington.—3,074, The Motor Cycle Offices, C

HAVING Bought Car, will accept reasonable 6 h.p. Quadrant Carette, latest model, excellent; exchange, or cash.—Myrtle Villa, Shobua

LATEST 10-12 h.p. Lagonda, mechanically excellent; will give 50 miles trial; sacrifice £5 magneto cycle part.—Particulars, apply, R. Elwood, near Matlock.

TRICARS FOR SALE.

Open frame, wheel steering, air-cooled, fan, two-speed gear box, new Renolds chains, large art cane seat, good condition; £22 10s.—Osborne, 716, Lea Rd., Leyton, E.

10h.p., twin-cyl., water-cooled, two speeds reverse, twin tyres on back, Dunlop tyres; open any trial; price £45.—Louis Davis, St., Birmingham.

Latest spring frame Rexette, 6h.p., two speeds, wheel steering, buckets, lamps, tools, hand-sign, perfect; examination; £26 10s.—D., 79, Bell Grove, Camberwell.

Open Frame Tricar, two speeds, wheel steering, car engine, reliable, spare valves, four covers, chain, etc.; £15; bought car; seen any sales, Woodside, Takeley.

Chater-J.A.P. Tricar, bucket seat, open frame, speeds, fine hill-climber, new tyres, good comp., spares; £25, or offer; London.—No. 3,067, or Cycle Offices, Coventry.

7h.p., twin, coach-built, three-speeds and reverse, all accessories, tyres 700 by 85, whole machine condition; seen and tried by appointment; as.—Ingram, Lyndhurst, St. James Rd., Sutton.

Tricar, 4h.p., water-cooled, Mabon clutch, free engine, Brooks B10, spring seat-pillar, accessories, perfect running order; trial given; any reasonable price.—Appy, 12, Edward St., City Rd., London.

win, under 2 cwt., three new Shamrock studded, butt tubes, unpunctured, new Advance pul-Whittle belt, in perfect running order; buying —No. 2,919, The Motor Cycle Offices, Coventry.

R., must be sold, 5h.p., water-cooled, free engine, wheel steering, three-speed, etc., in splendid; price £35; would take new motor cycle, or other goods in exchange.—11, Dereham Rd., Northampton.

GHETTE Tricar, new last year, scarcely used, 10h.p., water-cooled Fafnir engine, two-speed gear, live, new condition throughout; price, with all accessories; £45.—Box 3,076, The Motor Cycle Offices, Coventry.

Stevens Water-cooled Tricar, coach-built car, Hermann three-speed, chain drive, Hermetic car, Clincher studded fronts, in excellent order; would consider exchange for good motor cycle.—King Richard's Rd., Leicester.

5h.p. Tricar, water-cooled, thermo-syphon system, built, Chater-Lea frame, two accumulators, air and tube, wheel steering and control, Michels, Hele-Shaw clutch, and quantity of spares; price, 790, Romford Rd., Manor Park, E.

10h.p., water-cooled engine, magneto, large fly-wheel and clutch, three speeds, worm drive, Kemp on back, Palmer cords on front like new, and controlled same as car; trial and examination £37 10s.—Page, 74, East Hill, Dartford.

Riley Tricar, twin-cyl., water-cooled, three speeds, reverse, wheel steering, 700 by 85 car tyres (used), set Lucas lamps, all spares and accessories, in splendid condition; accept £43 cash, exchange high grade motor cycle.—31, Newton Rd., Birmingham.

Riley Tricar, splendid condition, fast and powerful, just overhauled by makers, coach-built, wheel grooved Dunlops, and non-skid back new, acetylene, three spare tubes (fine), and all spares, four; £43, offer, or motor cycle and cash.—Guest, Polo Ground, Charlton Park, Kent.

BEST Tricar on road.—1908 5h.p. Riley, two speeds, water-cooled, open frame, coach-built, red, light, not done 1,000 miles, non-skid back, are chains, tools, complete, everything perfect, road; bargain, £50, accept good lightweight or part exchange.—Ernest Howell, Tisbury, Wilts.

Rexette, in splendid condition, open frame, wheel steering, water-cooled, two speeds, Bleriot head and two side lamps, all fitted to one generator, set fitted on plated carrier—in fact, everything and ready for touring; what offers; must be having car.—B., Milford Lodge, Belmont Rd., London.

BOUT, 6-8h.p. M.M.C. engine, three-wheel seat (bucket), two speeds, free engine, metal clutch, starts like car, gunmetal driving wheels, spring, dashboard, tanks, bonnet, radiator, non-back wheel, machine not run 50 miles; owner new and cheap, £35, or nearest.—Address, 100, Rd., Weaste, Manchester.

DECARS AND FORECARS.

GOMERY Flexible Sidecar, condition as new; cheque £5, cost £10.—Read, 83, Derby St., Trent.

909 Spring Wheel Sidecar (Crowsley patent), Rex, Bat, N.S.U., Minerva; £6 10s.—Logan, London.

erry Forecar, light, strong, fast, Clincher tyres, cost; £12, offer.—Confectioner, 193, Garratt Rd., Northwark.

FULFORD Sidecar, upholstered, good condition, Palmer, 26 by 2; £4 4s.—Deane, 51, Bon-Brixton.

Forecar, long stays, band brakes, steering, upholstered seat; £3 10s.—Hart, 31, Van-Deptford.



IMPORTANT.

Having considerably increased our plant for the production of motor cycle belting, we have pleasure in announcing that all orders can now be executed from stock, same day as received.

$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"	1 $\frac{1}{4}$ "	per foot.
1/1	1/4	1/9	2/4	3/6	

CAMEL BELTS

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35, Gt. Eastern St., E.C.
and
BROWN BROS., LTD.,
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16, Great Eastern Street,
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SIDECARS AND FORECARS.

SIDECAR, good condition, fit any frame, left side; lowest £3 12s. 6d.—Markham, 91, James Rd., Liverpool Rd., London, N.

CORONET Sidecars from stock, suit N.S.U.'s, Rexes, Minervas, Triumphs, and other makes; £4 17s. 6d.—Booth's Motories, Halifax.

CORONET Sidecars, £4 17s. 6d., supplied from stock to suit any make of motor cycle.—Booth's Motories, Halifax.

CORONET Sidecars, £4 17s. 6d., comfortable as a motor car; converts motor cycle into an ideal winter machine; superior to some £8 8s. makes.—Booth's Motories, Halifax.

UNREDEEMED.—Latest Chater-Lea sidecar, quite new, 26 by 2 $\frac{1}{2}$ tyre; £5 10s.—Matthews, pawnbroker, London Rd., West Croydon.

FITEASY Sidecar, for narrow doors, wholesale and retail.—Middleton and Co., Manufacturers, Watson St., Newington Green, London, N.

FORECAR Attachment, splendid condition throughout, Dunlop tyres and tubes, only run 50 miles; photo; £6 cash.—Patchett, Cherry Farm, Holbeach.

FORECAR, Perry's, upholstered cane body, two band brakes, tyres in fair condition, car equal to new; genuine bargain, £7 10s.—Priestley, Ramsgate.

MILLS-FULFORD Rigid Sidecar, left side, only run 100 miles, condition as new; must sell; what offers, cash?—H. Stell, 37, Starkie St., Keighley.

BRAND New Sidecar; cost £12 12s., fit any machine, sacrifice £5 5s.; taken for debt; must sell.—Redskin, 54, Hemberton Rd., Stockwell, London, S.W.

FORECAR Body, coach-built, upholstered and painted green, new, not unpacked; cost £10, sacrifice £4 10s. to clear.—431, Dudley Rd., Wolverhampton. Tel.: 518.

FORECAR Body, cane, upholstered green, with springs, quite new, bankrupt stock; cost £6 10s., sacrifice £3 15s., a bargain.—431, Dudley Rd., Wolverhampton.

CHATER-LEA Sidecar (this year's), 26 by 2 $\frac{1}{2}$ tyre, art cane body, wide mudguard, scarcely soiled, high grade article; £6 6s.—Maude, 6, Killearn Parade, Catford.

SIMPSON'S Sidecars are reliable, comfortable, elegant; entirely different to other makes; write us; our prices are right.—Orchard Mills, Belinda St., Hunslet, Leeds.

SIDECARS.—Best value in England; fitting free; inspection invited; prices, £4 15s. and £5 10s.; also second-hand price, £4.—C. A. Edgar, 123, Holloway Rd., London, N.

SPRING Frame Phoenix Forecarriage Attachment, art cane body, large box under seat, 26 by 2 $\frac{1}{2}$ wheels, wing mudguards; photo; £4 15s.—Cogan, Duston, Northampton.

STANTON'S £5 5s. sidecars fit any motor cycle. They are perfectly built by skilled mechanics, and are equal to any 10-guinea sidecar on the market.—Stanton, 319 Lea Bridge Rd., Leyton, London.

STAMFORD HILL.—Our improved model sidecar at £5 10s., with Michelin tyre, are giving great satisfaction; supplied from stock; duplex steering Mills-Fulford, £4 10s.—128, High Rd., Tottenham.

12-GUINEA Sidecar, brand new, this year's model, and made throughout with genuine Chater-Lea fittings, 26 by 2 $\frac{1}{2}$ Clincher tyre; £6 8s.; wanted, Sunbeam cycle.—F.W., 137, Broomwood Rd., Clapham Common, S.W.

RIGID de Luxe Sidecars, enamelled and plated, luxuriously sprung, everything of the best, fit any machine, 26 by 2 $\frac{1}{2}$ tyres, £6; cheaper quality, £4 17s. 6d.; second-hand sidecars taken in exchange.—Halifax Motor Exchange, Westgate, Halifax.

OAKLEIGH Sidecars are honest all through. Built of genuine Chater-Lea fittings: five years' guarantee. Delivery from stock. Beware of imitations. None genuine without the name on basket; price £5; spring wheel model, £8. Write for list.—Oakleigh Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

TRAILERS.

TRAILER, Palmer tyres, splendid condition; best offer.—12, Colpitt Lane, Nottingham.

TRAILER Body, perfect, and new, with springs: 17s. 6d., worth double.—431, Dudley Rd., Wolverhampton.

TRAILER, very strong, double connection bars, good condition; cost £16, bargain, £2 10s.; sidecar wanted.—MacKenzie, Byfleet.

QUADCARS.

7-8h.p. Phoenix Quadcar, splendid new tyres, four lamps, tools, etc.; offers.—Moldgreen Engineering Works, Huddersfield.

6h.p. Phoenix Quadcar, good order; expert examination; two speeds, reverse, magneto, spares.—Particulars, Hallett, Chagford.

CARS FOR SALE.

£25.—Oldsmobile 5-6h.p. car.—80, Mitchell St., Rochdale.

20h.p. 4-cyl. 5-seated Car, sound condition; great bargain, £38.—Matthews, pawnbroker, West Croydon.

MOTOR BICYCLES FOR SALE.

5 h.p. 1908 Twin Vindee Special, complete with Montgomery Modele de Luxe sidecar, new Michelin non-skid tyre on back wheel, engine in thorough order, new pistons, sidecar only used twice; cost £69, price £35 complete; trial by appointment.—Jarvis, Moreton Av., Harpenden.

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6 h.p. Rex de Luxe, twin, and sidecar (left), free engine, Roc clutch, handle starting, magneto ignition, spring forks and seat, twin wheel, handle-bar control, cantilever saddle, adjustable pulley, two brakes, lamps, spares, absolutely sound and reliable, climb anything; expert trial given; £36, or exchange for lightweight and cash.—Winch, Madeira Mount, Woodford Green, Essex.

5 h.p. V.S., 1909 model, two-speed gear and free engine, Trumault forks, magneto, also Mills and Fulford 1909 castor wheel sidecar, this machine is fitted with Michelin non-skid back wheel, Whittle belt, horn, reflector, two butted tubes, separate generator lamp, with several extras; offers; owner's name and address submitted if required.—Wauchope's, 9, Shee Lane, Fleet St., London.

5 h.p. Twin N.S.U., late 1908, two-speed gear, magneto, practically new, not ridden 800 miles, engine, gears, etc., in perfect condition, plating and enamel as new, ideal machine for sidecar work, exceptionally powerful and fast, tyres unpunctured, new Auto-clipse searchlight, Price's stand, 1in. new Shamrock belt, spare valves, belt, springs, numerous tools, etc.; £35, or lower power part exchange (Triumph preferred).—S.B., 43, Southbrook Rd., Lee, S.E.

SECTION IX.

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3 h.p. Quadrant, splendid motor, spring and girder forks.—Below. £10 10s.

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3 h.p. Rex, perfect order, spring forks, adjustable pulley; £14 10s. or nearest.—Spear, Beacon Hill, Bodmin.

£9—2½ h.p. J.A.P., in B.S.A. frame, perfect condition, guaranteed to climb Ridgway without assistance; any trial.—Reynolds, Broadway, Dorset.

3½ h.p. 1909 Triumph, fitted Roc, two-speed gear, pannier, bags, lamp, horn, Palmer cord tyres, spare tube and Michelin cover, other spares; also Montgomery sidecar, flexible, fitted to above, combination regularly used in hilly country, carrying 24 stones; cost over £75, cash £59, or separately £52 and £8, offers.—L. H. Higgon, Royal Artillery, Verne, Portland.

SECTION X.

Scotland.

TRIUMPH, 3½ h.p., 1908, good condition, R.O.M. and Palmer cord tyres; offers wanted.—Chapman, Kennedy Drive, Airdrie.

4 h.p. Antoine, H.T. magneto, B.B. H.B. control, spring forks, low machine, perfect, condition as new; £18.—Muir, Motor Agent, Newmains, N.B.

N.S.U., 3½ h.p., magneto, footrests, spring forks, splendid condition; £21 10s.; owner bought lightweight.—Scobbie, 59, Mollinsburn St., Springburn.

MOTOSACOCHE, 1908, accumulator, in new condition, fitted spare torpedo tank, Palmer tyre on rear, numerous spares; £18.—Baird, cycle agent, Motherwell.

1907 Rex, 3½ h.p., spring forks, magneto, Mabon clutch, Brooks B100, Rich tube back, lamp, horn, spares, and numbers; seen by appointment; £20, or near offer.—Gauld, c/o Russell, 103, Auchentochan Terrace, Glasgow.

THE Largest Stock, largest variety, and the best makes!—Alexander's Motor Exchange, Rex, V.S., Moto-Reve, Norton, Roc, Excelsior, Zenith, Douglas, Minerva. We can supply you with these or any other make; some special bargains presently in superior second-hands.—Alexander's, 110, Lothian Rd., Edinburgh.

TRICARS FOR SALE.

4 h.p. De Dion Tricar, Chater frame, Whittle belt; £12, or cycle and cash.—Birdsey, Hertford.

3½ h.p. Runabout, free engine, open frame; £12.

4½ h.p. Twin Minerva, Trimo front, fine machine; £18 10s.; exchanges; photo and particulars.—128, High Rd., Tottenham.

3½ h.p. Humber Tricar for motor cycle, or push cycle, cash adjustment; sell £14.—72, Wahnley St., Hull.

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BRADBURY, 3½ h.p., vertical engine, 1909 model, Bosch magneto, handle-bar control **£36**

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BRADBURY, 1908 model, latest Bradbury spring forks, in Ar condition throughout, only done about 500 miles will climb anything **£25**

MINERVA, 3½ h.p. vertical engine, 26in. wheels, spring forks **£16**

REX, 3½ h.p., 1906 model, spring forks, spray, good order throughout **£15**

ALCYON, 4 h.p., twin-cylinder, Minerva spring forks, low built **£15**

TWIN REX, 5 h.p., spring forks, low built, aluminium finish, splendid condition **£17**

QUADRANT, 3 h.p., spray, spring forks, good tyres, etc. **£10**

MOTO-REVE, 2 h.p., 1908 model, twin cylinder, spring forks, perfect order .. **£25**

HUMBER, 2 h.p., spring forks, spray carburetter **£9**

RIP, 3½ h.p., Peugeot engine, spring frame, Longuemare spray carburetter, footrests, low built, unscratched **£18**

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£3 DOWN secures following, balance 5/- per week:

QUADRANT, 2 h.p., spray **£8**

SINGER, 2 h.p., magneto **£6**

BARTER, 2½ h.p., geared pulley **£6**

PHOENIX, 2½ h.p., J.A.P. engine **£10**

LLOYD'S, 2 h.p., vertical **£8**

WERNER, 2 h.p., 26in. wheels **£6**

MINERVA, 1½ h.p., coil and accumulator .. **£5**

EXCELSIOR, 2½ h.p., spray **£8**

CUNARD, 3 h.p., spray **£9**

MINERVA, 3½ h.p., vertical **£12**

REX, 3½ h.p., beehive silencer **£9**

HUMBER, 2½ h.p., chain drive **£9**

80/- Beautiful Forecar Attachment, **80/-** 26in. wheels, Dunlop tyres,

REXETTE TRICAR, 8 h.p., two speeds and reverse, foot clutch, open frame, wheel steering, **£48**. Motor cycle part.

DARRACQ CAR, 18 h.p., four-cylinder, live axle, three speeds and reverse, four-seater, tyres 880 x 120 back, 870 x 90 front, all practically new, **£79**, or exchange.

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6½ h.p. Quadrant, two speeds, Longuemare, coach new tyres, thorough repair.—Below.

4½ h.p. Rover, w.c., two speeds, chains, metal spring frame, £20 each; offers.—31, Lan Stockwell.

WHITE and Poppe, 4h.p., water-cooled, two car control; £18.—Below.

EXCELSIOR, 3½ h.p., two speeds, three brake condition; £12.—60a, Trinity Rd., Upper

4½ h.p. Noble, coach-built, good tyres, Osborn speed pulley, perfect order; £20; seen pointment.—41, Stansfield Rd., Brixton.

6 h.p. Triette, 2-cyl., Clinchers, new condition; —Sidney, 852, Garratt Lane, Tooting.

LEEDS—5h.p. Humber tricar, open frame, built, wheel steering, two speeds, tyres a £30.

LEEDS—4½ h.p. White and Poppe tricar, coach two speeds, wheel steering, tyres as new;

LEEDS—3½ h.p. Raleigh tricar, open frame speeds, fine condition; a real bargain at £12.

LEEDS—5h.p. Triette, just overhauled; £20. Motor Exchange, 28, Dock St., Leeds.

6 h.p. Riley Twin, three speeds and reverse, condition, spares; £48.—147, High Rd. Green, N.

5½ h.p. Two-speed Magneto Rex Triette, 12 month; any trial; £48.—22, Victoria Leamington.

1908 Rex Litette, 6h.p. twin, water-cooled, m Roc clutch, as new; £35.—406, Garratt Wandsworth.

3½ h.p. Rex Tricar, in splendid condition, with £14, lowest. — Fairhead, builder, Melvil Walthamstow.

6 h.p. Twin Tricar, free engine, footboards, condition; £16, or reasonable offer.—201, Town Rd., N.W.

3½ h.p. Tricar, coach-built, two speeds and free driven, fan-cooled; £20; trial.—Atkins, 78 den St., Leicester.

10—12h.p. Lagonda, water-cooled, three speeds; sonable offer refused; must sell.—38, Tl dens, East Dulwich.

£13—3½ h.p. Excelsior, Mills-Fulford forecar, no spare belt, going order; photo, stamp.—Poole Rd., Hornchurch.

TRICAR, 4h.p., in excellent condition; £14, double; only wants seeing.—Apply, War Harrow Rd., Leytonstone.

9 h.p. Riley, three speeds and reverse, non-skid, all wheels, perfect order; £35.—Maudes', 1, Portland St., London, W.

RUNABOUT, open, wheel steering, two speeds, seat; £15, offers; exchange motor bike.—8, Walton Rd., East Molesey.

3½ h.p. Excelsior Tricar, coach-built, two-speed epicyclic, leather studded back wheel; £14 Russell, East St., Barking.

£13—3½ h.p. Humber, two speeds, free engine, m disc clutch, good tyres; any trial; must sell High Rd., Good naves, Ilford.

NEW 5h.p. Kerry, two speeds, A Wons, extra back, faultless; £45, near offer; Longuemare 17s.—Canery, Doynton, Bristol.

TRICAR, open frame, wheel steering, down for r ing; owner not time to finish; will accept cash offer.—76, Station Rd., Old Hill.

4½ h.p. Rover Tricar, two speeds, free engine, cooled, new tyres; exchange magneto motor or sell £20.—3a, Bridge St., Cambridge.

9 h.p. Riley Tricar, magneto and accumulator ign splendid condition; any trial; all tools, spare £75, or near offer.—Frost, High St., Grays.

6 h.p. Twin Antoine, Chater frame, three-speed mann gear, Peter-Unior tyres, built up 190 gain, £22 10s.—73, Church St., Camberwell.

3½ h.p. Tricar, nearly new Palmer cord tyres, in running order; trial given; money wanted £12 10s.—Smith, 286, High Rd., S. Tottenham.

PHOENIX Trimo Tricar, 3½ h.p., coach-built, good dition, or exchange lady-back tandem, or motor cycle and cash.—21, Alfred St., Bow Rd., E

HUMBER, 5h.p., single cyl., water-cooled, two Clincher tyres; open any trial; splendid tion; £25.—Louis Davis, 3, New St., Birmingham.

HUMBER Tricar, 3½ h.p., water-cooled, two speed free engine, good order, tyres almost new 10s., a bargain.—Rae, Thornton St., West Hartlep

REXETTE, 6h.p., water-cooled, wheel steering, drive, coach-built, good condition, new tyres; Warrington.—3,074, The Motor Cycle Offices, Cov

HAVING Bought Car, will accept reasonable of 6h.p. Quadrant Carrette, latest model, excell chine; exchange, or cash.—Myrtle Villa, Shobnall ton-on-Trent.

LATEST 10-12h.p. Lagonda, mechanically equ new; will give 50 miles trial; sacrifice £50 magneto cycle part.—Particulars, apply, R. Else, wood, near Matlock.

TRICARS FOR SALE.

Open frame, wheel steering, air-cooled, fan, two-speed gear box, new Renolds chains, large art cane good condition; £22 10s.—Osborne, 716, Lea Rd., Leyton, E.

ETFE, 10h.p., twin-cyl., water-cooled, two speeds and reverse, twin tyres on back, Dunlop tyres put; open any trial; price £45.—Louis Davis, St., Birmingham.

AIN.—Latest spring frame Rexette, 6h.p., two speeds, wheel steering, buckets, lamps, tools, hand-sign, perfect; examination; £26 10s.—D., 79, Well Grove, Camberwell.

Open Frame Tricar, two speeds, wheel steering, car engine, reliable, spare valves, four covers, bes, chain, etc.; £15; bought car; seen any asles, Woodside, Takeley.

Chater-J.A.P. Tricar, bucket seat, open frame, o speeds, fine hill-climber, new tyres, good con-amps, spares; £25, or offer; London.—No. 3,067, or Cycle Offices, Coventry.

Y 6h.p., twin, coach-built, three-speeds and re-erse, all accessories, tyres 700 by 85, whole ma- fine condition; seen and tried by appointment; eas.—Ingram, Lyndhurst St. James Rd., Sutton.

F Tricar, 4h.p., water-cooled, Mabon clutch, free engine, Brooks B10, spring seat-pillar, accessories, perfect running order; trial given; any reasonable epted.—App'y, 12, Edward St., City Rd., London.

Twin, under 2 cwt., three new Shamrock studded es, butt tubes, unpunctured, new Advance pul- Whittle belt, in perfect running order; buying 9.—No. 2,919, The Motor Cycle Offices, Coventry.

AR, must be sold, 5h.p., water-cooled, free en- ne, wheel steering, three-speed, etc., in splendid n; price £35; would take new motor cycle, or able goods in exchange.—11, Dereham Rd., Nor-

EIGHETTE Tricar, new last year, scarcely used, h.p. water-cooled Fainir engine, two-speed gear, rive, new condition throughout; price, with nd accessories; £45.—Box 3,076, The Motor Cycle Coventry.

Stevens Water-cooled Tricar, coach-built car, Oppermann three-speed, chain drive, Hermetic car back, Clincher studded fronts, in excellent order; ould consider exchange for good motor cycle.— 9, King Richard's Rd., Leicester.

9h.p. Tricar, water-cooled, thermo-syphon system, ch-built, Chater-Lea frame, two accumulators, ver and tube, wheel steering and control, Miche- skid, Hele-Shaw clutch, and quantity of spares; urphy, 790, Romford Rd., Manor Park, E.

Sims, water-cooled engine, magneto, large fly- eel and clutch, three speeds, worm drive, Kemp- re on back, Palmer cords on front like new, nd controlled same as car; trial and examina- rice £37 10s.—Page, 74, East Hill, Dartford.

Riley Tricar, twin-cyl., water-cooled, three eeds, reverse, wheel steering, 700 by 85 car tyres tured), set Lucas lamps, all spares and acces- everything in splendid condition; accept £43 cash. xchange high grade motor cycle.—31, Newton arkhill, Birmingham.

Riley Tricar, splendid condition, fast and power- t, just overhauled by makers, coach-built, wheel , grooved Dunlops, and non-skid back new, acety- ps, three spare tubes (fine), and all spares, tour- r: £43, offer, or motor cycle and cash.—Guest, Polo Ground, Charlton Park, Kent.

TEST Tricar on road.—1908 5h.p. Riley, two eds, water-cooled, open frame, coach-built, red, addition, not done 1,000 miles, non-skid back, spare chains, tools, complete, everything perfect, r road; bargain, £50, accept good lightweight or e part exchange.—Ernest Howell, Tisbury, Wilts.

Rexette, in splendid condition, open frame, wheel ering, water-cooled, two speeds, Herlic head and ps, two side lamps, all fitted to one generator. asket fitted on plated carrier—in fact, everything and ready for touring; what offers; must be uying car.—B., Milford Lodge, Belmont Rd. am.

ABOUT, 6-8h.p. M.M.C. engine, three-wheel ngle seat (bucket), two speeds, free engine, metal- clutch, starts like car, gunmetal driving wheels, eering, dashboard, tanks, bonnet, radiator, non- back wheel, machine not run 50 miles; owner up; new and cheap, £35, or nearest.—Address, aste Rd., Weaste, Manchester.

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MGOMERY Flexible Sidecar, condition as new; rst cheque £5, cost £10.—Read, 83, Derby St., on-Trent.

1909 Spring Wheel Sidecar (Crowsley patent), it Rex, Bat, N.S.U., Minerva; £6 10s.—Logan, Epsom.

Kerry Forecar, light, strong, fast, Clincher tyres, erie t; £12, offer.—Confectioner, 193, Garratt Vaudsworth.

S-FULFORD Sidecar, upholstered, good con- dition, Palmer, 26 by 2; £4 4s.—Deane, 51, Bon- l, Brixton.

RY Forecar, long stays, band brakes, steering lumn, upholstered seat; £3 10s.—Hart, 31, Van- t, Deptford.



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UNREDEEMED.—Latest Chater-Lea sidecar, quite new, 26 by 2 $\frac{1}{2}$ tyre; £5 10s.—Matthews, pawn- broker, London Rd., West Croydon.

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FORECAR Attachment, splendid condition throughout, Dunlop tyres and tubes, only run 50 miles; photo; £6 cash.—Patchett, Cherry Farm, Holbeach.

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FORECAR Body, coach-built, upholstered and painted green, new, not unpacked; cost £10, sacrifice £4 10s. to clear.—431, Dudley Rd., Wolverhampton. Tel.: 518.

FORECAR Body, cane, upholstered green, with springs, quite new, bankrupt stock; cost £6 10s., sacri- fice £3 15s., a bargain.—431, Dudley Rd., Wolverhampton.

CHATER-LEA Sidecar (this year's), 26 by 2 $\frac{1}{2}$ tyre, art cane body, wide mudguard, scarcely soiled, high grade article; £6 6s.—Maude, 6, Killearn Parade, Cat- ford.

SIMPSON'S Sidecars are reliable, comfortable, elegant; entirely different to other makes; write us; our prices are right.—Orchard Mills, Belinda St., Hunslet, Leeds.

SIDECARS.—Best value in England; fitting free; in- spection invited; prices, £4 15s. and £5 10s.; also second-hand price, £4.—C. A. Edgar, 123, Holloway Rd., London, N.

SPRING Frame Phoenix Forecarriage Attachment, S coach body, large box under seat, 26 by 2 $\frac{1}{2}$ wheels, wing mudguards; photo; £4 15s.—Cogan, Duston, Northampton.

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OAKLEIGH Sidecars are honest all through. Built of genuine Chater-Lea fittings; five years' guar- antee. Delivery from stock. Beware of imitations. None genuine without the name on basket; price £5; spring wheel model, £8. Write for list.—Oakleigh Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

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TRAILER, Palmer tyres, splendid condition; best offer.—12, Coalpit Lane, Nottingham.

TRAILER Body, perfect, and new, with springs: 17s. 6d., worth double.—431, Dudley Rd., Wolverhampton.

TRAILER, very strong, double connection bars, good condition; cost £16, bargain, £2 10s.; sidecar wanted.—MacKenzie, Byfleet.

QUADCARS.

7-8h.p. Phoenix Quadcar, splendid new tyres, four lamps, tools, etc.; offers.—Moldgreen Engineering Works, Huddersfield.

6h.p. Phoenix Quadcar, good order; expert examina- tion: two speeds, reverse, magneto, spares.—Par- ticulars, Hallett, Chagford.

CARS FOR SALE.

£25.—Oldsmobile 5-6h.p. car.—80, Mitchell St., Roch- dale.

20h.p. 4-cyl. 5-seated Car, sound condition; great bargain, £38.—Matthews, pawnbroker, West Croy- don.

CARS FOR SALE.

PALMER.—9h.p. Jackson, 2-seater, bucket seats, pressed steel frame, latest, in beautiful new condition; £105.

PALMER.—12h.p. Duryea, 3-cyl., 2-seater, two speeds, artillery wheels; cheap and good; £20.

PALMER.—8h.p. De Dion, swing seat body, seats five, engine under bonnet, solid tyres; £35.

PALMER.—8h.p. Regal, tonneau, seats five, single cyl., wood wheels, direct top drive; £35.

PALMER.—12h.p. M.M.C., tonneau, seats five, 2-cyl., 810 by 90 tyres, very fine bargain; £40.

PALMER.—6h.p. Ridley, 2-seater, single cyl., two speeds, wire wheels, cardan drive; cheap; £20.

PALMER.—12-16h.p. Panhard delivery van, 4-cyl., four speeds, solid tyres, strong body; £65.

PALMER.—18h.p. Prunel landaulet, side entrance, 4-cyl., very fine car for hire; £125.

PALMER.—40h.p. Lorraine-Dietrich, side entrance car, latest model, guaranteed over 60 m.p.h.; £325.

PALMER.—12-14h.p. Humber, tonneau, seats five, 4-cyl., nearly new car, silent, reliable; £85.

PALMER.—10h.p. Panhard limousine, seats six, 4-cyl., Krebs carburetter, wheel control; £100.

PALMER.—16-20h.p. De Dietrich, side entrance, 4-cyl., magneto, hood, screen, perfect; £145.

PALMER.—17-21h.p. Mors limousine, 4-cyl., magneto, pressed steel frame, late model, very silent; £150.

PALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Cars seen here any day; Thursdays and Sundays before 2; photos, details per return; easy terms arranged; exchanges entertained.

8h.p. M.M.C., three speeds, reverse, seats four; £25.

9-11h.p. Peugeot, 2-seater, three speeds, reverse; bargain, £50; smart.

12-16h.p. Darracq, tonneau, three speeds, reverse; worth money, £50.

EXCHANGES ENTERTAINED.—Photos, particulars, 128, High Rd., Tottenham.

PEUGEOT, 10-12h.p., 4-cyls., tonneau, 4-seater, hood, screen, spares; £65.—Stockport Garage, Wellington Rd. N., Stockport.

DE DION, 4h.p., 2-seater, with Cape hood, good running order; £18 10s., worth double.—431, Dudley Rd., Wolverhampton.

14-16h.p. Good Touring Car, side entrance, cheap, or would exchange for good 2-seater and cash.—65, Wellington St., Woolwich.

LEEDS.—4h.p. De Dion car, 2 or 4-seater, fine order; £22; exchanges entertained.—Leeds Motor Exchange, 28, Dock St., Leeds.

6h.p. Oldsmobile Car, seats four; sell cash, or exchange offers entertained.—W. Baylett, Holly Cottage, Burlington Rd., New Malden.

7-9h.p. Oldsmobile, 2 or 4-seater, in good running order, lamps, bell, tools; trial given; £28, or offer.—C/o Knight, Riverhead, Sevenoaks.

9h.p. 2-cyl. V-engined, 2-seated, 1908 pattern Riley, with hood, lamps, tools, etc., tyres like new; £75.—Mann, Egerton, and Co., Ltd., Norwich.

6h.p. O.T.A.V., 2-seater, cost £105 August, 1908, with hood, spare cover, tools; £38 10s., as new; exchange.—W. Searle, 4, Crampton Rd., Penge.

9h.p. Sizaire, racing type, perfect order, hood, lamps, Stepney, speedometer; £105, lowest; 1909 motor cycle part.—Graham, 12, Spring Rd., Wrexham.

SACRIFICE.—10-12h.p. 2-Cyl. Ford, side entrance, screen, hood, and lamps, almost equal to new condition in every respect; £40.—334, Clapham Rd., S.W.

HORLEY Car, 2-seater, 8-10h.p., twin-cyl., White and Poppe engine, high side doors, all in good condition; trial and examination; £85.—Frost, High St., Grays.

4h.p. De Dion, licensed, 2-seater, Dunlop tyres, nearly new, 26 by 3, good working order; £17 10s., or nearest offer; will sell separately, or exchange.—Swinburne, Glanton, Northumberland.

10-12h.p. 4-cyl. Leader Car, two speeds, reverse, thoroughly up-to-date, side entrance, Cape hood, four lamps, painted green; sacrifice £85.—O. F. Halsall, 110, Wilton Rd., Victoria Station, S.W.

9h.p. Peugeot, 2-seater, 2 cyls., three speeds, £39; 10h.p. Star, tonneau, 2 cyls., three speeds, £39; 8h.p. M.M.C., tonneau, three speeds, £29; good tricar, motor cycle part.—20, Potternewton Lane, Leeds.

6h.p. Argyll Car, three speeds and reverse, live axle, seats four, less tyres; £10; M.M.C. engine, also quantity frames, coils, accumulators, tyres, etc.—Fairy Motors, Ltd., Westcombe Hill, Blackheath, S.E.

RENAULT, 10-14h.p., 2-cyl., just thoroughly overhauled, 4-seater, hood, screen, detachable rims, one spare and tyre complete, lamps, accessories, smart, reliable car.—Lacy Hulbert and Co., Ltd., Boreas Works, Beddington.

WOLSELEY, 12h.p., 2-cyl., 4-seater, four speeds and reverse, Dunlop tyres, perfect condition, splendid hill-climber; price £60; would take tricar or motor cycle in part exchange.—Louis B. Davis, 3, New St., Birmingham.

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2½ h.p. MINERVA, handle-bar control	£12 10
3½ h.p. N.S.U., spring forks, magneto	£19 19
3½ h.p. WERNER, used with sidecar	£13 10
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GENTLEMAN'S Handsome 4h.p. M.O.I.V. To Model (V.S.82), dual magneto, accumulator tion, 26in. by 2½in. Peter-Unions, Riches detach live axle, foot clutch, electric light, very low, 14 length; 22 guineas; photo.—North Lodge, Teddington London.

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6h.p. Twin Kerry Engine, fitted with carburetter, control, silencers, etc.; £9 10s.—Allen, 7, Lin St., Stockwell.

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THE MOTOR CYCLE



Vol. 7. No. 337.

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"The Autocar League."

SO many motor cyclists have written to *The Autocar* regarding "The Autocar League" that we feel compelled to address our readers again on the subject for the simple reason that most of the writers appear to be in doubt as to the motor cyclist's position in regard to the formation of the league.

As we have said before, motor cyclists are eligible to join—in fact, they are heartily welcome—and elsewhere in this issue will be found a form for motor cyclists to fill up and forward to *The Motor Cycle* offices.

To those who feel disposed to fill up and return this form to us we should like to point out that the motor cyclist's case will receive our most careful consideration, and only where their interests and those of car owners are identical will they be asked to vote.

On the other hand, motor car owners will not be asked for their vote or opinion on any matters which only affect the interests of motor cyclists.

In a few instances these interests will not necessarily be identical, but we shall know as practical motor cyclists where they are likely to harmonise and where possible discord might arise.

No one will deny that motor cyclists have to a great extent escaped the police attentions, which is one of the evils the league is to combat, in cases where prosecutors become persecutors. The reason they have escaped is probably because those who are out to persecute only desire the money paid in fines, and have not the real safety of the public so much at heart as they would like others to believe. Motor cyclists are seldom wealthy men,

and probably the police and those who instigate quarter-mile traps in ten-mile limit areas are aware of it. On the contrary, those who own motor cars, particularly large and speedy ones, must necessarily be more worth plundering. We all know that motor cyclists have not escaped scot free—some have been most unjustly fined from time to time—but generally the persecuting type of magistrate prefers a £10 fine paid by one wealthy person to ten £1 fines collected from those of more moderate income.

There is therefore hardly the same necessity for the motor cyclist's league in case of police persecution, but there are many other points where combination would prove beneficial, and on these points we think motor cyclists ought to combine.

Assisting Existing Organisations.

ANY combination or league of motor cyclists which we have a hand in organising will not interfere in the slightest with associations already existing; on the contrary, their positions will be strengthened. On any occasion when the opinion of the bulk of motor cyclists would assist the bodies which cater for motor cyclists, we shall be only too glad to render every assistance in our power by showing the secretaries or their committees, through the pages of *The Motor Cycle*, what is the unanimous desire of the members of the league.

Naturally, we shall only ask motor cyclists to vote on questions of vital importance, and, as we have already stated, in no case will they be asked to record their opinions when the matter is not of interest to them as motor cyclists. That the large number of motor cyclists will materially strengthen the

league whenever they are called upon for an opinion is obvious to anyone.

The number of motor cyclists in the kingdom must be in the neighbourhood of 70,000, and if they will adopt our suggestion and combine for the common weal the motor cyclist's condition will naturally be much improved.

The only thing we ask readers to do is to fill up the form, stating the horse-power and type of machine they use, and to give their name and address for entry

in our referendum register. The names and addresses sent to us will not be used for any other purpose than to take a vote on any important matter affecting the rights or interests of motor cyclists, and will not be used for advertisement purposes either in connection with ourselves or anyone else.

We particularly point out that the list will be kept quite private, because many people quite naturally object to the publication of their names and addresses.

MAGNETO SWITCHES.

STRANGELY enough, it is comparatively rare to see a switch fitted to the modern magneto fired motor bicycle. Every magneto of well-known make is fitted with a small screw immediately over the contact breaker adjacent to the spring holding on the brass cover of the make and break. To this screw it is intended to attach the earth wire from the switch, so that when the said wire is connected to the frame by means of the latter the magneto is shorted, and

consequently put out of action. So rare is the fitting of a switch nowadays that we are constantly receiving letters from correspondents who write to ask us if it will do any harm to fit one. Of course, this is impossible, as shorting is the only correct way "to switch off" the magneto. On all machines where the throttle is not a perfectly gastight fit a switch is advisable, as in the event of the valve lifter wire breaking it would be difficult for a novice to stop suddenly.

BROOKLANDS OCTOBER MEETING.

ON Wednesday, the 6th prox., at Brooklands, seven events for cars will be held and two for motor cycles. Particulars of the latter events are as follows:

The Autumn Motor Cycle Handicap, for motor bicycles, the cubic capacity of whose engines does not exceed 500 cubic centimetres. Starters barred. Distance about $5\frac{1}{2}$ miles.

The October Motor Cycle Handicap, for motor bicycles the cubic capacity of whose engines exceeds

450 cubic centimetres, but does not exceed 1,000 c.c. Starters barred. Distance about $8\frac{1}{2}$ miles.

In each event the entrant of the winner to receive ten sovereigns or cup at option, the entrant of the second five sovereigns or cup at option, and the entrant of the third three sovereigns or cup at option. To close September 27th, 1909, at twelve noon. Entrance 10s. 6d., p.p. Twenty-five entries, or the races may be void at the option of the executive; or, if not void, the number and value of the prizes may be reduced.

CONTINENTAL TOURING.

ONE or two queries have reached our office lately respecting the French Customs duties on a motor bicycle and sidecar. It is well known that a member, or affiliated member, of one of the motoring organisations can obtain a triptych which will pass a motor bicycle through the Customs free of charge, provided the machine is brought out of the country within three months from the date of its introduction, but it is not general knowledge that different regulations govern the introduction of a motor bicycle and sidecar. A letter of enquiry addressed by us to the Motor Union has brought the following interesting reply, which we publish for the benefit of those who may contemplate taking a sidecar to France.

- (1.) Customs.
- (2.) Taxes.
- (3.) Licences.

(1.) A motor tricycle is assimilated to a motor car, and will only be admitted into France if the amount of duty be deposited or a triptych issued by an authorised body be produced.

A motor bicycle with a forecar or sidecar is considered as a motor tricycle.

The only distinction made by the Customs between a motor tricycle and a motor car is in the rate of duty applied. For the motor tricycle it is the same as for an ordinary cycle, viz., 220 frs. per 100 kilos., approximately equivalent to 10d. per lb. On a motor car manufactured elsewhere than in the United States of America the duty is at the rate of 50 frs. per 100 kilos., equivalent to £1 0s. 4d. per cwt.

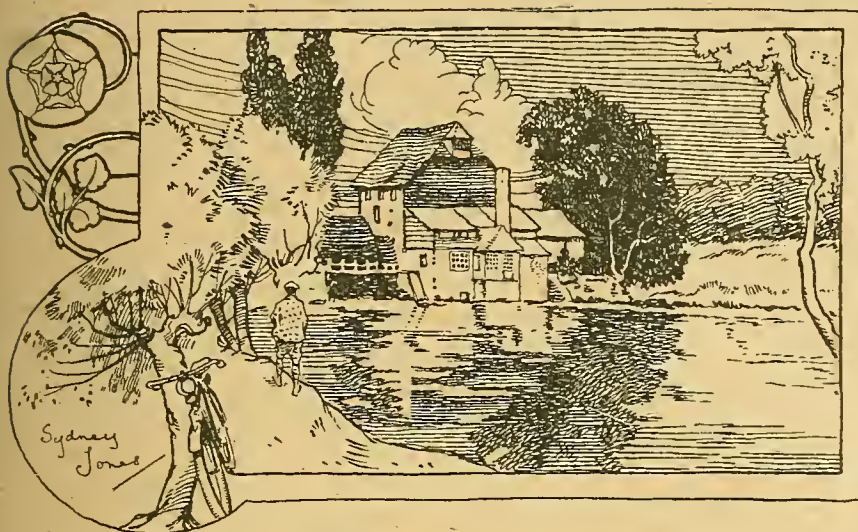
What guides the Customs in deciding whether the cycle duty or the car duty is to be applied is the weight. A vehicle weighing under 125 kilos. (2 cwts. 1 qr. 26 lbs.) is charged at the cycle rate. One weighing 125 kilos. or over is charged at the car rate.

(2.) A motor cycle is exempt from the payment of taxes for a period of three months, provided the owner obtains from the Customs officials on landing a "permis de circulation," for which a fee of sixty centimes is payable.

(3.) The law provides that no motor-driven vehicle (and this includes even motor bicycles) shall be used on the public roads in France without (i.) a certificate of registration, and (ii.) a licence for the driver. The law does not make any exception in the case of foreign drivers. These certificates and licences are granted by the officials of the Service des Mines at the principal ports, and also at the Prefecture of each department.

The certificate issued to the driver of a motor cycle is somewhat different from that issued to the driver of a motor car, but the cost is the same. On every driving licence issued to the owner of a car or motor cycle the Government claims a fee of 20 frs., and there are other subsidiary expenses for stamped paper, etc.

It frequently happens that an English motor cyclist lands in France and goes ahead without troubling to get the prescribed certificate and licence—just as a French motor cyclist or motorist sometimes lands in England without troubling to get his licences. Such a person, however, is not in order, and though it is quite likely that he will not be discovered, nevertheless, if any accident were to happen, he would—at all events in France—immediately be asked to produce his papers, and if he could not do so he would be in an awkward position. The French police agents would probably lock him up pending enquiries.



SYNOPSIS OF THE JUDGES' REPORT ON THE SIX DAYS' TRIAL.

General.

UNDER this heading the judges compare the severity of the last trial (July 5th to 11th) with the trials of previous years. The spirit shown throughout the trials by competitors was excellent, and the judges have only the complaint to make that there was too much mutual assistance, and give warning that they will enforce the rules against friendly assistance next year. They intend also to be more severe on competitors who habitually arrive at or near controls ahead of their time. Penalisation will be more against the machine than the rider, as the trouble arises partly from the difficulty experienced with some makes of throttling them down to run regularly at low speeds. Several regrettable accidents occurred entirely through competitors riding too fast in dangerous places, and their machines were damaged sufficiently to put them out of the trial.

Clothing.

The average general appearance of the riders has never been better, and competitors, with few exceptions, looked less like mechanics than formerly.

Frames.

As was the case last year, the frames, fittings, mudguards, stands, carriers, etc., were in excellent condition throughout the trial. This does not, however, apply to the sidecars, which, with the exception of the Puch, all suffered damage to their frames, and had to retire in consequence. This trouble is due to the fact that most motor cycle frames are not built to stand a sidecar attachment.

Bearings and Free Wheels.

With hardly an exception, these were all in good condition at the completion of the distance. True, there was not a great deal of rain, but there were plenty of trying surfaces to find out weak spots. There is still room for improvement in free-wheel clutches; and the Triumph guard over the hub sprocket is a step in the right direction. More than one rider complained that his pedalling gear was quite useless, it giving a free-wheel both ways.

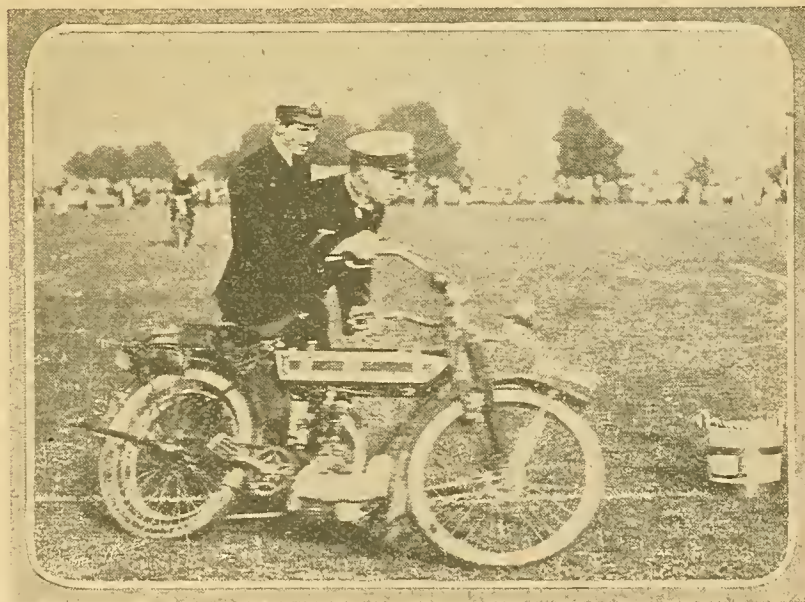
Engines and Tanks.

With a few exceptions, the engines finished in excellent condition. Whilst the majority kept clean throughout, there were one or two which were notably the reverse. It is a point that makers would do well to bear in mind, that exterior cleanliness is an important item, as nothing is more likely to create a bad impression amongst a motor cyclist's friends—some, perhaps,

prospective owners—than the sight of a dirty engine. Several retirements were due to engine troubles, such as a broken connecting rod bearing or crankshaft, timing gear defective, or to weak tanks and tank fittings. With regard to the last-mentioned, the trouble was due to the metal not being stout enough to stand the vibration caused by bad roads, and to the fact that the tanks themselves were not firmly secured to the frame. The one machine fitted with a ball bearing to the big end of the connecting rod retired through the breakage of that special feature. In the case of the broken crankshaft, this was discovered to be due to a flaw which had apparently existed from the time the engine was built.

Transmission.

As in previous trials, the chains on the chain-driven machines came through well. They had no breakages, nor were adjustments necessary, and the chains at the



Lieut. Hart (3½ h.p. Triumph), winner of the potato race at the blue-jackets' sports on Whale Island, referred to on page 659 of the last issue.

finish were barely slack. The team prize was awarded to the Phelon and Moore machines, but it must not be concluded that their success was due to chains alone. Rubber and canvas belts were in general use, although there were several leather ones in evidence which had been cut and trimmed up specially for the hills. Many competitors carried two rubber belts—one the correct length for the higher gear, the other for the low gear for the hills—and changed them when they altered the pulley. The triumph of the adjustable pulley is complete, its use in one form or another

Judges' Report on the Six Days' Trial.—

ing practically universal, and rightly so. There are several types still remaining which are difficult to adjust with tools usually carried on a motor cycle.

Tyres.

On the whole, tyres were less troublesome than formerly, although, singularly enough, as last year, several competitors had all the misfortunes, the rest practically none. There is no question that $2\frac{1}{2}$ in. tyres are advisable for 5 h.p. and over; in fact, for general all-round riding they are an advantage for machines down to $3\frac{1}{2}$ h.p., weighing, say, 170 to 180 lbs. With a heavyweight rider big tyres are particularly necessary. Several competitors had to change their back wheel covers before the conclusion of the trial, the fabric weakening partly on the side and partly on the tread, and commencing to bulge when tightly inflated.

Lightweights.

The sensation of the trial was the splendid performances of the lightweights, and of the Motosacoche in particular. This machine successfully surmounted every hill with occasional pedalling assistance. The Moto-Rêve and Douglas machines had no difficulty keeping up the twenty miles per hour average, whilst the Motosacoche was only once late, and then not through any mechanical failure. A special feature of the Douglas machines was the normal condition of cleanliness of the exterior of the engine.

Silencers.

The judges this year, as an experiment, permitted the fitting of relief ports on silencers, but they did not permit anything in the nature of a cut-out on the exhaust pipe. With the exception of one make of motor cycle, the silencing in general was good, though still a long way short of the really quiet mount. Amongst the quietest machines in the trial were the Douglas, the Indian, and the Triumph.

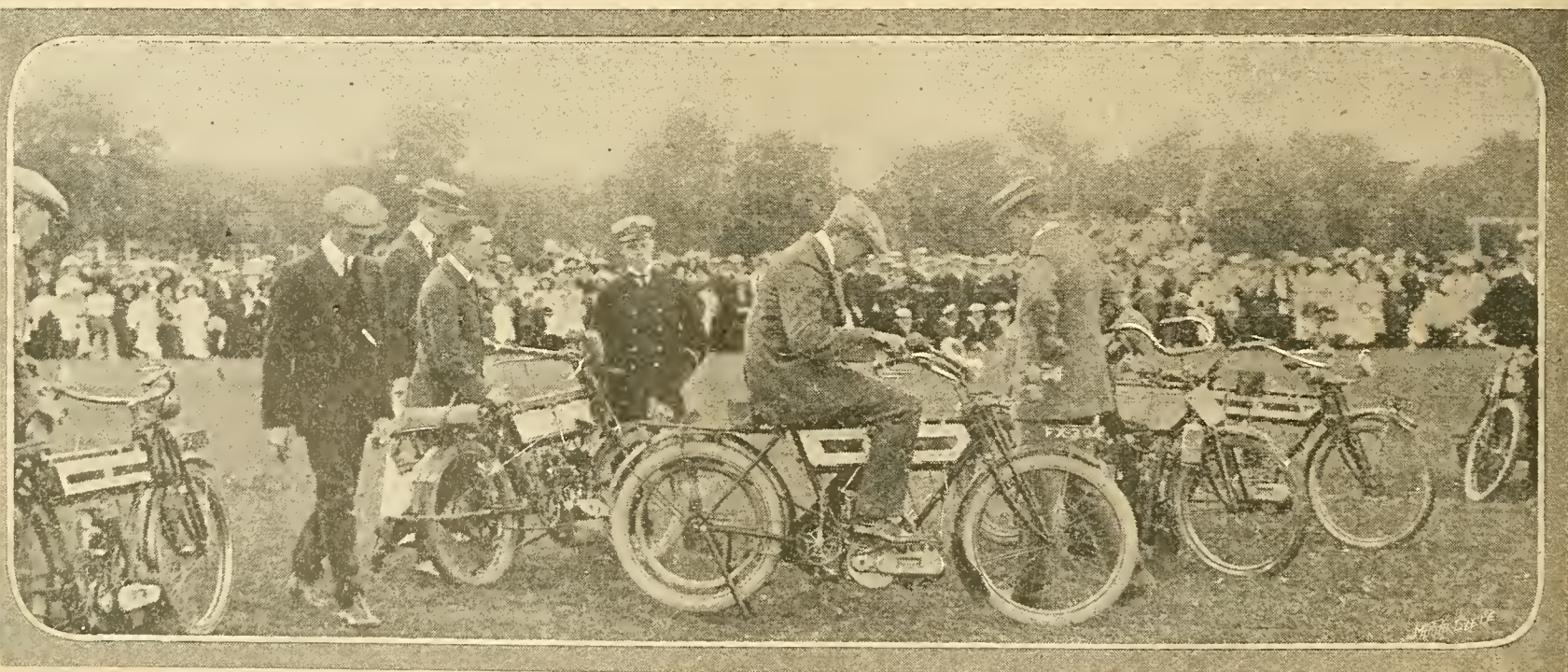
Free Engines and Variable Gears.

The Triumph free engine clutch, of which there were one or two in the trial, is a simple and practical

fitment, which with a little slipping will start the machine on quite a respectable gradient. The back hub contains a miniature multiple disc clutch running in oil, as in the case of a car clutch, the extra weight in the back hub being about 10 lbs. The Mabon clutch is a somewhat similar contrivance, readily fitted to the engine-shaft. They completed the trial satisfactorily, and were in good condition at the finish. Amongst the variable geared machines the P. and M.'s came in for a great deal of attention. With the exception of one member of their team of three the hill-climbing was good—never exceptionally fast, yet with an ample reserve for emergencies. The Zenith-Gradua gear handled by one rider did very well, but the other machine of the same make was not so successful. The latter had a smaller engine, which may have accounted in part for the difference. The Humber two-speed gear made on the Roc principle would have shown to better advantage had there have been less trouble with slipping belts. As a matter of fact, the belt rims and pulleys on this make are too small—a defect which is in course of being rectified. The clutch operating the low gear required too frequent adjustment, and this defect also has since had the attention of the makers. The judges are of opinion that the spread of motor cycling depends on silence, comfort, ease of starting, and ability to climb hills under *all* conditions. They regret that there were not more variable geared machines entered; also greater variety. Motor cycles now occupy the same position that "push" cycles filled some years ago when free-wheels and two-speed gear hubs were scoffed at.

Ignition.

The Bosch magneto was practically universal, and gave no trouble. The Triumph magneto guard is an effective protection from wet and mud, but it requires the exercise of care in going up and down steps and kerbs to avoid damaging the underpart. Whilst manufacturers will persist in fitting the magneto in a low position forward of the engine protection will be necessary, or unsightly thick grease must be smeared



Motor cycling is extremely popular with officers of His Majesty's Navy. The above riders were competitors in the potato race at the sports on Whale Island. The contestants had to ride to the top of the track, take a potato from a table, and return and drop it in a bucket.

Judges' Report on the Six Days' Trial.—

on the terminals. A better position is undoubtedly required for the magneto where it will be free from wet and dust.

Lamps.

The regulation that required competitors to carry a motor cycle lamp and generator complete throughout the trial proved exceedingly valuable, for, as last year, there was a crop of damaged lamps and broken brackets, but not so numerous as formerly. The proportion of failures to successes was considerably less, showing that improvements have been effected. The chief weak points were the front hinged frame and glass and the loop at the back that slips on to the bracket on the machine. The failure of the brackets was simple; they just snapped in half, more often than not because the lamp was heavier than a motor cycle lamp need be. There was no opportunity on the present occasion to test the efficiency of the lamps, but this may be provided for next year in the Six Days' Trial.

Accessories and Novel Fittings.

The general appearance of the machines of several competitors was improved by carrying spare belts and tubes in suitably designed and specially constructed leather bags. These preserved the spares in good

condition, and they were ready for immediate use when unpacked, which was a matter of a few moments. The Bradbury machines were fitted with a useful arrangement to facilitate tyre repairs to the back wheel. The whole of the back mudguard from the seat stays to the number plate, together with the back carrier and its stays to the hub, could be removed in two or three minutes by undoing two pairs of butterfly nuts. Two useful tyre protectors were to be seen, and both gave immunity from punctures to the fortunate possessors. One was a steel band clipped to the mudguard stays and closely encircling the tread of the tyre. The other was a flexible guard suspended from the crank bracket and hanging just in front of the back wheel, almost touching the ground. The idea is that the nail tipped up by the front wheel as it goes over it stands up on end long enough for the back wheel to run up against it. The protector hanging from the bracket sweeps it away, or at least knocks it down again where it can do no harm. An interesting novelty fitted to the Advance twin-cylinder machine was a pedal operated exhaust valve lift. This fitting has its special advantage on high powered twin-cylinder motors of relieving the strain on the hand.

The judges were J. W. G. Brooker, H. G. Cove, A. Geo. Reynolds, and Archibald Sharp.

A CRITIQUE OF THE REPORT.

By B. H. DAVIES.

THE judges' report of the 1909 Six Days' Trials suffers, in my opinion, by comparison with the similar document of 1908, which was a complete novelty, both in respect of frankness and practical commonsense. However, it is instructive reading, and adds to the obligation under which the gentlemen who sign it have already placed us by their indefatigable and efficient labours in the trial itself. I make the same general complaint about it which I uttered last year—what a pity it is not even more frank! We poor journalists, with the terrors of the libel law hanging over our heads, dare not write half we know or a quarter of what we think. A single clause in the entry agreement would enable the A.C.U. judges to be absolutely outspoken, and from what I know of the sufferings of certain private owners with various details here obscurely criticised, I cannot but think that to name offending machines and offending details of otherwise good machines would be for the public weal. Those responsible for the faults would have to mend them swiftly, or lose their business, and, what is more, they would mend them, and would take energetic steps to show us they had done so.

Hardy Annual Faults.

This does not apply to every offending machine or offending detail, some of which will certainly be reformed before next year's trials; but certain faults reappear annually on the same machines with sickening consistency, yet the machines are only mentioned, and not named, in the report. There is, for instance, the machine with the adjustable pulley of the Sandow-with-a-crowbar type, perpetuated because its makers will not pay royalty on a clever patent or evolve a sound device of their own. There is the permanent free-wheel both ways, which has distinguished certain machines since the year 1 of the motor cycling era. There is the

irremovable back wheel, the inaccessible cylinder or carburetter, the dicky, frictionful brake, the flimsy lamp bracket, the inefficient front fork, the cuss-provoking stand, the unprotected magneto, etc., etc. All these have been hardy annuals on one machine or another for several years past. All who have owned the guilty machine know about them; we journalists know about them. We cannot tell the public because of the libel laws, and the disgusted purchasers can only tell a small circle of acquaintances. If these defects were specified and named, the public would bless the men who told them. However, the number of these faulty details is being annually reduced, and perhaps by the time the A.C.U. sees its way to be absolutely outspoken, none of them will survive.

The motor cyclist's outfit is pretty well covered in the report, together with threatenings of extra stringencies for 1910—not a day too soon, either. I hope the General Committee will see their way to adopt stricter time rules, as foreshadowed, for next year.

A Most Important Omission.

There is only one serious omission in the report, and that relates to comfort, which is only mentioned in connection with big tyres. Spring frames were chiefly conspicuous by their absence, and the most successful machines were not always comfortable. The spring fork on one make was either screwed up till devoid of spring, or else required frequent lubrication. That on another make caused the rider's hands to "dither" perceptibly and violently all day long, and clashed frightfully over bumpy roads. Two makes of spring fork competing were so obviously and immensely superior to all the other brands that they certainly deserved special commendation. As the judges estimate that comfort is one of four conditions needed to ensure a vast increase in the popularity of motor

Judges' Report on the Six Days' Trial.—

...ing, this omission is rather surprising. Every experienced motor cyclist will endorse their remarks upon the need of easy starting and the ability to climb steep hills under *all* conditions, both of which imply a variable gear. As a matter of fact, the easy starting was universal this year, and the hill-climbing notoriously bad. I think the fact that not a single machine proved chronically difficult to start might have been mentioned, as one of the great advances upon 1908; and also the fact that what successful hill-climbing was witnessed was usually obtained by playing about with the carburettors, cooling down the engines, and either changing belts or adjusting pulleys. Few machines tackled the test hills on the run without reparation.

In conclusion, if I may arrogate without any mandate the position of spokesman for the amateur

motor cyclists of the country, we are all jolly grateful to the A.C.U. judges. They must often find their task a thankless one, as they come into closer contact with those they seem to oppress than with those they benefit; and we whom they benefit so enormously are unkind enough to offer many criticisms, just because their task is so important, and because we owe them so much, that we want to owe them even more. We ought to hold an annual dinner, at which we could give them all a very hearty vote of thanks for their most arduous and completely honorary labours, and for the efficiency with which those labours are performed. But as we do not get that opportunity, I have the pleasure to propose on paper a very hearty vote of thanks to them all, coupled especially with the name of A. G. Reynolds, who, I am gratified to hear, is practically recovered from the nasty accident he met with when watching over our interests.

ANOTHER END-TO-END SIDECAR RECORD.

FOR less than a month the Land's End to John-o'-Groat's sidecar record, established by Vivian Olsson on a 7 h.p. V.S. and Millford sidecar, has been allowed to stand. Arthur W. Bentley, who held the motor bicycle End-to-end record for nearly twelve months, is the new claimant to the title of record holder, he having clipped 6h. 7m. off V. Olsson's time. A. W. Bentley started with his brother Horace as passenger on Monday evening of last week at 7.50 from John-o'-Groat's, reaching Land's End at 6.57 on the Thursday morning, the total time occupied being 59h. 7m., as compared with the original record of 65h. 14m., which has stood since August 7th last. J. Robertson, of Wick, held the watch at the starting point, J. Taylor, of Penzance, being the timekeeper at the English end. As is usual in present day record attempts, the vital parts of the machine were sealed before the start, *The Motor Cycle* being invited to perform this ceremony. Bentley's mount was a 5 h.p. twin-cylinder two-speed 1909 Rex, with Millford sidecar. Some details of the machine will be of interest. The ignition was Bosch magneto, the tyres Shamrock Excelsior, belt Shamrock-Gloria, saddle Lycett, carburetter Brown and Barlow, while the illumination at night was entrusted to a pair of Lucas lamps. The weather was by no means favourable, but suitably clad in oilskins and sou'-westers, the record breakers manfully battled the elements. The wet weather was the cause of belt troubles, and naturally rendered the ride much more arduous, particularly with a sidecar and passenger.

The following telegrams sent to the Rex Co. and submitted to us will serve to show the progress made by the brothers Bentley:

WICK. 9.1 p.m., Aug. 30th.—Bentleys left Groat's at 7.50 p.m.—(Signed) Robertson.

INVERNESS. 10.30 a.m., Aug. 31st.—Bentleys left here 4.45 a.m.—(Signed) Palace Hotel.

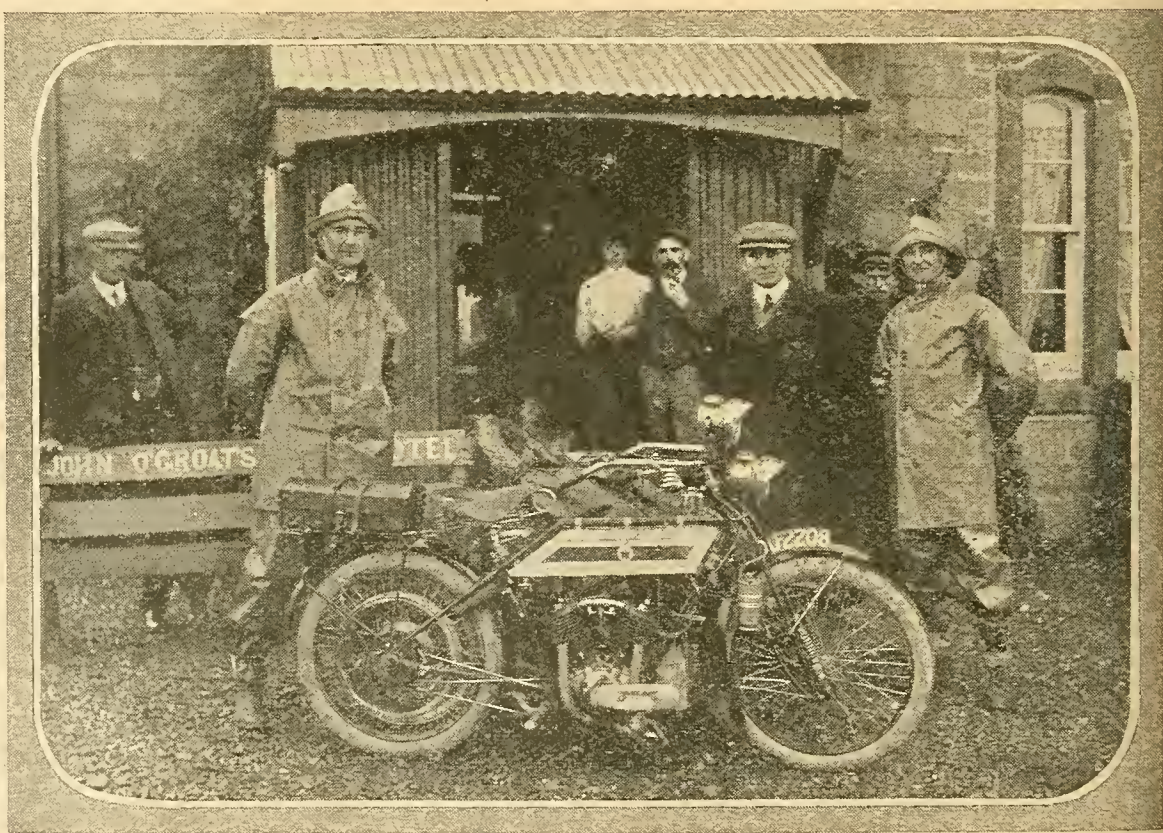
PERTH. 11.38 a.m., Aug. 31st.—Bentleys left 11.30. Rain all way.. Belt troubles.—(Signed) Lindsay and Fenwick.

LOCKERBIE. 5.50 p.m., Aug. 31st.—Bentley left 5.45 all right. Chinn met him.—(Signed) King's Arms.

WARRINGTON. 8.37 a.m., Sept. 1st.—Bentley, Moorhouse, and Chinn left Warrington 3 a.m., going well.—(Signed) Francis.

TEWKESBURY. 1.41 p.m., Sept. 1st.—Bentley left 1.30 p.m. Machine going well.—(Signed) Charles.

BRIDGWATER. 6 p.m., Sept. 1st.—Bentleys passed through six o'clock, going well.—(Signed) Moorhouse.



Arthur W. Bentley (on right) and his brother Horace ready to start from John-o'-Groat's Hotel in an attempt—which proved successful—to beat the End-to-end sidecar record. The bicycle will be recognised as a 5 h.p. twin-cylinder two speed Rex

WELLINGTON (Somerset), 7 p.m., Sept. 1st.—Bentleys left Wellington 6.45, going well.—(Signed) Stone.
 TAUNTON, 8.10 p.m., Sept. 1st.—Left Taunton 6.25 and Wellington 6.45, going well.—(Signed) Stone.
 EXETER, 9.14 p.m., Sept. 1st.—Bentley left at 9 p.m.—(Signed) Lord.
 EXETER, 9.39 p.m., Sept. 1st.—Bentley left nine to-night, going well.—(Signed) Moorhouse.
 PENZANCE, 9.50 a.m., Sept. 2nd.—Bentleys arrived Land's

End 6.57 to-day.—(Signed) Taylor.

As these pages went to press Bentley had not returned from Land's End with his machine, so as yet we have been unable to examine the seals we placed on the machine. We have no doubt, however, that they will be intact. If Mr. Bentley arrives back in time, some further reference to the ride may appear on our centre pages.

OCCASIONAL COMMENTS.

By "IXION."

Colonial Models.

I was considerably surprised last week when inspecting a batch of British-made motor cycles on the eve of being shipped out to one of our colonies to notice two grave defects about them from the colonial rider's point of view. They had vital parts of the mechanism within about 4in. of the ground. I should have thought that by now the veriest novice maker knew that in most of our colonies big boulders and large stones are pretty freely strewn about the roads, and that such things as magneto brackets and engine crank cases ought not to be placed where a big stone is sure to hit them. The other point may be more debatable, though I do not think so. They all had rubber belts. Three facts militate against the efficiency of rubber belts in the colonies. The extreme heat causes them to perish before they are worn out.

Water splashes are by no means uncommon in almost every colony, and in some the machine has frequently to be pushed through a "drift"; in both cases a rubber belt will not grip until it has been dried. Lastly, roads are less carefully graded than here, steep ascents are frequent, and small engine pulleys are essential. A rubber belt will stand a small pulley for a brief period, *e.g.*, temporarily in an A.C.U. trial to climb Dinas or Festiniog. But let any reader try to run a fairly wide rubber belt on a small engine pulley continuously, and he will soon discover that, owing to its failure in flexibility, as compared with a built up leather belt, it has to be run very tight, or it will be perpetually slipping; and as soon as a rubber belt is run continuously in an extremely tight condition, the pulling through trouble commences. In addition, rubber belts will break up sooner on small diameter pulleys. I deal with these points, in the hopes that makers will tumble to the situation and save future purchasers some of the aggravation experienced by those who have been through the mill. Rubber belts are magnificent for home use, but if we had to use very low gears in a tropical climate the rubber belt makers would soon find their occupation gone.

The Private Owner of Many Machines.

I long ago abandoned as hopeless the task of distinguishing the genuine private owner. There is no absolutely certain mode of procedure which can enable any official or club to weed out the shamateur from

the private owners' classes. But the impossibility of drawing an absolutely hard and fast line need not deter us from approximate segregation. And in this connection I should like to confess I am rather puzzled by two or three instances. I see men riding as private owners who bring out a different machine every week—in some cases even a different make of machine every week. I see others figuring as private owners whom I know perfectly well to be engaged in the motor trade, and not unconnected with the interests of the machine which they bestride in competition as private owners. I even remember one instance of a rider's photograph appearing in a motor journal as the winner of a private owner's special prize when he was interested to the extent of about £2,000 in the machine he was depicted with, and that not as a shareholder, but as a principal!

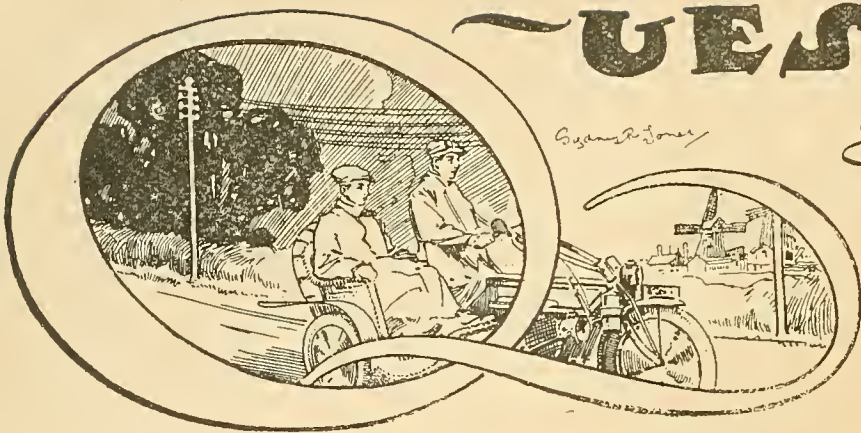


Whittington-in-Lonsdale, North Lanes., is a village of 150 souls, and boasts five motor cyclists. From left to right they are J. Watson (3½ h.p. Excelsior), F. Middleton (3½ h.p. Triumph), J. Jenison (2½ h.p. Minerva), T. Jenison (3 h.p. Triumph), and Rev. J. Hodgkin (4 h.p. N.S.U.)

I think some of our clubs want waking up in this respect. The amateur rider is taking a very enthusiastic interest in the sporting side of the hobby just now, and the cleaner we can keep the sport, the better it will be for the trade themselves in the long run. A big win by a doctor, a lawyer, a parson, or other obviously amateur owner, does a firm more good than twenty wins with a mechanic up. I think it would be rather a sound plan if a table of the professions followed by the successful riders in the next 1,000 Miles Trial were published. I recommend the idea to our friends of the A.C.U., who, of course, are quite as interested as I am—if not more so—in keeping the pastime as pure as possible.

QUESTIONS

AND REPLIES



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Noisy Valve Tappets.

? Would you kindly inform me how I can stop the click of my valve tappets? My machine is a $3\frac{1}{2}$ h.p., 1907 pattern. It runs splendidly. When I wheel my machine along the tappets drop with a loud clack, which is very annoying. The tappets lift direct off their respective cams. If you could suggest a remedy I should be much obliged.—R.D.S., Puckeridge.

The noise is caused either by the tappets striking the bottom of the



SOME ENTRANTS FOR THE TOURIST TROPHY.

J. F. Jones (Pwllheli), $3\frac{1}{2}$ h.p. T.T. Triumph, Bosch magneto, Dunlop tyres.

valve stems, or the valves falling suddenly upon their seatings. The amount of noise depends on the shape of the cams. You can reduce the noise by brazing or fitting a cap on the tappets, thus reducing the distance between tappet and valve. If, however, the trouble is due to the shape of the cams there is little or no cure. One way to reduce noise is to fit fibre discs to the top of the tappets. Rather a difficult job in the case of a motor cycle, and the fibre would, we are afraid, soon wear. Light springs under the tappets holding them gently up to the valve stems will reduce the noise to some extent, but great care is necessary to get the right strength of spring, or it will interfere with the rapid and perfect closing of the valves, a most important point in the case of high speed engines.

Continental Touring.

? I propose at the end of this month to go with a friend touring in the South of France on motor bicycles. I understand that there are a number of formalities to be gone through prior to the introduction of a motor bicycle into France. Perhaps you would be kind enough to tell me if there is any means whereby one can avoid passing the driving test on arriving in France.—COSMOPOLITAN, Gloucester.

The best way to get over the difficulty is to become a member of the Auto Cycle Union or Motor Union, which will allow you to have access to the well-organised touring departments of these organisations. You will then be able to take your machine into France without paying any deposit, and have your licences procured for you and most of the formalities gone through before you leave England. (See page 663.)

Change Speed Gear Slipping.

? I have been having trouble with the gear of my P. and M. through the oil getting on the rings. Last month I pumped some thick graphite grease into the recesses of the rings. Since then it has been slipping very badly, although I have taken the gear to pieces and cleaned out the grease and put some Price's thick yellow in, but after the first mile it was just as bad as ever. The gear does not appear to be worn at all, but the wedge bars do not expand the rings to their fullest. Can you suggest a remedy? Do you think filling the recess of rings fully with grease would be the cause of grease getting on the rings, or should the rings be only half filled? Would you recommend Fuller's earth being put on the rings?—OK 15.

First of all, note the range of your change-speed lever. If this is excessive it seems to point that the wedge bars are hardly thick enough, and do not expand the rings properly. If, however, the range is short, this is not the case, and if you again wash out the expanding rings and their surrounding races with petrol thoroughly and put in fresh grease, we do not think you will find the trouble recur. Fuller's earth is not necessary. When changing speed raise the exhaust valve lifter till the engine has quite slowed down and then engage. This should also help to cure the trouble.

Belt Turning Over and Loss of Power.

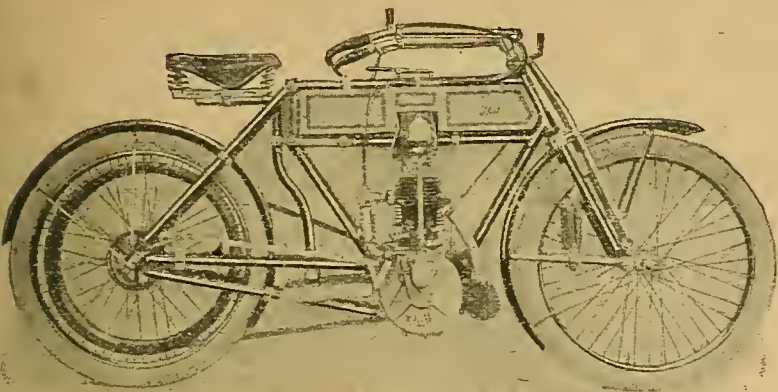
? Can you explain the cause of a rubber belt turning over in the belt rim? I have reversed it and cleaned it and had the engine pulley trued. I have a one year old $3\frac{1}{2}$ h.p. Fafnir engine, accumulator ignition, governed on the inlet valve. When new, it used to climb anything on half throttle, but always overheated considerably. This I attributed to a 6in. wide mudguard to front wheel, which I had fitted to enable me to keep



W. O. Bentley (Hampstead), $3\frac{1}{2}$ h.p. Rex Speed King, Bosch magneto, Brown and Barlow carburetter, Dunlop tyres.

myself clean. I use machine for business purposes. Now it will not do more than twenty miles an hour on full throttle, and fails on every hill. Engine has a B. and B. carburetter. I have fitted new exhaust valve spring and opened holes in the silencer. Engine is clean, and there is no carbon on piston. Compression is perfect. I use Vacuum oil, and have always done so. Have tried everything in "Hints and Tips," and have asked a number of riders. Can you tell me how to make a gauge to try the pulley groove, to see that it is kept at the correct angle? Shall be glad of your help.—B. S. WRAGG, Battle.

The pulleys are either out of line or groove in rear pulley is too vertical on side nearest spokes; also when the engine pulley was trued the groove may have been altered in angle or made too

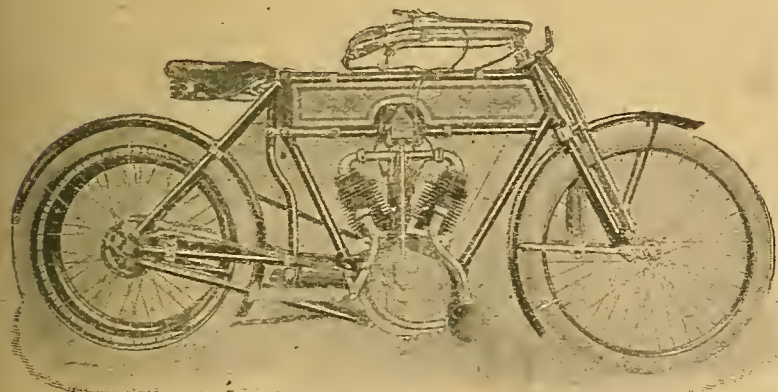


3½-4 h.p. Single-cylinder, £47 10s.

THE BAT

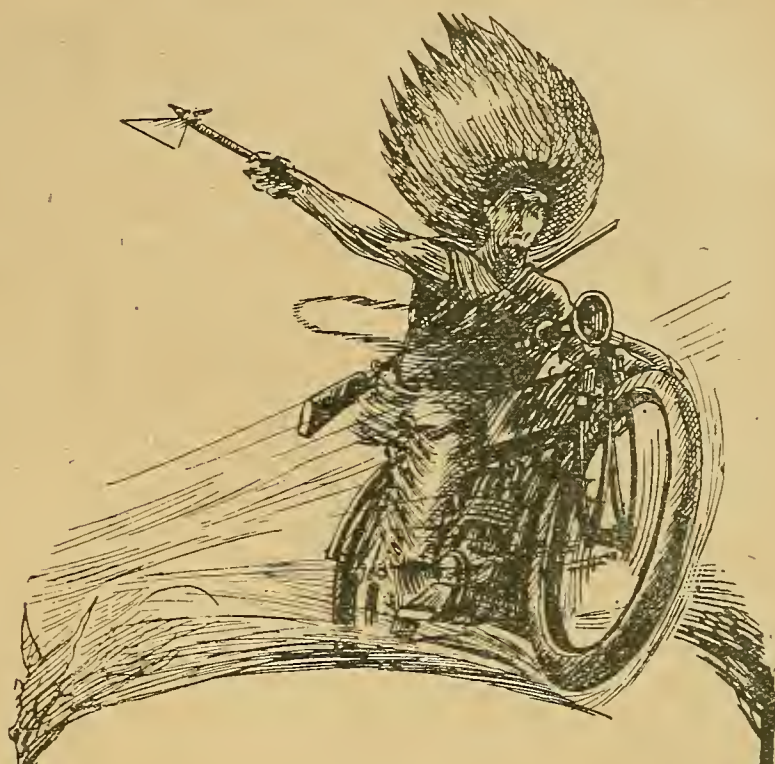
is fitted with **SPRING FRAME AND SPRING FORKS**, in which ball-bearings are utilised to minimise friction, and the contrivance is so efficient as to enable riders to undertake long journeys without that tired feeling (caused by excessive vibration present in most motor cycles). It is fitted with **AUTOMATIC LUBRICATION**, which is entirely self-feeding and perfect in action, allowing no excess or deficiency of oil, but a continual and perfect feed at all engine speeds. J.A.P. engines are fitted to all models, which are the most perfect engines made. **BOSCH MAGNETOS** are fitted and driven by bevel-gear shaft, mounted on ball-bearings. The magneto is fitted above the engine in the tank, and entirely protected from all wet and dirt, and every other component part is specially selected for its particular function, and the whole has been aptly termed "**THE PULLMAN CAR OF MOTOR CYCLING**." It must not be taken that, as the **BAT** has beaten all single-cylinder records (**59½ MILES IN THE HOUR**), it is purely a racing machine. This would be erroneous, and has been disproved in the **1,000 miles RELIABILITY TRIALS**, from which it emerged gaining **THREE GOLD MEDALS AND SILVER CUP**. In these trials its tremendous reserve of power was exhibited on all the hills, and freely commented upon in the press. **FASTEST TIME OF THE DAY** was made by the **BAT** at the **SUTTON BANK, ASTON, AND BRADFORD OPEN HILL CLIMBS**, and yet the **BAT** can be driven slowly through the densest traffic, or round the trickiest corner with ease.

THE BAT MOTOR MANFG. CO.,
Penge, London.



6-7 h.p. A.O.V., £53.

7-8 h.p. M.O.V., £60.



The
**Indian's irresistible
rides to victory**

accomplished by
the aid of

BOSCH MAGNETOS.

Hendee Manufacturing Company,
12, Fieldsway House,
Highbury Crescent, N.

Dear Sirs,

August 13th, 1909.

It may interest you to know that the "Indian" motor cycles, which have been so successful in speed and reliability trials this season, are fitted exclusively with the Bosch magneto ignition, and I think have very effectually proved that the magneto is in every way more suitable for high speed as well as reliability than the old type of coil and accumulator ignition.

What I consider a most marvellous feature about your D.A.V. type machine is that there is absolutely no misfiring or irregularity in the running of the engine when they are speeded up to over 5,000 r. per m. in the testing room.

It was suggested to me last spring when in America that I might find for track racing the coil and accumulator to be faster, but I am pleased to state that these same machines fitted with the Bosch magneto have made faster times in this country than they have ever made in open competition in America fitted with coil and accumulator.

Yours truly,
(Signed) W. H. WELLS.

**INSIST ON BOSCH FOR YOUR MOUNT
AND RESOLUTELY REFUSE IMITATIONS.**

THE BOSCH MAGNETO CO., LTD.,
23, Store St., London, W.C.

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In answering these advertisements it is desirable to mention "The Motor Cycle."

At the Journey's end

there is no item of Touring Equipment which will be more keenly appreciated than the

BROOKS CARRIER BAG.

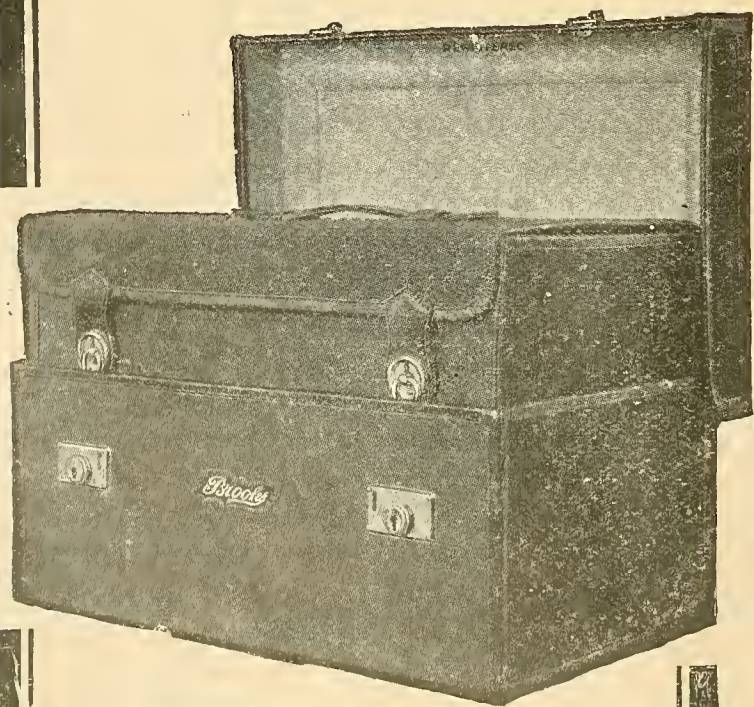
This has been designed for general all-round service—it is made of the finest waterproof canvas on special fibre board—is roomy, strong and light, and fitted with a special dust-excluding arrangement.

A unique feature is the removable inside case which, "at the journey's end," can be lifted from its outer covering with the absolute certainty that both the Bag and its contents, are perfectly clean and dustless.

It is attached to the Carrier by means of adjustable and detachable clips and, to the rider who studies comfort and convenience, it will prove of the greatest value.

Write us now for particulars. Dept. B45.

**J. B. BROOKS & Co., Ltd.,
BIRMINGHAM.**



BROOKS

Motor Cycle Carrier Bag
with removable inside case.

27/6

Supposing

the Saddle is not a Brooks, it cannot yield that perfect comfort which is essential to the success and enjoyment of your Tour, because it cannot embody those exclusive features which make perfect comfort possible. Take one only—the

BROOKS PATENT COMPOUND SPRINGS

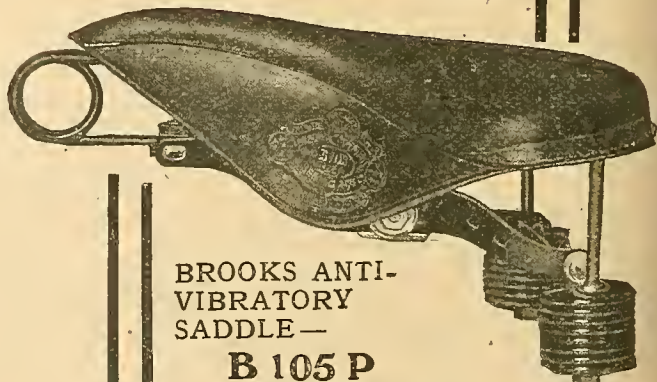
as fitted to every model of the

BROOKS ANTI-VIBRATORY SADDLES & SEATS

These absorb vibration as none other can, and totally eradicate all tendency to bounce—That means a saddle of perfect ease—a seat of perfect luxury, and—Remember, that is only one of the merits which make for its superiority—

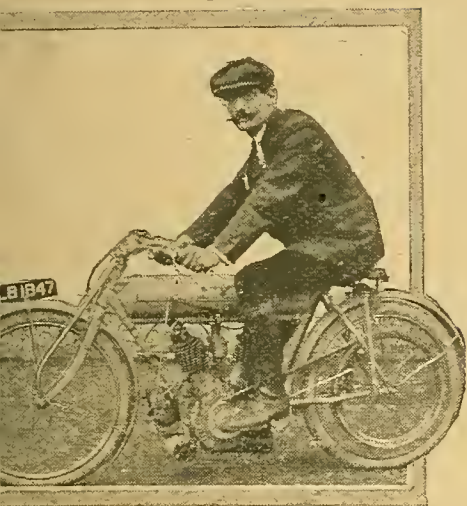
There are many others, and you should learn more of them by a study of our Saddle Manual, which we will send you free.—Dept. B45.

**J. B. BROOKS
& CO., LTD.,
BIRMINGHAM.**



**BROOKS ANTI-
VIBRATORY
SADDLE—**

B 105 P
with padded top.



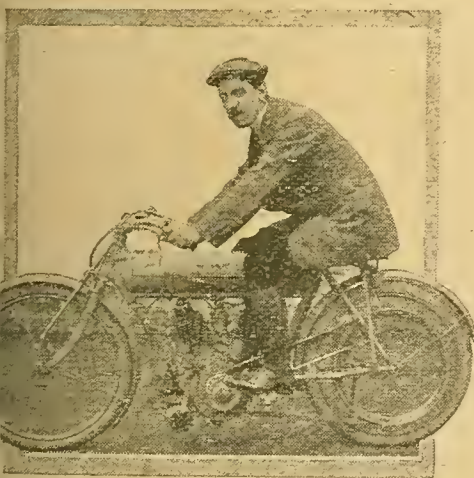
Winner in 1907, C. R. Collier (Plumstead), 5 h.p. twin cylinder Matchless-J.A.P., a.c.i.v., Bosch magneto, Longuemare carburetter, Dunlop tyres.

low. Each or all would account for belt turning over. Better verify obtain new engine pulley and belt. It is difficult to account for the ng off in power and overheating of engine, unless valve gear is worn valves do not lift sufficiently, particularly exhaust valve. Any of the known belt makers will supply you a tin gauge to test the correct le of the groove in the pulleys. Try ett's or O. and W. Ormerod, Ltd.

Engine Braking.

As a novice in motor cycling and a new subscriber to your paper, I should be obliged if you would give me information on the following: In a recent issue of *The Motor Cycle* you informed an enquirer that if he closed the throttle and cut off the supply of gas to the engine, the engine would act as a brake in descending hills. Could you explain to me how the engine thus acts as a brake; also will not this cutting off the supply of gas stop the engine and necessitate a restart at the bottom of the hill?—W.E., Abbeystown.

The engine acts as a brake when the throttle is shut, because it ceases to propel the machine, its compression and internal friction retarding the progress of the machine. Before reaching the bottom of the hill the current is switched on or throttle gently opened, and, of course, if everything is in order the engine commences to fire again and propel the machine.



Winner in 1907, C. R. Collier (Plumstead), 5 h.p. twin cylinder Matchless-J.A.P., a.c.i.v., Bosch magneto, Longuemare carburetter, Dunlop tyres.

Misfiring due to Contact Points or Coil.

My mount is a $3\frac{1}{2}$ h.p. N.S.U., with accumulator ignition and plain coil, and have not been troubled before with misfiring, to which it has lately taken a fit. I have tried everything, and find after cleaning the tips of make and break that it runs well for about ten or fifteen miles, then starts misfiring badly, which I think is due to a deposit of something like solder on the ends of platinum tips, not black or pitted. I have tried adjusting them to touch as lightly as possible, but the engine will not fire at all unless they touch heavily. I have filed tips before, so do not think they were only capped with platinum.—F.E.E.

It seems most likely that the points require new tips of genuine platinum or iridium, but the trouble may be due to the failure of the condenser in your coil. We should advise you to lay the trouble before the N.S.U. Co. Try another coil on the machine; it will soon tell you if the last mentioned trouble we have suggested is the fault.

A Machine for Sidecar Work.

I am in doubt as to whether to purchase a single two-speeded machine or a twin two-speeded machine. I am a good amateur mechanic, and can manage a single-cylinder machine easily. Do you, or do you not, consider that the extra complication and weight of a twin would be more than counter-balanced by the additional smoothness of running and consequent extra comfort of a twin? I ask this because writers appear to think that the modern single is jerky. My present mount is a 1906 $3\frac{1}{2}$ h.p. single-cylinder Quadrant. I want comfort and sufficient power for all hills with a two-speed gear when used as a solo. Do you think a single with two-speed gear would be powerful enough to take a sidecar over hilly country at a reasonable speed?—C.W.

As you intend using a sidecar we have no hesitation in recommending a twin. Of course, a single-cylinder would do very well, but you want the maximum amount of power possible for a passenger machine in a hilly country. We do not think you will find the modern twin to be too complicated for you.

Speedometers, Clutches, etc.

I should be much obliged if you would give me your valuable advice on the following: I have just bought a 3 h.p. Triumph, second-hand. (1.) Do you recommend the use of a speedometer? (2.) Is a clutch a great advantage for other purposes than traffic driving? (3.) Can you recommend Motor Union for motor cyclists? (4.) How often ought oil to be pumped into the crankcase? (5.) Do you recommend a spring seat-pillar?—E. DEWAR, Perth.

(1.) Yes, a speedometer is most useful in these days of police traps and persecution. (2.) A clutch is of great advantage for starting and in traffic, but a variable speed gear is more use-



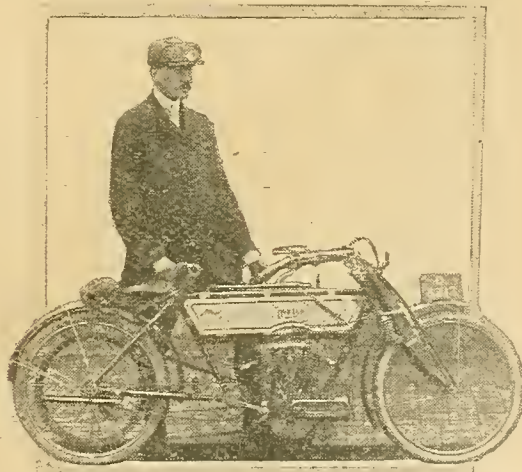
H. V. Colver (Plumstead), $3\frac{1}{2}$ h.p. Matchless-J.A.P., m.o.i.v., accumulator and coil ignition, Longuemare carburetter, Dunlop tyres.

ful. (3.) The institution mentioned is quite satisfactory, and has a section devoted to motor cyclists. (4.) We should oil the machine mentioned in your letter to the extent of about one pumpful every fifteen miles. (5.) A spring seat-pillar is highly recommended provided it does not increase the height of the rider's saddle.

Belt Fasteners Pulling Through.

I have been using 3in. rubber belts, and I have been troubled by fasteners pulling through. I have not had much experience of leather belts. Could you tell me if they would be likely to give less trouble? I am not a speed merchant, but want all-round service and reliability. I should not mind the scraping and oiling processes, which, I understand, leather belts require. I suppose also leather is harder on the pulleys. Taking everything into consideration, should I get better wear and freedom from breakage with a leather belt?—H 3266.

You will find that a first-class leather belt will last longer than a rubber belt, but it entails more trouble to keep in order. It must be periodically scraped free of grit, and then dressed with Collan or some suitable oil. A leather belt is hard on the pulleys if it is allowed to get gritty. Certainly, you should have freedom from breakage with one.



S. C. Perryman (Birmingham), 5 h.p. Twin Norton, m.o.i.v., 75×84.5 mm., Bosch magneto, E. and B. carburetter.

CURRENT CHAT

Time to
Light Lamps

SPECIAL FEATURES

"THE AUTOCAR LEAGUE."
THE JUDGES' REPORT ON THE SIX
DAYS' TRIALS.
THE T.T. RACE WEEK.

Sep. 8..7.31 p.m.

,, 11..7.24 ,,

,, 15..7.15 ,,

Six Months Index to "The Motor Cycle."

A very complete index to *The Motor Cycle* from January to June is now ready, price 3d. Subscribers will find a copy inserted with each issue.

A Good Warning.

A good warning of the furlong 15 m.p.h. at Bromley, Kent, the other day, was provided by the word "trap" written in white tyre paint across the tarred road at the top of Bromley Hill. It was so effective that the police relinquished timing.

Inland Revenue Licences.

We may remind new readers of *The Motor Cycle* that motor vehicles on which Inland Revenue licences are taken out during the last three months of any year are only subject to half the usual licence fee, so that, from October 1st till December 31st the Inland Revenue licence for motor cycles will cost 7s. 6d.

The Autocar League.

The attention of readers is called to this week's supplement referring to "The Autocar League." We urge all motor cyclists to sign the slip at the foot of the form and return to us, as by so doing the league will be able to safeguard the interests of motor cyclists in addition to those of autocarists. The subject is also referred to in the leading article this week.

Isle of Man Regulations.

All owners of cars and motor cycles on arrival in the Isle of Man are supposed to register their machines at the offices of the I.O.M. Highway Board, Athol Street, Douglas, within twenty-four hours of landing. There is no charge, as motors can be used in the island for thirty days without paying the local taxes. Many visitors are apparently unaware of this regulation.

Motor Cycles on Bridle Paths.

A correspondent to *The Autocar*, writing under the nom-de-plume of "D. D.," enquires whether a motor bicycle can be legally driven along a bridle-path. This is a query we cannot remember having seen before, and we think it will probably interest other readers to know that if it has been customary to use the road or path for bridle purposes only, the owners of the property (if the road is a private one) should be able to obtain an injunction to restrain motor cyclists from using such road. However, if the motor cyclist can show that the road has been used at any time by pedal bicycles, carriages, or for any other purposes, it would be difficult to prevent motor cyclists from travelling along it.

Indians for the British Market.

Encouraged by the success of Indian motor cycles in English competitions, the Hendee Manufacturing Co. has leased premises at 184, Great Portland Street, W., which will be opened on the 1st prox. Mr. W. H. Wells is to take charge of the branch. Great Portland Street is becoming the Holborn Viaduct of the motor cycle industry, for already the F.N., N.S.U., and V.S. motor cycle manufacturers have depots in that quarter.

Bristol E. & M.C.

On Saturday next a reliability trial will be held over a circular route of about twenty miles, to be covered three times. Start from the Bank at Filton tram terminus, *via* Filton railway arch, Hambrook, Winterbourne, Iron Acton (turn left), to Rudgway, on to main Gloucester Road, and back to starting point. Three prizes will be awarded.

A Motor Cyclist and Aviator.

It is not generally known that G. H. Curtiss, the American aviator who won two prizes at the Rheims flying week, is the head of the motor cycle manufacturing company bearing his name. Curtiss was the motor cyclist who, at Ormonde, Daytona, about three years ago, was declared to have ridden a mile at a speed of over 120 miles an hour. His monstrous mount had eight cylinders, and was rated at 40 h.p. Curtiss's first flying machines were propelled by motor cycle engines.



Henryk Weiss (5 h.p. Twin-Rex), winner of the Warszawa-Lublin-Warszawa race, the motor cycle championship of Warsaw. The distance was about 178 miles, covered by the winner in 5h. 2m. 43s. A Rex rider was second in 5h. 3m. 20s.

The Large Entry for the T.T.

Surely no one could have expected such a large entry for the 1909 Tourist Trophy, and it once again proves the ever-increasing popularity of motor cycling. The large amount received in fees, viz., £283 10s., will go a long way towards defraying the expenses of organising the race. The make of machine most represented is the Rex with seventeen riders, next the Triumph with twelve riders.

Erratum.

The paragraph on page 660 last week anent W. H. Bashall really referred to his performance at Brooklands in the hour race on the 18th ult. We pointed out in the report of the event that Bashall only covered 43 miles 1,300 yards in the hour, which is twelve miles less than he has travelled in the same time on the same machine, not knowing when this statement was made that a broken petrol pipe caused some delay in the last ride.

The T.T.

What an interesting and exciting race the Tourist Trophy promises to be! With fifty-six competitors mounted on the pick of the motor cycles of England, France, Belgium, Germany, and America, the event is truly an international one, and the race will be worth travelling a long way to witness. Single-cylinder and twin-cylinder machines are fairly evenly divided, and there is still much speculation as to whether a single of 500 c.c. will prove faster than a twin of 750 c.c. One prominent manufacturer's opinion is that another win on a single cylinder is too much to hope for. Still, there have been many surprises in the past.

The Hill Climbing Competition in the Isle of Man

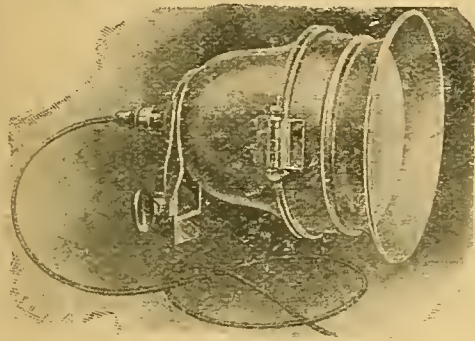
Last week it was mentioned that four classes would be formulated for the above competition, but it has now been decided to add a further class, making five in all. We are sorry for some reasons that the A.C.U. has chosen a perfectly straight hill for the above most important trial in the Isle of Man. As a pure test of speed uphill a straight course is undoubtedly correct and the safest for the competitors, but a hill with two or three hairpin bends is the best test of the flexibility of a touring machine. This is just where the average single-gear motor bicycle is behind its *confrère*, the variable geared car. To get up steep winding hills it has to be rushed instead of ridden at a comfortable speed that is suitable to the corners and gradients.



A WORD ABOUT MOTOR CYCLE HEADLIGHTS.

Why not do away with that oil or acetylene lamp and have electricity. You will find it ever so much more cleanly, and it requires practically no attention. The illustration shows our Model C. Headlight. When not in use this lamp is easily detachable. It gives a powerful and really ample driving light.

SIZE: Glass, 4in. ; Bell, 5in.
PRICE, 18/6. Nickel or Brass.

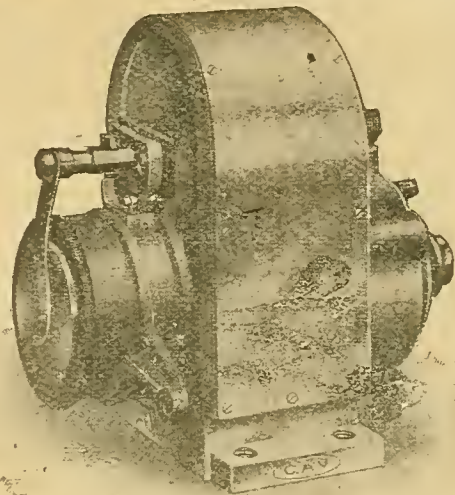


Model "C."

Our illustrated Catalogue, containing particulars of our various Electrical Specialities for Motor Cyclists, will be sent post free on receipt of a postcard.

THE NEW C.A.V. MOTOR CYCLE MAGNETO,

capable of giving an intense spark at very low speeds, is Light, Neat, and Efficient.

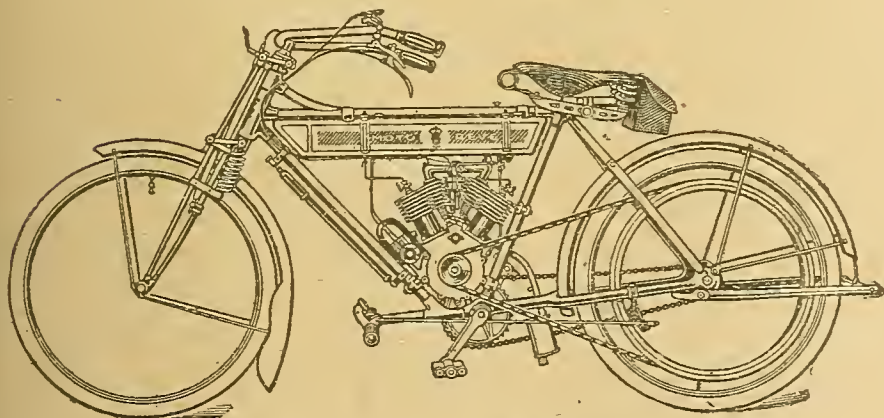


12 Months' Guarantee with each Machine. Made in three distinct types—for Single Cyl. Engines, £4 10s. ; Twin Cyl. do., £5, Twin Cyl. V Type, do., £5 10s.

C. A. VANDERVELL & Co., Warple Way, Acton Vale, London, W.

'Phone: 544, Chiswick. Wires: "Vanteria, London."

Owners of THE LUXURIOUS LIGHTWEIGHT MOTOR CYCLE.



May we send particulars of the ALL-GREY Model?

THE MOTO-REVE CO., LTD.,
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who find it convenient and quiet for night visits.

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who find its sweet running a real nerve-soother.

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who appreciate its ease of handling ashore and afloat.

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who are good judges of a good article.

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who desire to cover their parishes comfortably and with dignity.

OTHER PROFESSIONAL MEN—

who value the motor cycle's assistance, but insist upon SILENCE & SMOOTH RUNNING.

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S. & H.

In answering these advertisements it is desirable to mention "The Motor Cycle."

B15

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Grand Prix de la Champagne

1st, 2nd, 3rd, 4th, and 5th.

* * *

Gordon Bennett Cup,

1st and 3rd.

* * *

Speed Prize, 30 kilometres

1st and 2nd.

* * *

Prix du Tour de Piste

2nd and 3rd.

* * *

Passenger Prize

1st and 2nd.

* * *

Altitude Prize

1st and 2nd.

* * *

Prix des Mecaniciens

2nd.

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LUBRICATED

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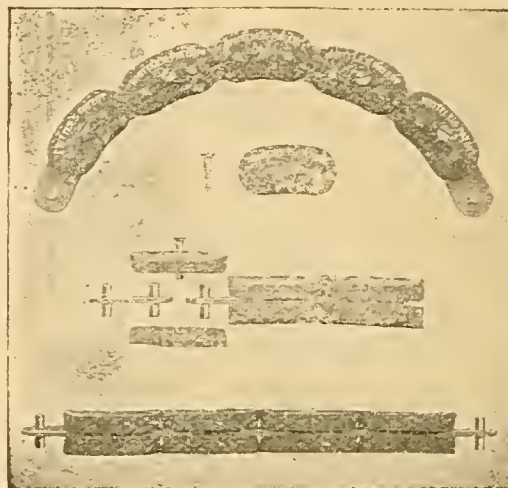
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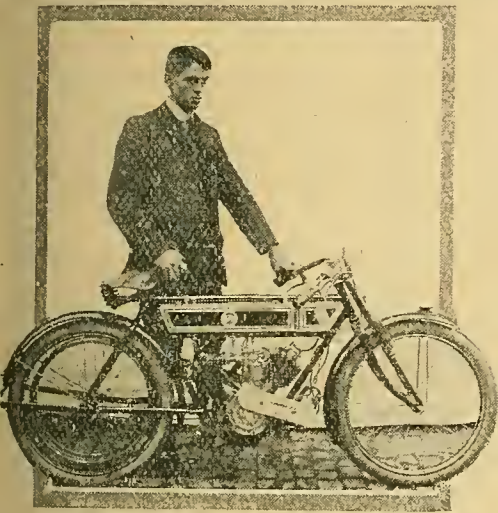
Telegrams—"Belt," Warrington.

Real Hill Climb.

Since writing the preceding paragraph, we are advised by the A.C.U. that a second hill-climb is to be held on Snaefell on the afternoon of the 24th inst., the one at Kewagigue being fixed to start at 10 a.m. What a real test of hill-climbing the long climb up Snaefell will prove. Engines which have a tendency to overheat quickly or knock badly at slow speeds will probably find this climb too much for them. The hairpin bend at Ramsey has been included.

Mont Ventoux Hill-climb.

This once famous French climb only secured a small entry this year, chiefly owing to an understanding among the majority of manufacturers not to compete in races and hill-climbing competitions. On Saturday a French motor cycle named the Excelsior secured the premier award in both classes. In Class I. it climbed the 13½ miles of the ascent in 42m. 8s., and in Class II. in 1h. 9m.



B. Vickers-Jones (Coventry), 3½ h.p. Twin Premier, m.o.i.v., 66×80 mm, B and B. carburetter, Bosch magneto, Dunlop tyres.

24½s. The record for the climb is held by a Brasier car—19m. 8s. The gradients vary from 1 in 11 to 1 in 7½.

FUTURE EVENTS.

- Sept. 11—Open Hill-climb at Barnsley for the Littlewood Challenge Trophy.
„ 12—Semmering Hill-climb (Austria).
„ 23—THE TOURIST TROPHY RACE FOR MOTOR CYCLES IN THE ISLE OF MAN.
„ 24—Hill-climb on Kewagigue Hill, Isle of Man. Five classes. Start 10 a.m.
„ 24—Hill-climb up Snaefell. Start 2.30 p.m.
Oct. 6—Race meeting at Brooklands (two events for motor cycles).
„ 9—Two Hours' Record Race at Brooklands, organised by the British M.C.R.C.
„ 16—A.C.U. Fourth Quarterly Trial of 1909, Uxbridge to Banbury and back.

Barnsley Hill-climb Postponed.

The open hill-climb for the Littlewood Trophy (holder, J. Marshall) has been postponed until the 30th inst., owing to unforeseen circumstances. The conditions and entry forms will be circulated this week.

The Next M.C.C. Event.

The next important event to be held (in about a month's time) by the M.C.C. will be a gymkhana, for which purpose Mr. Arthur Du Cros has kindly offered the use of his park near Edgware.

Tourist Trophy Race.

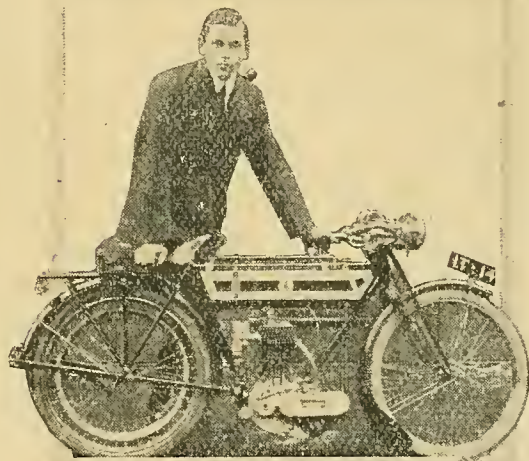
The Ulster Centre M.C.U.I. has decided to offer a gold medal for the first Irish rider to be placed in the T.T. Race. In addition to the names already published from Ireland an entry has been received from Mr. F. H. Maclean, Belfast.

Cylinder Capacity.

Owing to an unfortunate error, the size of Mr. Bowen's Bat-J.A.P., which made such a splendid performance at the last members' meeting of the B.M.C.R.C. at Brooklands, was given as "84.5×89 mm.," whereas a standard engine was used, the bore and stroke of which are 85×85 mm. The engine was a standard 3½ h.p., with side by side mechanically operated valves.

Southampton's Antagonism to Motor Vehicles.

The Southampton Bench last week fined their own fire brigade captain for driving the town's motor fire engine at thirty miles an hour. The captain urged that it was necessary for him to practise driving at this speed. It would be rather provoking to the magistrates if, supposing one of their residences caught fire, the fire brigade captain refused to do more than crawl to the scene of the conflagration. Driving to the common danger does not apply to horsed engines.



H. Lister Cooper (Southampton), 3½ h.p. T.T. Triumph, Bosch magneto, Dunlop tyres.

The International Auto Cycle Tourist Trophy Race.

LATEST DETAILS. SOME AMENDMENTS TO THE RULES. THE AWARDS SETTLED. A HILL-CLIMBING CONTEST ON SNAEFELL ARRANGED.

The rules and regulations have now been finally settled. The following are the latest amendments to the rules and the most recent news about the race in general. The competitors will be started from St. John's at 10 a.m. at half-minute intervals. Any shape of handle-bar will be permitted. The machines will be weighed (for statistical purposes only) and examined by the officials at the enclosure, St. John's, from 10 a.m. on Wednesday, the 22nd inst. Immediately after these operations have been concluded, the brakes and silencers will be tested. The competing machines will not be allowed to carry trade numbers. Practising over the course will only be allowed on week days up to 10 a.m. It is not desired absolutely to prevent riders from using their machines at other times, but the A.C.U. wishes it to be known that driving at excessive speed or to the annoyance or discomfort of the public will disqualify a competitor from taking part in the race and render him liable to suspension from future competitions. To enable those taking part in the race

to hear clearly other competitors who are trying to pass them, the participants will be required to wear ear guards.

The Numerous Awards.

In addition to the splendid trophy presented by the Marquis de Mouzilly St. Mars there will be a silver cup (value £5 5s.) awarded to the first private owner to finish, a silver cup (value £2 2s.) to the second private owner to finish, prizes of £40, £20, £10, and £5 in cash, Mr. Brooker's prize for the competitor who runs the most consistently, and silver medals to those riders who complete the course within the time limit and who are not eligible for the above awards. Tyre stations, where petrol, oil, water, etc., may be obtained, will be established at Kirk Michael and St. John's. Messrs. R. Todd, J. W. G. Brooker, A. Sharp, H. G. Cove, and V. Hart have been invited to act as judges, and Messrs. A. G. Reynolds and A. V. Ebbelwhite and P. C. Glazebrook will act as timekeepers. A.C.U. headquarters at Douglas, Hotel Sefton.

Two Hill Climbing Competitions.

On the day following the race (Friday, 24th inst.), there will be two hill-climbs. The Kewagigue and Richmond hill events will begin at 10 a.m., after which the competitors will proceed to Ramsey, where lunch will be served, when at 2.30 p.m. a hill climb will take place from that town round the famous hairpin bend and up the mountain road to the Bungalow at the foot of Snaefell—a course about six miles in extent. The awards will be made on the performances on both hill-climbs. The classes will be the same in each case, but in each class there will be a sub-division for private owners. A gold, silver, and bronze medal will be awarded in each class provided ten entries are received, and the entry fee will be 10s. 6d. From the above it will be seen that the Isle of Man Week will be full of attractions, and, provided the weather is fine, a most interesting time is expected. Shorn of its petrol limit the race should be most exciting, while the hill-climbs should provide really good sport.

THE TOURIST TROPHY RACE FUND.

The donations to the above fund have now reached the sum of £59 8s., made up as follows:

Amounts previously acknowledged in *The*

<i>Motor Cycle</i>	£14	19	6
JEBRON	1	0	0
P. S. White	2	0	0
E. M. P. Boileau	10	0	0
Triumph Cycle Co., Ltd.	10	10	0
M. J. Schulte	2	2	0
Mrs. M. J. Schulte	1	1	0
S. Bettmann	1	1	0
Triumph Cycle Co.'s employees	2	19	0
Robert Todd	3	3	0
Price's Patent Candle Co., Ltd.	5	5	0
British M.C.R. Club	3	3	0
Victor Hart	10	0	0
F. A. Hardy	10	0	0
F. Straight	10	0	0
Society of Motor Manufacturers and Traders	10	0	0
Amounts promised:			
S. Manchester M.C.C. (per F. Doodson) ...	12	0	0
M.C.U.I. (Ulster Centre)	1	1	0
SHILLING FUND.			
H. P. Beasley	2	0	0
H. P. E. Harding	5	0	0
D. K. Hall	2	6	0
Total	£59	8	0

Owing to the additional expense incurred this year in organising and holding the race, the Auto Cycle Union will gratefully acknowledge any donations, however small, towards the fund. Collecting sheets can be obtained from the Secretary, 18, Down Street, Piccadilly, W., or *The Motor*

Cycle Offices, 20, Tudor Street, E.C., and Coventry. As already announced, *The Motor Cycle* is contributing 1s. for



York County M.C.C. speed trial in the grounds of Temple Newsam. Scene at the start. The winner, C. S. Allan (1909 Triumph), is in the foreground.

every £1 up to £100 sent in by club secretaries or others. Cheques, postal orders, etc., should be made payable to the Auto Cycle Union, and may be addressed to the club or the Editor of this journal as above. All contributions will be acknowledged in these columns.

MURATTI TROPHY RELIABILITY TRIALS.

THE annual open competition for the Muratti Trophy, under the auspices of the Ulster Centre of the Motor Cycle Union of Ireland, took place on the 30th and 31st ult. The first day's ride was from Belfast to Ballycastle, going by the coast and returning inland. This course was traversed twice, the total distance for the day being 236 miles. Checking stations were arranged at Larne, Ballycastle, Ballymena, and Belfast, and 10 marks were allowed for each of these. At the end of the first day, J. Stewart (3½ h.p. Triumph), C. E. Murphy (3½ h.p. Triumph), and O. C. Godfrey (3½ h.p. Rex) claimed to have secured the maximum number, the other competitors who lost marks being J. Coulter (3½ h.p. Triumph), T. Greer (5 h.p. Rex), B. J. McManus (3½ h.p. Triumph), W. J. Andrews (3½ h.p. Rex), and F. Jones (3½ h.p. Minerva). On the night of the 30th the machines were in control in the Ulster Motor Works, through the courtesy of Mr. Stanley Corry.

Second Day's Ride.

The route arranged for the second day was from Belfast to Dublin and back, a distance of 208 miles. The checking stations were at Banbridge, Dundalk, Drogheda, and Dublin. McManus, Greer, and Jones did not start for the second half of the ride, having had some trouble the previous day. The finish was at the Show Grounds, Balmoral, and prompt to time Stewart, Murphy, and Godfrey arrived, each claiming to have secured full marks. The committee met afterwards to go into the check books, and it was reported that at one of the controls a mistake had been made in the times recorded. It was considered advisable, therefore, to investigate the matter before proceeding to place the riders, and a further meeting was called for the 2nd inst. Correspondence was read regarding the difference in the times, and after consideration it was decided to endeavour

to have the timekeeper present at next meeting, which was provisionally arranged for September 7th. We hope to announce the awards in our next issue.

So far as the competition itself was concerned, it proved most enjoyable, the weather being good and the roads in perfect order; and, notwithstanding the smallness of the



Muratti Trophy Trials, 444 miles. The start from Dublin on the last stage of the second day's run. From left to right—W. J. Andrews (3½ h.p. Rex), O. C. Godfrey (3½ h.p. Rex), J. Stewart (3½ h.p. Triumph), and C. E. Murphy (3½ h.p. Triumph). The three last mentioned gained full marks, and it so happens that all are entrants for the Tourist Trophy.

entry, the greatest interest was taken in the contest, the finish on each day being witnessed by a large crowd of interested spectators. So far as we can learn, the committee are experiencing trouble in separating Stewart and Murphy, and it will be recollected that these two riders were equal in points last year in the same contest, and although an extra two hundred miles were ridden, no change took place, and they were ultimately declared joint holders.

THE M.C.C. CONSUMPTION TRIAL.

AS regards weather, the Motor Cycling Club was particularly unfortunate on Saturday last on the occasion of its annual consumption trial. Last year the event was held on a rainy afternoon over a circular course about five miles in extent in the neighbourhood of Gerrard's Cross, and this year the elements were still more unkind, as rain fell almost continuously the whole time. The competitors were weighed at the Bull Hotel, and when at last the rain eased off a trifle the men were sent round the course. Leaving the inn the second turning on the right was taken, a dangerous S bend on rather a steep hill descending into Fulmer was negotiated, followed by a short stiff ascent out of the village, and then the road became more or less level. Bearing always to the right another descent followed by a steep climb was encountered, then more level, and the main road was reached. Shell motor spirit was doled out to the riders at the rate of one pint for 300 lbs. total weight, increasing to $1\frac{1}{2}$ pints for 600 lbs. and to $2\frac{1}{4}$ pints for 1,200 lbs. in the passenger class, irrespective of the size or type of the engine, due allowance being made for all intermediate weights.

The multi-cylinder motor bicycles over 150 lbs. in weight were allowed thirty per cent. extra fuel. The machines had to be driven at the rate of 20 m.p.h., and the competitors had to complete the course in not less than fifteen minutes and not more than twenty minutes. No pedalling was permitted after crossing the starting line. The starters, together with their petrol allowances, and the weights of their machines and themselves, were as follows:

Class I., for single-cylinder motor bicycles, W. A. Jacobs ($3\frac{1}{2}$ h.p. Baby Rex), 21 ozs. 4 drs., weight of machine 174 lbs., weight of rider 157 lbs.; J. S. Holroyd ($1\frac{1}{4}$ h.p. Motosacoche), 18 ozs. 3 drs., 103 lbs. and 156 lbs.

Class II. (for multi-cylinder machines), R. C. Davis ($5\frac{1}{2}$ h.p. twin Griffon), 31 ozs. 2 drs., 249 lbs. and 151 lbs.; G. L. Fletcher ($2\frac{3}{4}$ h.p. twin Douglas), 20 ozs. 1 dr., 145 lbs. and 158 lbs.; B. C. Cumberland (5-6 h.p. four-cylinder F.N.), 30 ozs., 1 dr., 222 lbs. and 152 lbs.; W. W. Douglas ($2\frac{3}{4}$ h.p. twin Douglas), 19 ozs. 4 drs., 122 lbs. and 157 lbs.; E. Clark ($2\frac{3}{4}$ h.p. twin Douglas), 20 ozs. 3 drs., 124 lbs. and 183 lbs.; H. G. Bell (2 h.p. twin Moto-Rève), 18 ozs. 2 drs., 104 lbs. and 149 lbs.; L. A. Baddeley (2 h.p. twin Moto-Rève), 18 ozs. $2\frac{1}{2}$ drs., 99 lbs. and 155 lbs.; J. V. Robinson ($2\frac{3}{4}$ h.p. twin Douglas), 20 ozs. 2 drs., 150 lbs. and 154 lbs.

Class III. (for passenger machines) was represented by P. James (8 h.p. Chater-Lea and sidecar), total weight 6 cwt. 1 qr. The tanks were emptied, and the allowances poured in.

It was still raining when the competitors were started by F. J. Jenkins. One or two, owing to air locks in the petrol pipe, had a difficulty in getting away. One of these was



R. C. Davis ($5\frac{1}{2}$ h.p. Griffon) starting. He proved the ultimate winner.

Bell. As soon as all the men had got going F. J. Jenkins drove his smooth running 15 h.p. Rover car round the course in the reverse direction to that in which the competitors were travelling. The roads were exceedingly heavy, and it seemed certain at the outset that many would not travel far on their allowances. Holroyd was encountered stopped on the first hill, and Bell, Baddeley, Clark, and Douglas were seen at Fulmer. Cumberland's F.N. was also seen at this spot, a sparking plug having failed after the second lap.

Neither W. A. Jacobs nor J. S. Holroyd completed the first round. Fletcher, Cumberland, Davis, and Robinson completed the first and second rounds, and eventually Davis ($5\frac{1}{2}$ h.p. Griffon) was proved to be the winner, having covered three and threequarter rounds. Robinson came second, three and a half rounds, and Fletcher was third, having covered two and threequarter rounds. James's Chater-Lea and sidecar covered two and a half rounds.



Competitors in the M. C. C. consumption trial on Saturday. From left to right, J. V. Robinson, W. A. Jacobs, J. S. Holroyd, R. C. Davis, W. W. Douglas, Eli Clark, and H. G. Bell.

CLUB NEWS.

Surrey M.C.C.

A twelve hours' reliability run to Weymouth and back has been arranged for Wednesday, the 15th inst.; start Bush Hotel, Farnham, 8 a.m. Members are reminded that they must give notice to the hon. secretary, Mr. Edward Cox, 164, High Street, Guildford, not later than Saturday next, enclosing entrance fee, 2s.

York County M.C.C.

The annual speed trials were held on the Low Road in the grounds of Temple Newsam, by permission of the Hon. G. Wood. The principal event was for the Charge Challenge Trophy—holder, H. Wilson, Harrogate, who did not defend it this year. The distance was a quarter of a mile, flying start. The club's electrical timing apparatus was used, and in the capable hands of A. E. Simpson answered perfectly. Much amusement was caused by a rider who, whilst competing in his heat, was unfortunate enough to run over a fowl. He had, of course, to pull up, but it was a curious sight to see him return along the course and gather up a handful of feathers as evidence to the judge that he had met with an obstruction, and thus be allowed another trial. After some good sport, C. S. Allen (3½ h.p. Triumph) was declared the winner, and holds the trophy for one year. The starter was H. Noble.

Western District M.C. (London).

The start for the Petrol Consumption Test fixed for Saturday next, the 11th inst., will be from Gerrard's Cross. Members are asked to be at the Bull Hotel not later than 3.30 p.m. A circuit of about seventeen miles, *via* Slough, including two businesslike hills, has been chosen, and competitors will be required to cover this once. Two classes will be arranged—Class 1 for single-cylinder machines, and Class 2 for multi-cylinder machines. Tanks will be filled at the start, and on completion of the circuit the amount required to again fill the tank will be carefully measured. The entrance fee is 2s. 6d.

The results of the annual hill-climb, as published last week, have been confirmed by the committee.

The run next Sunday is to Leith Hill.

Leeds M.C.C.

Some thirty-five members took part in a team trial to Bridlington on Saturday last. The captain of each team had to say what time they would arrive in Bridlington, and the team arriving nearest to the stated time were to be declared winners. The weather was glorious, and the different teams were despatched at intervals by P. Cockcroft. There was a good crowd to see the start, and each team left with the good wishes of their respective friends. The result being so close, it has been withheld until the next issue.

Essex M.C.

The results of the twenty-four hours' ride from Woodford to York are as follows, showing the number of minutes and seconds by which the riders varied from schedule: G. Lee Evans, 28m. 24s.; G. Fletcher, 32m. 17s.; F. G. Smith, 36m. 1s.; W. H. Wells, 43m. 12s.; B. A. Hill, 43m. 56s.; F. C. Wood, 81m. 12s.; W. Cooper, 88m. 13s.; F. W. Applebee, 138m. 30s.; F. A. Hardy, 156m. 24s.; C. Janssen, 181m. 8s.; and A. Peppercorn, 388m. 15s. The remainder of the riders did not complete the journey in time. The



Competitors in the Worcestershire M.C.C. reliability trial to Rhayader and back. Anent the discussion which is now going on as to holding Sunday competitions, we are told that this competition was held on Monday, 30th ult., but a member of our staff who happened to be touring in that neighbourhood is very much mistaken if he did not see the competition in progress on the previous day.

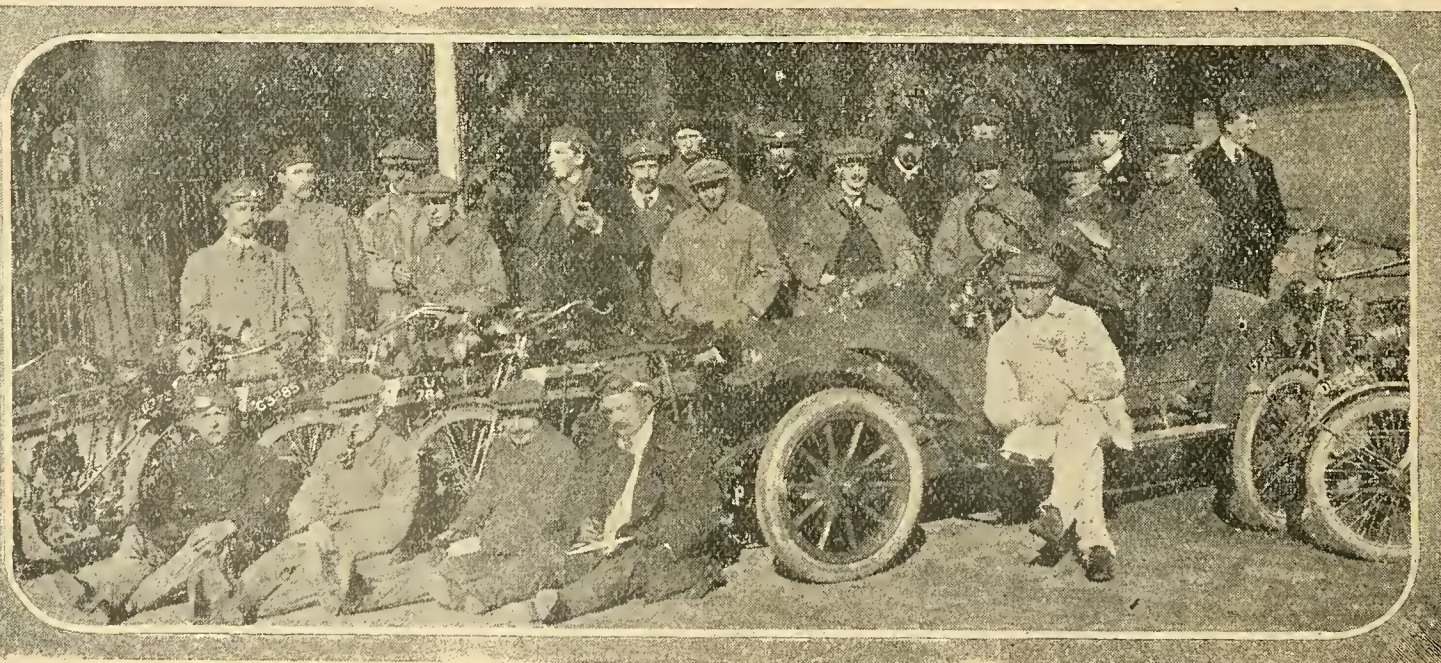
Palmer Cup has therefore been awarded to G. Lee Evans, and gold medals are awarded to all those whose times are given above.

Bradford M.C.C.

On September 12th a 150 miles reliability trial for members who have not yet won a gold medal for reliability has been arranged. Awards, Rex Cup (value ten guineas) and gold, silver, and bronze medals for first, second, and third.

Middlesbrough and District M.C.C.

A fuel consumption trial was held on the 1st inst. The course was one of thirty-one and a half miles, starting from Marton Bungalow. The prize, which was kindly provided by Mr. J. Bellerby, was won by J. H. Dale (1909 Triumph), his consumption working out at a gallon per 198 miles.



Leeds M.C.C. team trial to Bridlington on Saturday last, in which some thirty five members took part.

News.—

North-West London M.C.C.

Members are reminded of the picnic lunch on September 11th. The spot chosen is one of great natural beauty.

Bradford M.C.C.

The winner of the passenger motor cycle reliability trial referred to in the last issue was S. Johnson (De Dion Bouton). C. L. Bedford (5 h.p. Vindec and sidecar) was second, J. W. Leach (5 h.p. Rex tricar) third.

The Harrogate and District M.C.C.

The above club is holding a reliability trial on September 11th, and would like a control at Kirkby Lonsdale. Will the local motor cyclist act as checker? The competitors are due at Kirkby Lonsdale about 3.30 p.m. Letters should be addressed to H. W. Fortune, St. James's Chambers, Harrogate.

Northamptonshire Motor C.C.

The annual hill-climb was held on the 28th ult., the club being unluckily compelled to seek a venue outside the county boundaries. A hill close to the town was originally selected, but the county police offered no objection, but as the district council, under whose jurisdiction the road was, refused their sanction, the club had to go outside the county, so that local riders were deprived of the opportunity of witnessing the event, and the participants and spectators spent their day elsewhere. An easy hill on a lonely road, free from traffic and remote from houses, was selected, and good performances were recorded.

Rider and machine.	Time.	Position on
M. S.	formulae.	
TWIN-CYLINDER CLASS.		
Gainsford (6 h.p. Advance) ...	54½	1
Leadbeater (5 h.p. Rex) ...	57½	2
¾ H.P. REX AND TRIUMPH CLASS.		
*Lees (¾ h.p. Triumph) ...	51½	1
*Underwood (¾ h.p. Triumph) ...	51½	3
Osborn (¾ h.p. Triumph) ...	54½	2
Barratt (¾ h.p. Rex) ...	1 15½	4
"OLD CROCK" SINGLE-CYLINDER CLASS.		
*Jolley (3 h.p. Triumph) ...	1 8½	1
*Andrews (¾ h.p. Minerva) ...	1 9½	3
L. Allen (¾ h.p. Minerva) ...	1 12½	2
Pilgrim (2¾ h.p. Brown) ...	1 16½	4
Gainsford (3 h.p. Advance) ...	1 28½	5
PASSENGER CLASS.		
Smart (6 h.p. Advance tricar) ...	1 20½	1
Mineards (¾ h.p. Triumph sidecar) ...	1 44½	4
Swindall (5 h.p. Phoenix Trimo) ...	1 52	2
Barratt (¾ h.p. Rex sidecar) ...	1 56½	3

It had been agreed beforehand that if two riders in any class were close together for the fastest time prizes, they could ride up the hill again alongside each other. Consequently two classes required a deciding heat, Lees riding Underwood in Class II. and Jolley riding Andrews in Class I. Exciting results were seen in Class II., three extra attempts being required before Lees was finally declared the winner. The first time Underwood started with his petrol shut, and Lees in sportsmanlike fashion offered a second

run. This time Underwood caught Lees on the finishing line, a dead heat being recorded. At the third attempt Lees won by a few yards. In Class III. Andrews failed to achieve the speed of his timed ascent, and Jolley won easily on his three-year-old machine.

A gold medal for the highest efficiency of the day, considering weight, speed, and horse-power, was won by Lees (¾ h.p. Triumph).

Bolton and District Motor Cycle Club.

The above club held a successful reliability trial on Saturday, the 28th ult., the trial being to Skipton and back, a distance of 120 miles. Results:

	Points.
A. Richards (2¾ h.p. Minerva), non-stop ...	100
J. Fishwick (¾ h.p. Triumph) non-stop ...	100
H. Dootson (¾ h.p. Triumph), non-stop ...	100
P. Philipson (¾ h.p. Triumph), non-stop ...	100
H. Ashton (5 h.p. Rex), non-stop ...	100
J. Nuttall (5 h.p. Vindec), non-stop ...	100
J. Entwistle (¾ h.p. Triumph), retired carburettor trouble.	

S. Groom (¾ h.p. J.A.P.), one stop belt trouble 95
The event will be re-run over the same course on Saturday next, the 11th inst., starting from Crofters at 1.30 p.m.

Brighton and District Motor Cycle Club.

A very interesting afternoon's sport was witnessed by the members of the above club on Saturday, 28th ult., when a match between Mr. J. Harwood (¾ h.p. Triumph) and Mr. F. T. Turpin (¾ h.p. Bradbury) was decided on Saddlescombe Hill, a rather steep gradient. The conditions were the fastest time in three ascents each to be the winner, and as the competitors had three consecutive dead heats the last attempt was very exciting, resulting in a win for Mr. Turpin on his Bradbury. It might be added that Mr. Turpin carried weight on his machine to make up the difference in the rider's weight, one condition of the match. The timing was electrical. The club is holding a speed-judging competition on Saturday, the 11th, and would always welcome any other motor cyclists in the district at its competitions.

Motor cyclists who write to manufacturers on any subject should be particularly careful to write clearly their names and addresses. A. C. Davison, tank manufacturer, Camden Town, informs us that he received recently two letters—one from Canewdon, Essex, and the other from Bala, North Wales—to which he is unable to reply owing to the signatures and addresses being quite illegible.

Under the heading of "An Exciting Adventure," in the issue of August 19th, we published a description of how a motor cycle caught fire in Scotland through the petrol leaking from the top portion of the tank and being set on fire by the flame of the acetylene lamp. The Continental Tyre and Rubber Co., Ltd., write: "Although the flames were licking round this machine for threequarters of an hour, the belt, which was one of our manufacture, was very little damaged, and was used the next day a distance of seventy miles over hilly country."



At the foot of Dashwood. Competitors in the Western District M.C. hill-climbing competition referred to in last week's "Club News."

T.T. RACE WEEK.

EVERYTHING points to the motor cycling week in the Isle of Man being a great success. The entries for the Tourist Trophy Race on the 23rd have eclipsed all previous records by reaching a total of fifty six, of which twenty-eight are single-cylinder entries, twenty-five twin-cylinder entries, one four-cylinder, and two not specified. Of the above twenty are private owners. The entries received since our last list was published include a Scott, a Peugeot (to be ridden by the famous Giuppone, entered by J. Taylor, Birmingham), a 5 h.p. Tee-Bee-J.A.P. (entered by a private owner), and another Irish entry (no confirmation received). It suffices to say that this year's T.T. Race will, provided the weather is fine, prove to be not only the most sporting event of the year, but also probably the best of this series of motor cycle races yet held in the island. It is expected, therefore, that interested spectators will flock over to the island in their hundreds, and, though as far as we can hear at present, the railway companies have made no special arrangements, the London and North-Western has its usual excursion to Douglas during the month of September, leaving Euston at 12.30 midnight on Friday and at 10.30 a.m. and 5.30 p.m. on Saturday for three, eight, ten, fifteen, or seventeen days at 25s. return for the double journey third class and steerage or 29s. return third class and saloon. The L. and N.W. Railway and the other railway companies are being approached, and if any special excursions are to be run they will be announced in these pages. On the day after the T.T. Race a hill-climb will be held on Kewague and Richmond Hills. Kewague is situated about one and a half miles from Douglas, and is reached by following the road on the south side of the harbour towards Castle-town. Half a mile from the first milestone from Douglas the right fork is taken, and then the climb begins. The road rises from 77 to 255 feet in about half a mile (maximum gradient about 1 in 9), and then falls to 195 feet (gradient about 1 in 34), the climb finishing up Richmond Hill, which rises to approximately 47ft. The hill is said to be quite straight. The following classes have been formu-

lated: Class I. for genuine standard tour machines not exceeding 750 c.c. Class II. for single and Class III. for multi-cylinder machines which have actually taken part in the T.T. Race. Class IV. for privately owned machines with engines not exceeding 750 c.c. and Class V. for all comers, open machines with engines the cubical capacity of which does not exceed 1,000 c.c. Besides these two interesting events, the beauty of the island and the fact that it possesses good roads should be a further inducement to many motor cyclists to witness the race. Visitors, however, should bear in mind that the Isle of Man is not the driest spot in the British Isles, and clothing to withstand the wet should be taken.

THE COMPLETE ENTRY LIST.

The entries total fifty-six, or nineteen more than were received for the 1908 T.T. Race. They are:

J. Marshall (3½ Triumph) (holder)	J. Baxter (5 Rex)
H. Reed (5 Dot) (holder of Twin Trophy)	J. C. Smyth (3½ Rex)
Norton Mfg. Co. (3½ Norton, 496 c.c.)	R. Lord (3½ Rex, two-stroke)
Noel E. Drury (5 J.A.P., 680 c.c.)	G. E. Stanley (3½ Premier)
C. B. Franklin (3½ Triumph)	B. B. Jones (3½ Premier)
W. H. Wells (5 Indian)	Wm. Heaton (3½ Rex)
W. H. Wells (5 Indian)	H. L. Cooper (3½ Triumph)
S. C. Perryman (5 Norton)	F. C. Bagshaw (5 Rex)
R. Ellis (3½ Rex)	A. J. Moorhouse (5 Rex)
F. A. Applebee (Rex)	Rem Fowler (5 Rex)
O. C. Godfrey (Rex)	Thos. Greer (5 Rex)
W. Grimstead (5 Rex)	C. Wilson (3½ Rex)
J. F. Jones (3½ Triumph)	N.S.U. Motor Co. (4 N.S.U.)
W. O. Bentley (3½ Rex)	Eric Myers (3½ Scott, two stroke)
C. E. Murphy (3½ Triumph)	H. H. Bowen (Bat)
Jas. Stewart (3½ Triumph)	G. L. Fletcher (4 Indian)
H. A. Collier (6 Matchless)	W. Newsome (3½ Triumph)
H. V. Colver (3½ Matchless)	A. G. Fenn (3½ Triumph)
C. R. Collier (5 Matchless)	P. Butler (5 Dot)
W. H. Bashall (Bat)	H. D. Blake (3½ Triumph)
J. T. Bashall (Bat)	W. McMinnies (3½ Triumph)
Hugh Gibson (3½ Triumph)	J. Giuppone (3½ Peugeot)
T. A. Carter (5 Rex)	R. O. Clark (F.N., four cylinder)
A. J. Sproston (5 Rex)	J. Lang (5 Tee-Bee-J.A.P.)
Jas. Adamson (3½ Triumph)	H. Martin (5 Martin)
L. C. Munroe (5½ N.S.U.)	S. W. Dayrell (5 Bat)
R. M. White (3½ Brown)	J. Leno (3½ Premo, two stroke)
R. M. Brice (3½ Brown)	A. N. Other (—)

HOW TO GET TO THE ISLE OF MAN.

As numbers of motor cyclists will be journeying to the Isle of Man for the T.T. Race, we give below particulars of two or three of the routes to the island, *via* Liverpool, Heysham, and Fleetwood. From Liverpool to Douglas the Isle of Man Steam Packet Co.'s boats sail as under, Sundays excepted:

September—1st to Monday 20th.

FROM LIVERPOOL.	FROM DOUGLAS.
Daily...10.30 a.m. & 2.45 p.m. Extras.	Daily 9 a.m. & 3.30 p.m. Extras.
4th 9.45 a.m.	Every Monday ... 12.30 a.m.
10th 12.50 night	(Sunday night)
25th ...5.30 p.m. & 12.50 night	

September—Tuesday, 21st to 30th.

FROM LIVERPOOL.	FROM DOUGLAS.
21st to 24th 11.30 a.m.	21st to 24th..... 9.0 a.m.
25th ... 10.30 a.m., 5.30 p.m., and 12.50 night	25th 9 a.m. & 3.30 p.m.
27th ...10.30 a.m. & 2.45 p.m.	27th 9 a.m. & 3.30 p.m.
28th, 29th & 30th 11.30 a.m.	27th ...12.30 a.m. (Sun. night)
	28th, 29th & 30th... 9.0 a.m.

The fares are: Liverpool or Fleetwood to Douglas—Ramsey, first-class saloon return 10s., third-class steerage return 6s. Motor cycle fares.—Single journey with passenger, motor bicycles, 2s. 6d.; motor bicycle with trailer or sidecar, 5s.; tricars, 7s.

FLEETWOOD TO DOUGLAS.

Fleetwood dep... 10.30 a.m.	Douglas dep..... 3.30 p.m.
Douglas due..... 1.10 p.m. a	Fleetwood due.... 6.40 p.m.
a 1.40 p.m. 13th to 25th.	† { 6.10 p.m. 1st to 11th.
	† { 6.40 p.m. 13th to 25th.

Fares same as Liverpool to Douglas.

From September 15th to 27th.

HEYSHAM TO DOUGLAS.

Heysham dep. ... 3.0 p.m.	Douglas dep. 9.0 a.m.
Douglas arr..... 5.40 p.m.	Heysham arr. 11.40 a.m.

We are advised by the Premier Cycle Co., Coventry that they have recently had the pleasure of supplying a Premier motor bicycle to Sir William Miller, Bart.

The old way and the new way.

- ¶ The old way was to start with frantic pedal exertion, or to vault into one's saddle—the aid of a stand was often indispensable. The ROC invented the new way.
- ¶ When you see a rider, or a rider and passenger, start on a gradient from rest and glide away without concern, you wonder there are left any who are content to go on using the old way.
- ¶ You know that for starting, for stopping, for climbing, for traffic, the ROC live axle way is the best way of all. You know it is at least the most popular, and the other firms now using it by license is proof of its worth.
- ¶ But you may not know how easily this invention can be added to YOUR machine. The ROC gear box is now improved by its mounting on ball bearings, giving remarkable smoothness in running and long life. The complete conversion occupies but three or four days. Deliveries of sets for Triumph machines from stock. Send your machine now and get the benefit for autumn and winter use. The inclusive charge is twelve guineas. It doubles your pleasure.
- ¶ Get particulars also of the famous ROC Military models. 4 h.p. single and 5/6 h.p. twin.

A. W. WALL, LTD., Roc Motor Cycle Works,
Aston Road, and Dartmouth Street, **BIRMINGHAM.**

For the lover

of comfort, there has never been a happier combination than the 6 h.p. Twin N.S.U. and the practically-built

N.S.U. Sidecar.

With this attachment you can take any corner to right or left at a high speed; you can negotiate a highly cambered lane with perfect ease, and, owing to its sensible adjustment conversation can be enjoyed without unduly raising the voice. It's superbly finished too. Why not drop us a line?

N.S.U. MOTOR COMPANY, LIMITED.

Offices and Showrooms—186, Great Portland Street, London, W.

Goods and Repairs—83-85, Bolsover Street, London, W.

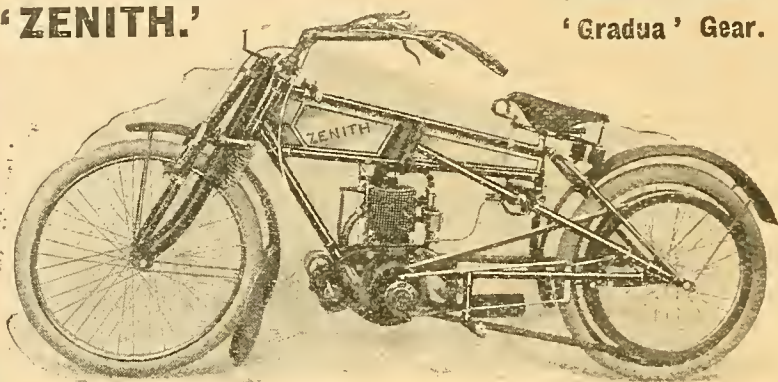
THE SPLENDID SUCCESSES WITH THE
'ZENITH-GRADUA'

Mark it as the
Leading Touring Machine

All machines tested on BROOKLANDS Track and Test Hill.

The
'ZENITH.'

Fitted with the
'Gradua' Gear.



AT COVENTRY it showed its qualities as a hill-climber, which is the essential feature of a touring mount. 7 first awards out of 10. A machine which will do this, and yet be fast on the level, commends itself to everyone.

The Gradua Gear is very light on belts; it is the exception to pull out a fastener even on the track. The extraordinary results which an infinitely variable gear give, can hardly be believed without a trial.

We can arrange a trial by appointment at Brooklands.

"TRIUMPH"
CONVERSIONS.
12 Gns. (fitted).

ZENITH MOTORS, LTD.,
WEYBRIDGE. (Phone No. 4.)

P.S.—A "Zenith-Gradua" is on view at The Service Co., High Holborn; and at Sherwell's, 46, York St., Westminster.

LUCKY
PALMER
TYRE

EDINBURGH MOTOR CYCLE CLUB FIVE DAYS' TRIAL.

Rider of Palmer Tyres, **FIRST CLASS MEDAL** and **SPECIAL PRIZE PERFORMANCE ON BRITISH MADE TYRES.**

A.C.U. SIX DAYS, TRIALS.

Awards to riders of Palmer Tyres, **SIX GOLD MEDALS,**
TWO SILVER MEDALS, 1908 and 1909 (to date.)

68 MEDALS and 10 CUPS WON ON
PALMERS.

Write for descriptive booklet—

THE PALMER TYRE, LTD., 119, 121, 123, Shaftesbury Avenue, London, W.C.

Depots—London, Paris, Glasgow, Birmingham, Coventry, Nottingham, and Amsterdam.

In answering these advertisements it is desirable to mention "The Motor Cycle."



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Hand-solutioned Patches.

[4240.]—Perhaps you can offer an explanation of Mr. H. Davies's remarkable statement in the issue of August 14th, under the heading of "Long Distance Trial Riding," that it is seldom that a hand-solutioned repair is reliable on a motor cycle. Although I ride at fairly high average speeds I have never been troubled by a patch coming off, or peeling, and I do not see why anyone else should be if he uses the right patches and puts them on properly. A.T.B.

Meet of Passenger Motor Cyclists.

[4241.]—I think the thanks of those who attended the meet of passenger motor cyclists at Stratford-on-Avon on August 7th (which was a great success) are due to Mr. H. Morley, who not only suggested the meet, but also made many very good suggestions, which if carried out will, I am sure, tend to still further popularise this very useful and inexpensive form of motoring. I am sorry that no formal vote of thanks was made to him at the time.

H. MORLEY.

Valve Trouble.

[4242.]—Most riders of this year's machines will, I think, agree that the valves break much too frequently. The screwed-in stem type nearly all break at the thread. The stems are of good thickness, but of course the strength is reduced at the thread, i.e., where the stem is screwed into the head, and where the greatest heat is. This portion should be made much thicker, but I think it would be much better to pass the stem right through the head and up to the shoulder, and rivet it over under great pressure. If properly made, I do not think it should either work loose or leak, and I think it would last indefinitely. Does anyone make a valve in this manner?

ALL BUT SATISFIED.

The Sincerest Form of Flattery.

[4243.]—Would it not be better if designers, instead of copying their neighbours' machines, tried to improve their own mounts? Nearly every other motor bicycle one sees is a copy of the Triumph. I suppose this is due to the magnificent success of these machines. But although they are first-class there is still room for great improvement. It is generally thought that magnetos should be protected from mud, dust, and weather, but we find them on our premier machine placed so as to get all three.

In *The Motor Cycle* of June 23rd you publish a memorandum from the Rex Manufacturing Co. describing their Speeding models, which says: "... Holes are also pressed in all parts where lightness can be obtained without loss of strength." If this can be done on racing machines, which are made to travel at full speed regardless of road surface, why is it not done on touring mounts which are driven carefully?

Do makers really think that because a lever governs the tank it is less inconvenient on the side of the tank than a similar lever governing the throttle or air? If not, why don't they provide magneto handle-bar control?

Now one more complaint and I am done. Why is the oil tank always put in front of the petrol tank, so that the rider has to bend down to manipulate the pump? If the oil tank were put over the petrol tank, as in the Davison tanks, the pump could be placed within easier reach of the rider's hand. Perhaps it is useless for me to complain. Designers seem to be somnolent. Perhaps only a Blériot will wake them.

IK 375.

Hill Climbing.

[4244.]—Being interested in these "impossible to climb" hills I went out to Mow Cop from Stafford with the intention of climbing it, a feat which I managed first time, right from the station to the top. I was using a 5 h.p. twin pedalless machine geared 4 to 1. The surface of the hill is in rather worse condition now than it was when the writers of letter No. 4158 rode up it. It has just recently been laid with new metal, or rather a mixture of cinders and gravel, for about ten yards on the steepest portion of the hill.

E 927.

[4245.]—During a tour in the Highlands last month I climbed Bealach-nam-Bo (the Pass of the Cattle), which takes one over from Loch Kishorn to Applecross, and is, in fact, the only road leading to Applecross. When in Applecross I was told that I was the first motor cyclist that had been over the pass; at any rate, I was the first to visit Applecross.

It would be interesting to hear if any of your readers can claim to have climbed this hill or if any have attempted to climb it. The road rises on either side from the sea level to 2,053 feet in five miles on one side and in six miles on the other. The gradients near the summit are very stiff, and the surface is terrible. The machine I was riding is a 1908 Triumph fitted with a Nala gear.

I should like to mention that during my tour I used R.O.M. tyres, and have no hesitation in saying that they are the only tyres I know of that would have withstood the terrible road surfaces I encountered. The road is shown on Route 330 of "Inglis's Contour Road Book of Scotland."

C. R. NANSON.

Silence.

[4246.]—In reply to letter 4211, we think that the scavenging action of the 5ft. exhaust pipe, as fitted by Mr. Grafton, would prove particularly advantageous to a two-stroke engine. This idea, which was first introduced by Mr. J. Atkinson, M.I.M.E., in the Crossley gas engine, was fitted in 1904 to the early two-stroke motor cycle, illustrated in *The Motor Cycle* of May 12th, and proved most effective.

Although Mr. Atkinson found it necessary to have 65ft. of exhaust pipe we consider that an effective scavenging effect is gained by the passage of the exhaust at a maximum speed of 100ft. per second through a straight pipe 5ft. to 6ft. long.

The only objection to this device is the difficulty of arranging for such a long exhaust pipe in place of the more compact arrangement of the ordinary silencer.

THE SCOTT ENGINEERING CO.

[4247.]—From correspondence in *The Motor Cycle* I see that this question has been taken up again. In one way the experiments referred to show a great improvement, i.e., the tendency to make larger expansion chambers and to procure a gradual outlet of the gases through flattened pipes, as is found on most cars.

The drilling of extra holes in the silencer provides a too sudden escape of the gases, and this, together with the "ring" of the metal, helps to increase the noise. These are the main points to look after, then it will make very little difference how many plates are fitted inside so long as no back pressure is created.

I have found the simpler a silencer the better it is, cheaper to make, and easier to clean out. Sometimes the

weight is also a consideration. My silencer for a 4 h.p. 85 by 95 mm. engine, which runs up to 3,000 r.p.m. on the road (3,600 on the stand), is very effective, therefore the following particulars may be of interest: Internal diameter of exhaust pipe $1\frac{3}{16}$ in., round box 3 in. by 11 in., held together by a lin. pipe, having four rows of 5-32 in. holes in it, fifty holes in all. The outlet is an elbow piece reduced to $\frac{5}{8}$ in. diameter. This latter is only screwed on to the pipe to prevent the gases exhausting straight on to the back tyre, but there is no difference noticeable when it is removed. The back pressure is not measurable. Your paper is very much appreciated here in our motor cycle club. R.R.
Berlin.

An Old Complaint.

[4248.]—I should like to say a few words in reply to letter No. 4216, August 25th. I cannot understand why "Hibernian" should find any difficulty in obtaining petrol in less quantities than two gallons. Perhaps it is because he calls at hotels for it. I have had no trouble in this way, and I have toured nearly all the South of England and a good part of the Midlands.

I also supply petrol myself, and many a time I have put as small a quantity as one quart into a motor cycle tank.

COUNTRY AGENT.

Two Stroke Engines.

[4249.]—I have great pleasure in replying to letter 4219, and am rather sorry I have not successfully dispelled Mr. Rendall's objections. With reference to the first objection, the editor has already answered this, but in the larger and earlier type of Scott engine non-return valves were fitted with great success. In his second he brings forward one of the time-worn arguments against this type of motor, alleging loss of power owing to inefficient suction. The excellent example set at various times with this motor ought to have sufficed as an answer, and I can assure our friend that there is no loss of power from this cause.

I was pleased to see Mr. Rendall intends personally to test the Scott machine, as I think that, in this way, he will set all his previous objections at rest. Personally, I am of the opinion that several readers of *The Motor Cycle* would be grateful for his experience with this motor, seeing he advocates the displacer type so strongly.

P. MORRISON MACINTYRE.

Surface Evaporation.

[4250.]—While partly agreeing with what "Cygnus" says in the issue of August 18th about surface carburetters, I should like to give my experiences of a surface carburetter extending over three years and for many thousands of miles, winter and summer alike.

I like a surface for the following reasons: (1) No choked jets; (2) perfect regulation of gas and air; (3) no flooding of carburetter after every stop; (4) less overheating of engine.

But I dislike it for the following reasons: (1) Great difficulty in starting in cold weather with anything except fresh petrol; (2) difficulty in finding correct position for air lever when first starting; (3) nuisance of having continually to open needle valve to carburetter to keep it filled to correct level, and sometimes forgetting to shut off, with consequent flooding and waste.

I must admit the surface carburetter has certain advantages, but I consider they are far outweighed by its disadvantages. Its disadvantages in cold weather are very great. As a case in point, I may mention I once pedalled my machine eight miles through snow owing to the petrol being too dense to vaporise. Of course a surface was quite satisfactory years ago, when the spirit was only .680; but now, when most of it is .720 to .725, it makes all the difference.

I have had no experience of the wick type, which I believe is the most satisfactory of all.

I hardly see the point of the remark "Cygnus" makes about the machine being "festooned" with wires for handle-bar control. Two short wires, quite out of the way, that is all—fewer even than the old type levers.

I consider that, provided the petrol is properly strained through very fine gauze, the jet type is much the best for all-round work. And after all that is what we motor cyclists want—a machine that will work equally well both winter and summer.

R. H. DICKMAN.

Magnetos and Sparking Plug Gap.

[4251.]—Occasionally I read in *The Motor Cycle* reference to the adjustment of the points of the sparking plugs used with magneto ignition, and there appears to be within limits, some latitude in the size of gap that is advisable. However, the closer the points the better the run, as might be expected. I ride a 5 h.p. twin Norton-Peag and since changing from accumulator to magneto ignition have set my plug points (ordinary J.A.P. plugs, single point good enough for anything) one-hundredth of an inch apart, using an engineer's feeler gauge for the setting. I never have the least trouble when starting or running, and careful oiling scarcely ever get stopped. I have not touched the magneto, beyond careful cleaning and oiling, in all 1,500 miles running, which I understand is not an uncommon achievement. A friend of mine—a doctor—who has magneto ignition in his car, and whom I advised as above, writes: "We were hampered considerably by the failure of the magneto . . . but since receiving the feeler gauge adjusting sparking plugs properly have had no further trouble, either in running or in starting. She starts at once."

AB 66

A Reminiscence of the Six Days' Trials.

[4252.]—Owing to the impossibility of writing to each man individually, I shall be very grateful if you will kindly allow me a little space to heartily thank, on behalf of the Shropshire M.C.C., the competitors and officials in the recent 1,000 miles trials, and also all others who so generously subscribed for a silver cup to be presented to them. The cup has now arrived, and is a magnificent one—an acquisition



Survivors in the Woodford to York and back 24 hours run. F. A. Harcourt (3½ h.p. Norton) and F. C. Wood (4 h.p. N.S.U.)

indeed to a club which was only formed this year. A meeting of the committee will shortly be held to determine what form the competition for its possession shall take, and will be announced in *The Motor Cycle* under "Club News."

It is hoped that Shrewsbury will again be chosen as centre for the trials, when it will be a pleasure to the S.M.C.C. to help the officials and competitors in any way they can.

HAROLD G. POTTS, Captain S.M.C.C.

EXPERIENCES WANTED.


"S. G. L." would like readers' experiences with Palsby Cord motor cycle tyres.

"Excelsior" wishes to thank those readers who so kindly answered his enquiries.

"H. W. W." would like readers' experiences with cooling on a 6 h.p. J.A.P. engine used to propel a sidecar. Will the fan prevent engine overheating when it is run free engine clutch in traffic?

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.



Going out of Town
for a few days?

Then be sure that your tyres are of the right kind, of the right weight, and quality.

That is to say, be sure they are

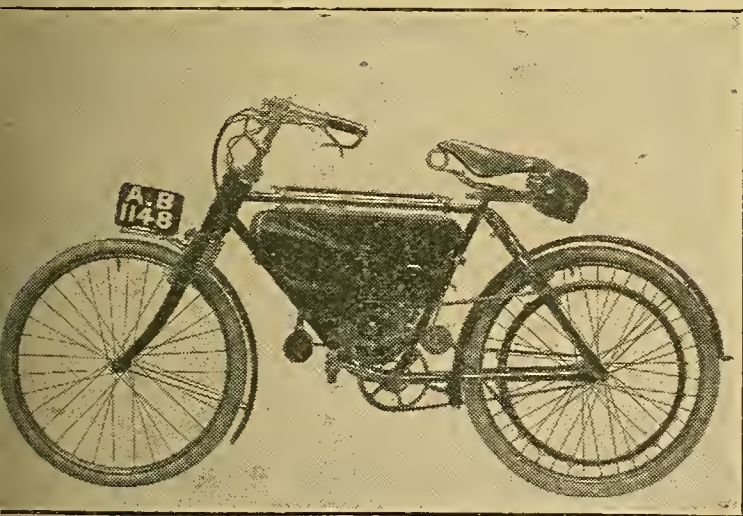
MICHELIN

Motor Cycle Tyres.

Michelin wired motor cycle covers of 2, 2 $\frac{1}{4}$, and 2 $\frac{3}{8}$ inch section are interchangeable: they will all fit the same rim.

The same remark applies to the 2 and 2 $\frac{1}{4}$ inch beaded covers.

Your Agent can supply you.



THE
GENTLEMAN'S
MACHINE
IS
A

MOTOSACOCHÉ

AND
IT
IS
A
WONDERFUL
LITTLE
MOTOR CYCLE
ASK
ANY
USER.

MOTOSACOCHE, LTD.,
65, HOLBORN VIADUCT, E.C.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, two lines. Name and address must be counted. Thus—

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

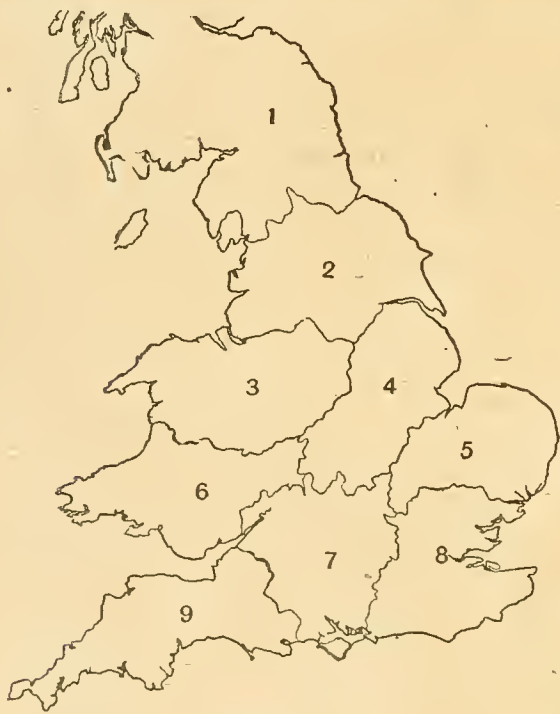
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

PREMIER

MOTOR CO., LTD.

BARGAINS.

The following have all been **EXAMINED** at our Works. Any machine may be had on **APPROVAL**.

Second-hand Machines in Stock.

SINGLE-CYLINDER.

REX Tourist, 1909, magneto, 3½ h.p., good as new	£34 0
TRIUMPH, 1907, magneto, 3½ h.p., good condition, perfect running order	£26 0
VINDEC, 3½ h.p., magneto, Truffault forks, just overhauled, re-enamelled, and plated	£25 10
VINDEC, 3½ h.p., magneto, Truffault forks, two-speed gear, perfect order	£25 0
N.S.U., 3½ h.p., magneto, 1908, perfect	£22 0
ROC, 3½ h.p., magneto, clutch, good order	£14 0
REX, '06, 3½ h.p., good order	£10 0
REX, '05, 3½ h.p.	£9 0
LINON, 3½ h.p., very good order	£8 0
MINERVA, 2½ h.p.	£6 10

TWIN-CYLINDER.

REX DE LUXE, 5 h.p., 1909, like new	£42 0
N.S.U., 6 h.p., 1908, with 1909 improvements, absolutely perfect	£28 0
N.S.U., 4 h.p., magneto, 1908, two-speed	£34 0
ROC-PEUGEOT, magneto, 5 h.p., 1908	£35 0
ROC, 1909, run 300 miles only, special bargain	£41 0
KERRY, 5 h.p., low saddle, handle-bar control	£17 0
FAIRY Lightweight, 1909, ridden 200 miles	£24 0
MOTO-REVE, very little used	£25 0

TRICARS, ETC.

CHATER-LEA tricar, Garrard engine, excellent machine	£10 0
HUMBERETTE car, fine bargain	£30 0

Fullest particulars of any of above on application.

WE SUPPLY ALL MAKES OF MOTOR CYCLES.
EXCHANGES. DEFERRED PAYMENTS.

TRIUMPHS FROM STOCK.

£50 worth for £42.

THE REX TOURIST

supplied only by the

PREMIER

MOTOR CO., has FREE ENGINE CLUTCH-in back wheel, J.A.P. AUTOMATIC LUBRICATION, and BAND BRAKE on front wheel.

Despite these valuable additions the price is the same as the ordinary Tourist Model,

— 40 GUINEAS. —

WRITE FOR ILLUSTRATION & SPECIFICATION.
GUARANTEED FOR 5,000 MILES.

1909 BRAND NEW N.S.U.

3½ h.p., List price £43 10s. Our price £33.

SEND FOR LIST OF SHOP-SOILED ACCESSORIES.

Premier Motor Co., Ltd.,

ASTON ROAD, BIRMINGHAM.

Telephone 4310. Telegrams, "Primus, Birmingham."

NUMBERED ADDRESS

For the convenience of advertisers, letters addressed to numbers at "The Motor Cycle." When this is desired, 2d. will be charged for and three stamped and addressed envelopes for forwarding replies. Only the number of the advertisement. Replies should be addressed to c/o "The Motor Cycle," Coventry"; or if added to the address, then to the number "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision of the goods is three days. For all transactions of value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and money orders should be made payable to Messrs. Limited.

SPECIAL NOTE.

Readers who reply to advertisements and answer to their enquiries are requested to state as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1 h.p. Clement-Garrard, low, handle control, photo; £10.—Lamb, 13, Eden Vale, Sunderland.

FOR Sale, new 1909 Rex; price 35 guineas—ordinary bargain, or would exchange.—Kendal.

5-7 h.p. Twin, Peugeot engine, Nala two-miles, 2½ tyres, footboards, less belt; approval, deposit.—Bertram, jun., Rothbury, Northampton.

TRIUMPH, 1908, fitted Albion 1909 engine, 2,600, only 20 this year; no time; good bargain; £36.—14, Sandringham Terrace, Newcastle-on-Tyne.

REX de Luxe twin, first-class condition, handle control, footboards, enamelled silver gear, exchange Triumph, or 3½ h.p. Rex de Luxe Lowthian Rd., West Hartlepool.

13 h.p. F.N. Lightweight, magneto, handle control, new last year, in grand order, 15 h.p. twin Rex, winner in competitions, £15; for Triumph, Hurvey, and N.S.U. motor cycle for booklets.—Turvey and Co., The Motor Pedal, Land.

SECTION II.

York and Lancashire.

CROSS for Triumphs, in Rotherham; stock; £48.

1907 Triumph, magneto, spring forks, footboard; £24.—Cross, Agent, Rotherham.

TWIN Rex, perfect condition; sell or exchange power.—36, Ivory St., Leathley Rd., Hull.

BOLTON.—2 h.p. Werner, M.O.V., 26 in. built, perfect order; £7 10s.—66, Shaftesbury, Bolton.

TRIUMPH, 3 h.p., magneto, handle-bar control, did condition; £20.—Moss, 549, Stockport, Manchester.

3½ h.p. Antoine, perfect, reliable; £8 10s. 32 10s. for pedal cycle; stamp, photo.—ley St., Hull.

2 h.p. Motor Cycle, Minerva engine, Chatter-Lea, £8, or offers, bargain.—Cookson, 300, Rd., Blackpool.

6 h.p. N.S.U. and sidecar, two-speed gear, Whittles, perfect; cost £70, lowest £20.—Eckington, Sheffield.

REX, 3½ h.p., 1906, M.O.V., spring forks, cumulator, fine running order; £12.—head St., Southport.

3½ h.p. Brown, 1908, magneto, perfect, vey, complete; must sell; £18, near Mountfield, Prestwich.

2 h.p. Water-cooled Motor Cycle, lightweight condition, tyres unpunctured; £10, or Carr, Vicarage, Goole.

3½ h.p. Rex, new engine, footboards; in stock, fine order, tyres good; £12.—J. Hu St., Market Weighton.

R BICYCLES FOR SALE.

p. Frontier, Lurquin and Couderc vertical
e, Longuemare carburetter, Stanley belt.—
56, Glen St., Colne.

1, 3h.p. 1906, spring forks, two accumula-
ood condition; £19.—Hitchings, Ltd., 74,
verpool (official agents).

purchased the following trial run motor
only run in trials, hill-climbs, etc., appear-
reliability unsurpassed, viz.:

p. 1909 Arno Motor Cycles, magneto igni-
handle-bar control, very low built, exactly
£45, my price £35.

1909 Arno motor cycles, magneto ignition,
exactly as listed at £37 10s., my price £30.

p. 1909 Lincolnshire Elk, Druid spring
magneto ignition, Palmer tyres, carried
p Cross-o'-Cliffe, gradient 1 in 6½; listed at
£25.

Lincolnshire Elk, magneto ignition, Pal-
mer; my price £25.

1909 Quadrant, magneto ignition, perfect
latest improvements; listed at £47 10s.,
5.

p. 1909 N.S.U., magneto ignition, latest
listed at £43 10s., my price £32 10s.

achines are turned out with new tyres, and
ual to new in every way, yet better than
have been tried in competitions. I have
w left, so if you want one wire to save dis-
—Hitchings, Lancashire Motor Exchange,
Morecambe. T.A.: Motor, Morecambe.

Two-speed Free Engine 4h.p. Motor Cycle,
exchange higher power 1909 magneto,
—Isaac, Upperhead Row, Leeds.

ED Singer, 2½h.p., Roc gear, magneto, spring
powerful and reliable machine; £17 10s.—
td., 74, Bold St., Liverpool.

GS, Ltd., specialise in Douglas lightweight
cycles. Inquiries received prompt and
ention.—74, Bold St., Liverpool.

EXLESS Douglas, the best lightweight on
rket and British made; send for list and
—Hitchings, Ltd., 74, Bold St., Liverpool.
for Douglas and Triumphs.

LED 1909 Magneto Rexes, all models, in
immediate deliveries; liberal exchanges.—
or Exchange, Westgate, Halifax.

ED List of second-hand Rex motors, and
list of tricar and motor cycles on applica-
x Motor Exchange, Westgate, Halifax.

Rex, two-speed and free engine, splendid
nd condition, little used, privately owned;
t Tarr's, 16, Cemetery Rd., Sheffield.

Motor Cycle, magneto, spring forks, two
gear, lamp, and accessories, only run 300
owner buying car.—Dean, Carnforth.

nd new), never used, 5h.p., twin, military
two speeds, magneto, spring forks, free en-
r close offer.—26, Offerton Lane, Stockport.

IS.—Choice of two motor cycles, 1907 and
n good condition throughout; cheap; trial
adwick and Sons, ironmongers, Wharf St.,

to Darlington in 13 hours, non-stop, last
on 3h.p. Fafnir, magneto, Clincher tyres;
earest £15.—Young, 4, Blackwellgate, Dar-

de Luxe, 1907, magneto, Roc clutch (new),
ce adjustable pulley. 2½ Shamrock studded
—Hesketh, 82, Campbell St., Farnworth,

Twin Minerva, spring forks, black finish,
n 400 miles, perfect; £28 10s.; exchanges
—Harry Fielding, Market St., Hebden
cs.

VE, 1908, magneto, Druid spring forks,
finished, in splendid order, grand hill-
p.—A. Ives, 27, Sunbourne Rd., St. Michael's
cs.

2, 2h.p. J.A.P. engine, J.A.P. lubricator,
carburetter, handle-bar control, spring
extra heavy tyres (cost £3), Brooks B100;
rshaw St., Barrow.

and Moore, 3h.p., and sidecar, accumula-
cently overhauled by makers, perfect order;
ge, offers, Triumph preferred.—Lake, 9,
Undercliffe, Bradford.

eto Rex, H.B. control, Continental and
n tyres, detachable tubes, searchlight, horn,
ride 50 miles to probable purchaser; any
of speed events.—5, Blantyre Rd., Liver-

hless-J.A.P. (1908), Phoenix two speed and
magneto, sprung frame and forks, first-
on, fast, lamp, adjustable pulley, Brooks
sell; £32 10s. cash.—34, Lowerhead Row,

A and Rex.—We carry the largest stock of
parts in the provinces for these machines,
ew machines from stock at low prices;
ge, or gradual payments; charged accumu-
re, 1s. per week.—Cockson Bros., 511,
Old Trafford.

TREMENDOUS DEMAND FOR —“CORONET” SIDECARS.—

We have laid down a special plant for the produc-
tion of High-class Sidecars, and the unique system
we employ enables us to turn out great quantities
at about half the usual price charged by some
makers. We guarantee our Sidecars to be identical
in quality to some makes sold at £9. We use
genuine Chater Lea lugs, double C springs, best
weldless steel tubing, best tyres. They fit either
right or left side; detached in three minutes.

Price £4 17s. 6d. each.

Delivery from stock to suit any make of machine—
Rexes, Triumphs, Minervas, N.S.U.'s, Rocs, etc., etc.

ALL OUR MACHINES ARE TESTED.

1909 3½ h.p. HUMBER, new	£45 0
1908 WOLF Lightweight, nearly new	£13 10
1909 3½ h.p. REX, two speeds, new	£52 10
1908 3½ h.p. REX Tourist, new	£29 10
1908 3½ h.p. N.S.U., brand new	£32 0
1909 3½ h.p. TRIUMPH, Continentals, new	£48 0
1909 3½ h.p. TRIUMPH, Palmer cords, new	£49 0
18 606 h.p. REX, magneto	£17 10
1908 2 h.p. MOTO-REVE, magneto	£25 0
1908 3½ h.p. N.S.U., magneto, nearly new	£25 0
1908 3 h.p. N.S.U., magneto, smart	£22 10
1908 3½ h.p. REX Tourist, magneto	£25 0
1907 3½ h.p. REX, magneto, 2½ in. tyres	£18 10
3½ h.p. THOS. SILVER, magneto	£18 10
5 h.p. Twin ROC, Roc clutch, magneto	£29 10
5½ h.p. REX DE LUXE, magneto, Roc clutch, handle starting	£27 10
4 h.p. Twin N.S.U., magneto, two speeds	£22 10
4½ h.p. Twin MINERVA, magneto	£22 10
3½ h.p. TRIUMPH, 1908	£35 0
3 h.p. QUADRANT, cost £45	£6 15
4 h.p. ANTOINE, M.O.V., 26 in. wheels	£12 10
5 h.p. Twin REX, and Sidecar	£19 19
3½ h.p. REX, 1906, 26" wheels, spring forks	£12 12
3½ h.p. REX, 26" wheels, handle-bar control	£11 10
3 h.p. FAFNIR, 26" wheels, handle-bar control	£9 10
2½ h.p. MINERVA, M.O.V., low	£8 15
3½ h.p. EXCELSIOR, very powerful	£6 15
3½ h.p. REX, cost 50 guineas	£6 15

Send for list of other bargains—best, biggest, and
cheapest stock. Cash buyers receive special quotations.

£2 10s. and a push cycle secures—

2 h.p. HUMBER. 2 h.p. PIEPER.
2 h.p. WERNER. 2 h.p. LIBERTY.

TRICARS.

4 h.p. STEVENS, fan-cooled, powerful	£12 12
4½ h.p. REX, fan-cooled, free engine	£13 13
5½ h.p. REX, open frame, two speeds	£29 10
5½ h.h. REX TRIETTE, 1909 model, air- cooled, art cane chair, two speeds, free engine, magneto, handle-starting, cost £66 a few weeks ago	£37 10
8 h.p. FAFNIR, two cys., open frame	£35 0
Forecarriage attachment, with tyres	£3 15
5 h.p. Twin ROC, magneto, Roc clutch, handle-starting, fitted with new sidecar	£33 0

CORONET ADJUSTABLE PULLEY.

The best variable
speed pulley on the
market. Loose flange
securely held in any
position by a simple
yet ingenious contri-
vance. Gear can be altered without the aid of
spanners, lock ring easily operated by hand. Buy a
"Coronet" pulley and gear your machine suitable
for hill-climbing. Special terms to the trade.
Standard makes, such as Rexes, Triumphs,
Minervas, supplied without the necessity of sending
old pulley for pattern.

"GRIPSKIN" BELTING.

Made from selected parts of hides, correct angle,
perfect drive, the best leather belt on the market.
Longer life than rubber.
¾ in., 9d.; 1 in., 10d.; 1½ in., 1/-; 2 in., 1/1.
Special terms to the trade.

CARBURETTERS

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to
handle-bar control. We keep a large stock of
carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,
CHARLES STREET, off Square Road,
Phonic 1062. HALIFAX. 2 minutes walk
from Station.

MOTOR BICYCLES FOR SALE.

5-6h.p. Twin Rex Model de Luxe, Bosch magneto,
Longuemare (£26) carburetter, Roc clutch, handle
starting, twin tyres, spring saddle, recently overhauled,
good condition, speedy; an trial.—Chadwick, Lonsdale
St., Bury.

3h.p. 1908 N.S.U., magneto, new tyres, belt, spare
cover, tube, Lucas lamp, Price's stands, Tam-
bourang, horn, goggles, suit, accessories, watch clip;
£15, or near offer; must sell, going away.—Stanley,
Princess St., Goole.

TRIUMPH, 3½h.p., 1908, Palmer cord back, excellent
running order, engine and magneto spares, also
horn and Premier lamp, with separate generator, and
new spare Clincher cover; £32.—Walter Gunson, Scot-
forth Rd., Lancaster.

LIVERPOOL.—Intending purchasers of Triumphs and
Douglas motors should, to obtain the protection of
the makers' guarantees, buy only from the official agents.
—Hitchings, Ltd., 74, Bold St. (the firm with over 30
years' highest reputation).

1908 Triumph, 3½h.p., fine machine, recently fitted
with 1909 piston, also included F.R.S. lamp and
generator, £35; Montgomery sidecar, Model de Luxe,
cost £14 10s., very little used, £10, will sell separately.
—Lamb, jeweller, Pocklington.

3½h.p. Triumph, 1907 model, engine and magneto
just been thoroughly overhauled, and machine
replated, new inner tubes, cover on back wheel, belt and
footrests, as good as new; nearest offer to £28.—Ben-
nett, 34, Dicconson St., Wigan.

TRIUMPH, 1908-9, excellent machine, 1909 domed
piston, and improvements, all tools and spares,
lamp, horn, two Riches and new spare Michelin tubes,
spare belt, and two spare covers, new Dunlop on back;
£36.—Swales, 6, King St., Wigan.

TWIN Brown, 1908, 5h.p., magneto, spring forks and
seat-pillar, Fit-all two-speed and free, White
economiser, very quiet, Montgomery flexible sidecar,
tyres Continental, R.O.M. combination, and Palmer
(new), lamps, accessories; giving up riding; £37 10s.—
B., White House Hotel, Hull.

EXCELSIOR, new, 1909 model, 3½h.p., ball bearing
engine, Druid spring forks, Bosch magneto, ad-
justable pulley, cut-out, etc., only slightly shop-soiled;
£37 (usual price £45 13s.); unique opportunity to get
a high-grade up-to-date mount at wholesale price. —
Ajax Co., 1, Berry St., Liverpool.

SECTION III.

Canarvon, Denbigh, Flint, Cheshire, Derby,
Stafford, Shropshire, Montgomery, and
Merioneth.

£30.—1909 Lightweight 2½h.p. N.S.U., magneto, in
perfect order.—Thos. Booth, Frodsham.

TRIUMPH, 1909 model, special tyres, little used,
splendid condition, guaranteed perfect; £39.—Moss,
Wem.

1909 Motosacche; £25, cost £42; scarcely used;
exceptional offer.—The Nook, Pelham Rd., Mill
Lane, Liscard.

2½h.p. Motor Cycle, Minerva engine, Longuemare car-
buretter, in running order; £9 10s.—On view,
Gradior Garage, Stafford.

3½h.p. Late 1907 Rex, very low, perfect, and re-
liable; accept nearest £13, absolute bargain.—
Sellman, Mill St., Cannock.

5½h.p. N.S.U. Twin, nearly new, not done 1,000 miles,
footboards, headlights, and all fittings; £34, no
offers.—Richards, Engineers, Ruabon.

5½h.p. Twin Rex, magneto, spring forks, spring seat,
new belt and Continental on front wheel, fast,
and good climber; £23.—41, New Rd., Uttoxeter.

3h.p. Radford, new model, used trials only, perfect,
£14; Kynoch tricar engine, as new, £9; any
trial; clearance bargains; photos.—Radford Cycle Co.,
Stafford.

TRIUMPH, 3h.p., magneto, B. and B. handle-bar
controlled carburetter, rubber studded tyres, abso-
lutely reliable; £20.—Smith, 39, Rudgrave Sq., Egremont,
Cheshire.

POWERFUL Two-speed Phoenix-Minerva 4½h.p. Motor
Cycle, Longuemare carburetter, long handle-bars,
etc., in perfect order, most suitable for hilly district
or sidecar work; genuine bargain, £14 10s.—L. S. Fearn,
Alfreton, Derbyshire.

REX Featherweight, 2½h.p., magneto, 1908, H.B.
control, condition perfect, S.E. rubber studded
back, Dunlop 1909 studded front, Rich detachable tubes,
all unpunctured, Brown adjustable pulley, carrier-stand,
spares; £18.—Bird, Knypersley Hall, Congleton.

DOUGLAS Lightweight, British made, twin cys.,
magneto, spring forks, a revelation in comfort,
ease of starting, power, and reliability, absolutely vibra-
tionless; write for lists.—Hitchings, Ltd., 74, Bold St.,
Liverpool. Sole Agents for Liverpool and Birkenhead.

5½h.p. N.S.U., with N.S.U. sidecar, magneto, Roc
spring forks, Roc clutch, and two-speed gear,
handle starting, all new inner tubes, one spare Riches,
all new tyres, with one R.O.M. steel studded spare, Aut-
eclipse lamp, Cowey speed indicator, B. and B. carbur-
etter, H.B. control, L.B. mirror, new 1 in. Watawata
and one Whittle belt, adjustable pulley, toolbags and
tools, only done 1,000 miles, all in best condition.—
Foster, Electric Bakery, Darlaston, Staffs.

MOTOR BICYCLES FOR SALE.**SECTION IV.**

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

ROC, 6h.p., twin, 1909, spring forks; cost £60, £35, or nearest cash offer.—Below.

MINERVA, 2h.p., M.O. valves; first P.O. has it; £3 10s.—Below.

CLYDE, 3h.p. Antoine engine, long bars, low seat, going order; £7 10s.—St. Edmund Garage, Northampton.

1909 Triumph, 3½h.p., new end of April, in splendid condition; price £38.—Guyver, Stratford-on-Avon.

4h.p. Twin, Peugeot engine, low built machine, fast and reliable, good condition; £16.—Birt Morris, Bourne.

1907 Minerva, 3½h.p., splendid condition, climb anything, spring forks; cheap, £12.—42, Victoria St., West Smethwick.

3½h.p. Ariel, spring forks, footrests, two accumulators, new condition; good reason for selling; £18.—J. G. P. Deacon, Lutterworth.

TRIUMPH, 1908, Clincher and Lomax non-skids, little worn, splendid condition, spares; £30.—Taylor, Trinity St., Peterborough.

1909 Triumph, free engine clutch, Dunlop tyres, nearly new; £45, or offers.—Box No. 3,071, The Motor Cycle Offices, Coventry.

QUADRANT, 3½h.p., 1907, Birmingham make, in sound condition; £15.—J. Bastable, 19, Middleton Rd., King's Heath, Birmingham.

1909 Humber, latest model, two-speed, Druid forks, studded tyres; accept £38 10s.; exchanges entertained.—358, Stratford Rd., Birmingham.

N.S.U., 2½h.p., twin, magneto, 1909, run few trials, otherwise perfectly new; cash £33. Telephone, 1180.—R. Cripps and Co., Ltd., Nottingham.

1909 3½h.p. Triumph, grand condition, lamp, spares; must be sold; guaranteed perfect; new April; seen after 6 p.m.; offers.—21, College Rd., Saltley, Birmingham.

3½h.p. Rex, low built, rubbered footboards, tyres as new, spring forks, easy starter, excellent going order; £23, or offer.—Sandler, Waterworks, Papplewick, Nottingham.

1908 Motosacoche, handle-bar control, accumulator, lamp, extra new belt, spares, etc., in splendid running and new condition; £18.—Holdsworth, 214, High St., Lincoln.

1907 Triumph, splendid condition, H.B. control, latest B.B. carburetter, Continental tyres, low built, spares, lamp, horn, pump; sacrifice £16.—R.L., 171, Brunswick St., Leicester.

£17.—3½h.p. Minerva, Bosch magneto, Advance pulley, spring forks, new 2-guinea lamp, climb anything, front Continental, back Palmer.—Tommas, 1, Palmerston Rd., Northampton.

TRIUMPH, 1909, Triumph free engine, Palmer cord tyres, self-sealing tube in back wheel, Autoclipse lamp, horn, spares, condition as new; cost over £60, a bargain, £45.—Fred Percival, Long Causeway, Peterborough.

TRIUMPH, 1908, 1909 engine, all accessories, also Mills-Fulford castor wheel sidecar, 14 guinea pattern, all tyres nearly new, splendid condition; £42.—Lambourne, 59, Willows Crescent, Cannon Hill, Birmingham.

TRIUMPH, 3h.p., magneto, B. and B. handle-bar control, variable pulley, new cylinder, generator, lamp, horn, tools, spares, in grand condition; £22 10s. cash; bought higher power for sidecar.—Lewin, 22, Highfield St., Leicester.

3½h.p. N.S.U., 1908, magneto, perfect condition, spring forks, handle-bar control, footrests, horn, lamp, stand, carrier, magneto cover, and unused spares, tyres unpunctured; accept £25, or near offer.—Martin, Brooklyn Villa, Henrietta St., Bulwell, Nottingham.

4-CYL. F.N., 4½h.p., 1908, Clincher and Three Spires tyre, like new, butted tube, spring forks and footrests, spare valves, magneto parts, cylinder, watch, horn, Autoclipse lamp, stand, carrier, perfect condition, quiet and powerful; £29, or exchange Triumph.—Rogers, Motorist, Stechford.

1909 Triumph, with Triumph hub, plate clutch, new at Easter, overhauled in August by makers, will do 56 m.p.h. by speedometer, first Triumph on formula Newnham Hill-climb, spares, Dermatine belt, valve complete, plug, fasteners, belt punch, usual tool roll, tyres R.O.M. front, Clincher back; £46.—Geoffrey Smith, 37, Northumberland Rd., Coventry.

ANTOINE twin-cyl. 6h.p. Motor Cycle, Chater-Lea frame, Druid spring forks, Palmer cord tyres, great bargain, £18 10s.; Mitchell motor cycle, 2½h.p., lightweight, low built, almost new, £9 10s.; Talbot-Stevens, 2½h.p., vertical, low built, Clipper tyres, bargain, £8; Zenith bicar, 3½h.p. Fafnir engine, Palmer tyres, spring frame, £10 10s.; tricar chassis, low built, Clincher tyres, complete, less engine, will take twin, accept £7.—Brown's Motor Stores, 12, Bull King, Birmingham.

The following Motor Cycles are offered by Wauchope's, of 9, Shoe Lane, Fleet Street, London, E.C., at Special Low Prices to clear. First cheque secures each bargain, subject to their being unsold. Inspection cordially invited.

No. 1692.—3½ h.p. 1909 TRIUMPH, standard model, complete, with lamp, horn, and Cowey speedometer; guaranteed	£45 0
No. 1637.—3½ h.p. 1907 TRIUMPH, magneto, Mabon free engine clutch; guaranteed	£27 10
No. 1679.—1½ h.p. Late Model F.N. Lightweight, magneto ignition, spring forks; guaranteed ..	£17 10
No. 1679.—2 h.p. MOTO-REVE, direct drive, magneto, and Druid spring forks, latest 1908 model	£19 19
No. 1372.—5 h.p. SAROLEA and Sidecar, ready for the road	£19 0
No. 1652.—6 h.p. J.A.P. and Sidecar, Phelon and Moore two-speed gear, Chater-Lea fittings, spring forks; guaranteed	29 Gns.
No. 1606.—3½ h.p. CHASE Tricar, two-speed gear	20 Gns.
No. 1618.—6 h.p. 1908 N.S.U. and Sidecar, coach-built, two-speed, and free engine, magneto, spring forks; guaranteed	£35 0
No. 1699.—3½ h.p. 1909 HUMBER and Sidecar, not done sixty miles, two-speed gear and free engine clutch; guaranteed. The combination	£39 0
No. 1623.—3½ h.p. PHENIX, Minerva, Tricar ..	20 Gns.
No. 1681.—3½ h.p. GREENE Motor Cycle, water-cooled engine, magneto	£25 0
No. 1700.—3 h.p. 1906 TRIUMPH, magneto, spring forks; guaranteed	£21 0
No. 1704.—5 h.p. VINDEC SPECIAL, fitted with Nala two-speed gear, magneto; guaranteed ..	£22 10
No. 1649.—2½ h.p. FAIRY; guaranteed	£12 10
No. 1481.—4 h.p. TWIN WERNER; guaranteed ..	£12 10
No. 1467.—2½ h.p. MINERVA	£10 10
No. 1617.—1½ h.p. QUADRANT; guaranteed ..	£15 15
No. 1665.—3½ h.p. 1908 TRIUMPH, handle-bar control, spring forks, standard model	29 Gns.
No. 1443.—3½ h.p. TWIN WERNER, free engine clutch, chain drive; guaranteed	£10 10
No. 1545.—7-9 h.p. PEUGEOT, Chater-Lea fittings	£15 15
No. 1696.—7-9 h.p. V.S. and Sidecar, 1909 model, two-speed gear, and free engine, spring wheel, Mills and Fulford sidecar	£59 0
No. 693.—2½ h.p. R. & P., vertical engine; guaranteed	£8 10
2½ h.p. GRIFFON, vertical engine	£10 0
No. 1613.—3½ h.p. 1907 MINERVA	£16 10
No. 1664.—3½ h.p. ROC, free engine clutch; guaranteed	£15 15
No. 1452.—5 h.p. REX DE LUXE, magneto ignition, spring forks, and seat-pillar; guaranteed	£17 10
No. 1605.—2½ h.p. BROWN, vertical engine; guaranteed	£10 10
No. 1682.—4½ h.p. 1908 Four-cylinder F.N.	30 Gns.
No. 1584.—4 h.p. BAT	£12 10
No. 1698.—4½ h.p. MINERVA and Sidecar, twin-cylinder engine, 1908 model. The lot	£25 0
No. 1680.—3½ h.p. M.M.C., Nala two-speed gear, magneto ignition, finished grey; guaranteed ..	£19 19
No. 1528.—5 h.p. TWIN BROWN, four-speed gear, low frame, 1908 model	£19 19
No. 1625.—2½ h.p. BRADBURY, magneto	20 Gns.
No. 1631.—3½ h.p. Three-speed N.S.U., 1908 model, magneto	Offers
No. 1639.—3 h.p. ZENITH BICAR	£15 15
No. 1650.—2½ h.p. 1909 MATCHLESS, lightweight, magneto, spring forks, standard model ..	Offers
No. 1577.—5 h.p. 1908 V.S., two-speed gear, Truffault forks, magneto	Offers
No. 1683.—4½ h.p. 1908 N.S.U., only once used, twin engine, magneto; guaranteed	£25 0
No. 922.—3½ h.p. PHENIX COB, suitable for lady or gentleman, two-speed gear	£32 10
No. 1559.—6 h.p. MATCHLESS, magneto ignition, J.A.P. engine; guaranteed	Offers
No. 1596.—1½ h.p. F.N., spring forks, magneto, latest model	£17 10
No. 1534.—4½ h.p. 1908 MINERVA, R.O.M. contact breaker; guaranteed	20 Gns.
No. 1636.—5-6 h.p. Four-cylinder F.N.; guaranteed	30 Gns.
No. 1634.—7 h.p. MATCHLESS, twin engine, magneto, low frame, latest 1908 model; guaranteed	£25 0
No. 1616.—3 h.p. TRIUMPH	£15 15
No. 1465.—3 h.p. TRIUMPH, very low price ..	15 Gns.
No. 1644.—2½ h.p. F.N.; guaranteed	15 Gns.
No. 1560.—3½ h.p. CHATER-LEA; guaranteed ..	£17 10
No. 1576.—3 h.p. TRIUMPH, magneto ignition; guaranteed	£17 10
No. 1542.—6 h.p. ANTOINE	£12 10
No. 1628.—5 h.p. TWIN PEUGEOT; guaranteed ..	£22 10
No. 1550.—3½ h.p. 1907 REX, magneto	£18 10
No. 1651.—1½ h.p. 1908 MOTOSACOCHÉ; guaranteed	£17 10
No. 1037.—2½ h.p. MATCHLESS	Offers
No. 928.—3½ h.p. EXCELSIOR and Sidecar	Offers
No. 1705.—1½ h.p. F.N., magneto, spring forks	£17 10

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MOTOR BICYCLES FOR**SECTION V.**

Norfolk, Suffolk, Cambridge, Hants and Bedford.

TRIUMPH, 1907, in first-class condition, control; £25.—A. Godfrey, 25, London

FOR Sale, 3½h.p. Excelsior motor cycle, condition; £6, worth £10.—Rose, Wick Cambs.

2½h.p. Givandan Racing Motor Cycle, fast and low; offers invited.—37, Searl terton, Cambs.

4½h.p. Bat, perfect condition; £20, or coach-built tricar, cash adjustment. Motor Cycle Offices, Coventry.

£14.—5½h.p. 1906 Rex, Longuemare, latest brand new back tyres, very fast.—F. West Hill, Bury St. Edmunds.

3½h.p. Brown, splendid running order, overhauled, new cylinder and piston; trial.—Whiting, Garboldisham, Norfolk.

4h.p. Roc, late 1908, magneto, two speed gine, Clincher studded tyres, everything as new, all spares; £28.—3a, Bridge St., Can

3½h.p. Magneto Triumph Motor Cycle, as new, all spares, new lamp and horn tried any time; £34.—Young, Cheveley Rd.,

5h.p. Twin Vindec Special, this year's model, June, run 600, two speeds and free engine, long frame and handle-bars, absolute £40.—The Ashes, Stowmarket, Suffolk.

1909 Zenette, Gradua gear, spring frame, 4 engine, Bosch magneto ignition, Covometer, Clincher studded tyres, perfect run ridden 500 miles; cost £60, accept £45.—Fra brooke, Thetford.

SECTION VI.

Worcestershire, Herefordshire, Radno ck, Monmouth, Glamorgan, Car digan, and Pembroke.

1909 Triumph, splendid condition, all spa latest lamp; £38.—Davies, 164, High Stourbridge.

TRIUMPH, 1909, standard, £48; free eng 6 guineas extra; can deliver from stock Stourbridge.

1909 Triumph, not ridden 100 miles, del month; what cash offers?—Collier, 52 St., Abertillery.

1909 3½h.p. Triumph, perfect running much used, Lucas lamp, horn, and any trial; £39.—Folkes, Lye, near Stourbridge

3½h.p. Brown for sale, splendid condition, 9, Wolf lightweight, first-class order, £9, offer.—Brady, 1, Romilly Crescent, Canton, C

FIRST Cheque £10 secures my 3h.p. Quadra forks, new tyre, tube, horn, accumulator order, spare cover and tube.—Robbins, Port St.

MINERVA, 1908, 3½h.p., spring forks, stand, carrier, perfect going order, slow most reliable, spare tube, belt, valves, springs, points, etc., in cases; £32 10s.—Smith, archit avon.

6h.p. N.S.U., Roc two-speed gear, magn forks, free engine, etc., late 1908; this equal to new, and has not been ridden 500 10s.; sidecarriage, perfect condition, £3. Bromsgrove.

SECTION VII.

Gloucester, Oxford, Buckingham Wilts, and Hants, and Channel Isl

2½h.p. J.A.P., in good order.—White, Oakl tage, Hurst, Berks.

3½h.p. Quadrant, new tyres, belt splendid very fast, powerful, and reliable; £22 Wokingham.

3½h.p. Werner, twin-cyl., most reliable and 4 chine; £15 15s.—T. Baker and So Wks., Reading.

3½h.p. Triumph, 1908 model, Mabon clutch well kept, like new machine; £38.—T. Sons, Motor Wks., Reading.

3½h.p. Humber, 1909 model, two-speed, not miles, fully guaranteed; £36 10s., no T. Baker and Sons, Motor Wks., Reading.

MOTOSACOCHÉ (1908), accumulator, new belt, engine just been overhauled by make etc.; £18, or near offer; splendid machine.—Pa ham, Hants.

3½h.p. Quadrant, spring forks, splendid cli gine perfect, very little used, lamp carrier, and stand, complete, thoroughly o studded tyre; £15 15s. Tel.: 134.—T. Milner bury.

NOW!—If you require 1909 Triumphs, I can you immediately. I have also to dispose Ariel, with magneto, spring forks, steel stu tyre, original front ditto, sacrifice £14.—Surpho Rd., Bournemouth.

BICYCLES FOR SALE.

SS Lightweight, magneto, spring frame
ks, Clinchers, footboards, tools, lamp, horn;
early new.—Collins, 6, Compton St., Lon-

—3 h.p. Fafnir, enamelled French grey,
ar control, adjustable pulley, lamp, all
et; 14 guineas.—Palmer, 6, Flaxman Ter-

3 h.p., 1908 pattern, splendid condition,
accessories, lamp, watch, etc., tools, spares;
2 10s.—Wernick, 242, High St., Lewisham,

rant, spray, spring forks, trembler coil,
Millennium stand, good tyres, tools, spare
tube; trial; £7 10s.—Wake, 13, Gladstone

umph, 1907-8 pattern, little used, new May,
spares, and extras, perfect condition; bar-
neans.—3,113, The Motor Cycle Offices, 20,
C.

h.p. Twin, magneto, two speeds, all latest
vements, also Montgomery sidecar; £37;
ago; almost equal new.—F. Hill, Princes Rd.,
ile.

7 Rex, spring forks, just fitted latest Os-
four-speed and free engine, splendid condi-
tubes; £14; sidecar, £2 10s. — Sharp,
ted.

U, brand new, magneto ignition, 1in. belt,
wheels, 1908 specification; £30; approval;
ertained.—Eagles and Co., N.S.U. Agency,
ton.

chless, 3 h.p., splendid condition, latest
vements; price £25; property of an officer
d.—Guest, Officers' Polo Ground, Charlton
ich.

ant Bargains in second-hand motor cycles
get them at Wauchope's. Splendid bar-
neans.—3,113, The Motor Cycle Offices, 20,
ndon, E.C.

umph, not been ridden 1,000 miles, and well
for, studded tyres, Lucas headlight, Tri-
spares; £39.—Eastern Garage, 418, Romford
Gate.

1907), spring forks, Palmer cords, 1909,
e-bars, first-rate condition, all accessories;
a Garage, 418, Romford Rd., Forest Gate.

(late 1908), had very little wear, appear-
ed all working parts perfect; will send on
32.—Eastern Garage, 418, Romford Rd.,

inir (80 by 80), Chater frame (No. 6), Druid
forks, footrests, handle-bar control, rub-
tyres, Goodlad's speedometer, Autoclipse
carrier, spares, very fine condition; £19.—
age, 418, Romford Rd., Forest Gate.

Dion, Brown-Barlow carburetter, handle-
control, Palmer tyres, stand, horn, lamp;
re; £12 10s.—Holland's, High St., West
rthing.

U. Twin Lightweight, 2 h.p.; cost £43 few
ago; ridden about fifty miles; accept £30,
for P. and M.—C.T.C., 1, Windsor Rd.,
pen, N.

I, late 1908, unscratched, Shamrock tyres,
spare belt, box Bosch magneto parts, valves,
y lamp, and generator; sacrifice £33 10s.—
St., W.

inir, Chater-Lea frame, magneto, new Miche-
thumb control, Whittle belt, footboards, ex-
ition; £18.—Clayton's Garage, St. John's
Blackheath.

oter Bicycle, 4 h.p., spring forks, low, fast,
condition; £13; 3 h.p. motor cycle, in good
condition good, £8 10s.—Hewett, 99,
Rd., Acton, W.

p. J.A.P., M.O. valves, magneto, spring
Chater throughout, handle-bar control, per-
did 56 at Brooklands.—Campbell, White
Bromley, Kent.

afnir, 26in. wheels, footboards, long bars,
carburetter, foot brake, Dermatine belt,
covers, fast, and good climber; £11.—234,
Kilburn, N.W.

e, magneto, splendid condition, good climber,
le, spring forks, handle-bar control, etc.;
ly; offers; reason for disposal, bought car.
nbridge Rd., Maidstone.

yments.—£10 1s. 9d. down secures a Moto-
£12 4s. 4d. down a Bradbury; balance in
ly payments; latest models on view.—Stan-
ea Bridge Rd., Lerton, London.

ell!—Nearly new 3 h.p. Quadrant, Mabon
h, Palmer cord, spring forks, ready for tour,
omery flexible sidecar for same, also as new,
own, 66, Grand Parade, Haringay.

OCHE, spring forks, accumulator, horn,
tools, etc., complete set spares, just thor-
hailed, splendid condition; trial willingly;
pson, 20, Cheriton Rd., Folkestone.

inerva, 1907, equal new, and looks it, two
s, two accumulators, spare tube, new Good-
stud back, Palmer front, all accessories, etc.;
£14.—74, Colombo Rd., Ilford, Essex.

NO FANCY PRICES.

FARRAR'S 'HALIFAX' SIDECARS.

BETTER THAN THE BEST, and HALF THE COST.

Each £4 17 6 Each.
Best weldless steel tubing, plated rims, luxuriously
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C springs. Any size wheel. Guaranteed twelve
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2½ h.p. Singer, mag.	£6 12½	h.p. Stevens	£5
3½ h.p. Rex	£9 12½	h.p. R. and P.	£7
3½ h.p. Dux	£9 12½	Minerva, M.O.V.	£8 10
2 h.p. Rex	£5 12½	h.p. Humber	£5
3 h.p. Noble, M.O.V.	£7 12½	h.p. King	£8
2½ h.p. Whiteley	£6 12½	h.p. King	£8

1909 "PREMIER" MAGNETOS.

Absolutely the finest magneto.
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DELIVERY FROM STOCK.

50/- and a good push bike secures either:

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1908 N.S.U. Lightweight, magneto	£22 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
1 h.p. 1906 REX, M.O.V., spring forks	£13 10
REX DE LUXE, magneto, clutch	£26 10
5½ h.p. TWIN REX a beauty	£15 10
2½ h.p. REX, M.O.V., spray	£10 10
6 h.p. TWIN REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
3½ h.p. FAFNIR, two speeds, free engine, spring forks	£16 0
3 h.p. QUADRANT, handle-bar control	£5 15
4 h.p. KING, Palmer tyres	£12 0
5½ h.p. 1907 REX, lovely goer	£15 15
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34 0
3½ h.p. BROWN, M.O.V., fine goer	£12 0
1 h.p. ANTOINE, M.O.V., fine goer	£11 0

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6-7 h.p. SINGER, twin engine	£32 0
5½ h.p. REXETTE, fine machine	£24 0
5-6 h.p. ROVER, newly enamelled	£17 0

ONE ONLY.

1908 LINCOLN ELK, magneto ignition, brand new	£25 0
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Single-cylinder, 3.6 h.p. (R.A.C. rating), black and
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SPECIAL BARGAINS.

1909 Amac or B. and B. Carburetter, H.B. control	each 27/-
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Long Handle-bars, plated	5/6
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2½ h.p. Ariel, everything in perfect order, low and
fast. £9; also 3½ h.p. Minerva, spring forks, H.B.
control, very low, splendid condition, and grand hill-
climber.—Lindsey, 123, High St., Harlesden, N.W.

TRIUMPH, 2½ h.p., well kept, and perfect order, new
Clincher tyres and S.D. belt, tools, spares, etc.,
just overhauled; owner giving up riding; £20 cash.—
Box L69, The Motor Cycle Offices, 20, Tudor St., E.C.

TOURIST Trophy Triumph, 1909 engine, complete
with two toolbags, spares, and tools, two pair
handle-bars, lamp, generator, horn, tyres as new; £38,
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3½ h.p. Kerry, new condition, just overhauled, tyres
good, new Shamrock, splendid hill-climber, take
sidecar, too powerful for owner; £12, or near offer: call
or write.—R.B., c/o Chapman, Garage, Waltham Abbey.

3½ h.p. J.A.P., No. 6 Chater-Lea, new in June, J.A.P.
automatic lubrication, speed gear, electric lamp,
triple horn, handle-bar control, spares, very fast, smart
machine; £30.—Mason, "Cleveland," The Glebe, Black-
heath.

3 h.p. Humber, 1909, Bosch magneto, very low, latest
type frame, 1in. Whittle, footboards and acces-
sories, only run 500 miles since assembled, condition
perfect; bargain, 16 guineas.—W., 68, Grove Rd., Wal-
thamstow.

2½ h.p. N.S.U. Twin 1909 Lightweight, Bosch mag-
neto, mechanical inlet valves, spring forks,
handle-bar control, geared pulley, guaranteed as new;
£32; approval.—Eagles and Co., N.S.U. Agency, High
St., Acton.

3½ h.p. Motor Mfg. Co., very low, long bars, vertical,
powerful hill-climber, fast, round tank, Derma-
tine, spray, trembler, 26 by 2½ tyres, takes sidecar,
accessories; bargain, £8 15s.; trial.—17, Ford Sq., Mile
End Gate.

F.N., 4-cyl., 4½ h.p., 1908, with forecar attachment, no
seat, perfect condition, Palmer cords, lamp, horn,
tools, spares; cost £62, take £30; bargain; too fast for
owner.—A. Fort, 51, Whitfield St., Tottenham Court
Rd., London.

4½ h.p. Minerva twin, hardly been used, very reliable,
lamp, horn, Price's stand, footrests, carrier,
spring forks, all tools, new spare valves, non-skid back,
£25; 1½ h.p. light F.N. part payment.—Write, Wells, 96,
Fleet St., E.C.

4-Cyl. F.N. Motor Cycle, equal to new, magneto, spring
forks, handle-bar control, etc.; £27, or will ex-
change for part cash and lightweight F.N., or other
good make; can be seen after 7 o'clock.—13, West View,
St. John's Rd., Wembley.

REX 5 h.p. Special Twin Tourist, latest 1909 pattern,
gold medal machine, condition better than new,
complete with spares; genuine sacrifice, £34; advertiser
buying Speed King.—Inspected at Smith's, Rowland
Wks., 16, Haverstock Hill.

6 h.p. J.A.P.-Chater-Lea, with rigid sidecar, perfect,
almost new, Davison tank, Longuemare, Watawata,
footboards, £30, or near; also 2½ h.p. Kerry, spring forks,
splendid condition, £12, bargains; seen after 5 p.m.—
Francis, 41, Cecil Rd., Ilford.

ZENETTE-GRADUA, 1908, magneto ignition, Palmer
cord tyres, infinitely variable gear, luggage carrier
and stand; cost £60, take £30; also some shop-soiled
models going at 30 to 40 per cent. reduction; bargains.—
Zenith Motors, Ltd., Weybridge.

3½ h.p. Premier, 1909, delivered April, R.O.M. back,
all accessories, spare belt, tube, tyre, valves,
lamp, etc., splendid hill-climber; reasons for selling,
bought car; accept 36 guineas; seen any time by ap-
pointment.—Balland, Empire Theatre, Holloway.

GENTLEMAN'S Handsome 4 h.p. M.O.I.V. Touring
Model (V.S.82), dual magneto, accumulator igni-
tion, 26in. by 2½in. Peter-Unions, Riches detachables,
live axle, foot clutch, electric light, very low, immense
length; 22 guineas; photo.—North Lodge, Teddington,
London.

6 h.p. Heavy Flywheel J.A.P., Chater-Lea fittings, large
Brooks saddle, 2½in. R.O.M. tyres, B. and B. car-
buretter, H.B. control, R.O.M. synchronised contact,
Mabon clutch, Watawata, Chater-Lea rigid sidecar;
£35; bicycle made non-stop last A.C.U. Quarterly Trials.
—Southey, Berkhamsstead.

1½ h.p. F.N. Lightweight, spring forks, magneto, 1908
model; front tyre, stand, carrier, Lycett's belt,
saddle, toolbag, and horn, all new; perfect running order
and condition fine hill-climber; trial by appointment;
£20 only, guaranteed.—Write, Faulks, 10, Hillmorton
Rd., Camden Rd., London.

A BARGAIN.—7 h.p. twin Peugeot, new Chater-Lea
throughout, long handle-bars and footboards, low
built, with sidecar, Amac, H.B. control, coil, two accu-
mulators, and belts, lamp, and horn; £28, or nearest
offer; good cause for selling.—W. Richardson, 428,
Woolwich Rd., Charlton, Kent.

40 Per Cent. Reduction on following new machines:
Zenette, with free engine clutch, Zenette fixed
pulley; 30 per cent. on Zenette Gradia gear and Zenith
tricar; 6 h.p. J.A.P.; second-hand 1908 Zenette Gradia
(£56 14s. when new), take £30, excellent condition.—
Zenith Motors, Ltd., 1, Church St., Weybridge.

ELEPHANT (autumn bargains, splendid condition,
and guaranteed).—Rex lightweight, magneto, as
new, 15 guineas; 3½ h.p. Rex, black finish, 10 guineas;
3 h.p. Centaur, £10; 3 h.p. Riley, handle-bar control,
£11; others from £5; exchanges arranged; machines
accepted for sale on commission.—Elephant and Castle
Motor Mart, Elephant Rd., London, S.E.

MOTOR BICYCLES FOR SALE.

31 h.p. De Dion, Roc clutch, and two speeds, beautifully sprung, Chater-Lea fittings, handle-bar control, very low built, most reliable; must sell; £20, sacrifice.—17, Kenmore Rd., Mare St., Hackney, London.

6 h.p. N.S.U., late 1908, magneto, spring forks, two-speed, free engine, starting from saddle, mirror lamp, and brand new R.O.M. tyre rear, footboards, mileage recorder, spare tube and belt, and other spares and tools, perfect running order; trial; £30; very suitable for sidecar work; owner returning to America.—St. Denis, 38, Cireus Rd., St. John's Wood, London.

THE very best medium to arrange exchanges is Wauchope's, of 9, Shoe Lane, E.C. The largest variety of second-hand and new motor cycles ever witnessed; can be inspected; new machines of most leading makes staged side by side, demonstrating by inspection their various qualities; quotations on application; inspection cordially invited.—Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

SECTION IX.**Somerset, Devon, Dorset, and Cornwall.**

3 h.p. Hobart, Druid spring forks, splendid condition; £16 10s.—94, South St., Exeter.

31 h.p. Olympic, new condition; £14, cash offers, or **4** good push bicycle part.—Beck, Angel Hill, Tiverton.

31 h.p. Quadrant, spring forks, adjustable pulley, new back tyre and belt, excellent climber; £16.—Dinham, Union St., Torquay.

TRIUMPH, 3 h.p., just overhauled by makers, new cylinder and piston, spring forks, lamp, horn, spares, splendid machine; £18.—Hillier, Estcourt Terrace, Devizes.

1909 Phelon-Moore, standard, property of naval officer going abroad, S.E. tyres, N.A.B. pillar, F.R.S. lamp, horn, large padded Brooks 105, handle cross-bar, spares, etc., only ridden few times, perfect condition; price £45.—Guys, Cycle Depot, Weymouth.

31 h.p. 1909 Triumph, fitted Roc, two-speed gear, pannier, bags, lamp, horn, Palmer cord tyres, spare tube and Michelin cover, other spares; also Montgomery sidecar, flexible, fitted to above, combination regularly used in hilly country, carrying 24 stones; cost over £75, cash £59, or separately £52 and £8, offers.—L. H. Higgon, Royal Artillery, Verne, Portland.

SECTION X.**Scotland.**

GLASGOW.—Templeton Bros. have large stock second-hand 1½ to 9 h.p. bargains.—535, Sauchiehall St.

31 h.p. Magneto 1907 Rex, B. and B. handle-bar controlled carburetter, all accessories, excellent condition; bargain.—Templeton's Garage, Glasgow.

31 h.p. Quadrant, good running order, with latest trailer; £16 cash; enquiries invited.—Christie, Cycle Agent, St. Andrews.

31 h.p. Quadrant, spring forks, B. and B. carburetter, handle-bar control, Palmers; £17.—Spicers, Selma, Kirknewton, by Midcalder.

67 h.p. N.S.U., excellent condition, just thoroughly overhauled; what offers?—J. Stanford Cavalier, Concrete House, Tarbert, Loch Fyne.

31 h.p. Bercey, French grey, enamel and plating as **3**2 new, non-skid, splendid running order; £12 12s.—Ferguson, 8, Montagu Terrace, Edinburgh.

THE Largest Stock, largest variety, and the best makes!—Alexander's Motor Exchange, Rex, V.S., Moto-Reve, Norton, Roc, Excelsior, Zenith, Douglas, Minerva. We can supply you with these or any other make: some special bargains presently in superior second-hands.—Alexander's, 110, Lothian Rd., Edinburgh.

TRICARS FOR SALE.

31 h.p. Runabout, free engine, open frame; £12.

41 h.p. Twin Minerva, Trim front, fine machine; £18 10s.; exchanges; photo and particulars.—128, High Rd., Tottenham.

6 h.p. Chater-Lea-Rex Twin Tricar, two speeds, car control; £13.—Write, 106, High St., Clapham.

41 h.p. Rover, water-cooled, free engine, perfect order; offers, cash or bike.—87, Mildmay Grove, Islington.

31 h.p. Raleighette, perfect condition, B. and B. H.B. control; best offers.—76, Farringdon St., Leicester.

6 h.p. Riley Twin, three speeds and reverse, splendid condition, spares; £48.—147, High Rd., Wood Green, N.

£10.—3 h.p. Tricar, wicker seat, Dunlops, perfect order.—Jones, Albion Saw Mills, Down Place, Hammersmith.

31 h.p. Bowden Tricar, splendid climber, two speeds, faultless condition; £18, or best offer.—80, Military Rd., Colchester.

5 h.p. Riley, open frame, two speeds, wheel steering, car tyres, excellent condition; £45.—Ball, 408, Lincoln Rd., Peterborough.

TRICAR, 6 h.p., 2-cyl. Fainir, coach-built, seats three, wheel steering, Palmer cord tyres; £50 cash, a bargain.—Bailey, 151, Beulah Hill, Upper Norwood, S.E.

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N.S.U., 1908 model, 3½ h.p., 26 in. wheels, very little use, owner ordered abroad ..	£26

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LLOYD'S, 2 h.p., vertical	£8
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MINERVA, 1½ h.p., coil and accumulator ..	£5
EXCELSIOR, 2½ h.p., spray	£8
CUNARD, 3 h.p., spray	£9
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REX, 3½ h.p., beehive silencer	£9
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80/- Beautiful Forecar Attachment, 80/- 26 in. wheels, Dunlop tyres.

REXETTE TRICAR, 8 h.p., two speeds and reverse, foot clutch, open frame, wheel steering, £48. Motor cycle part.

DARRACQ CAR, 18 h.p., four-cylinder, live axle, three speeds and reverse, four-seater, tyres 880 x 120 back, 870 x 90 front, all practically new, £79, or exchange.

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9 h.p. Riley, three speeds and reverse, no all wheels, perfect order; £35.—Marlborough St., London, W.

9 h.p. Riley Tricar, magneto and accumulator, splendid condition; any trial; all tools £75, or near offer.—Frost, High St., Gr.

TRICAR, 5½ h.p. Quadrant, wheel steering, two speeds, good condition; £22, motor cycle.—G., 68, Lytton Rd., Leyton.

8 h.p. Rexette, twin, water-cooled, three speeds, car tyres, new back tyre; £38 part exchange.—Hawley, Owston Rd., Ta.

HALIFAX.—Seven beautiful two-speed cooled, from £22 10s.; exchanges; cation.—Halifax Motor Exchange, Westgate.

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4 h.p. Solace, wicker forecar, free engine, Bosch magneto, 24 in. wheels; £20 motor cycle.—Taylor, 4, White Horse Lane.

41 h.p. Tricar, two speeds, starting hand new, £22 10s. each, or will exchange motor cycle and part cash.—Westley, 10, I entry.

ZENITH Tricar, 6 h.p. twin J.A.P., three coach-built; 75 guinea model; bra slightly shop-soiled; sacrifice £60.—Zenith Weybridge.

ALLDAYS Traveller Car, in good running order, mulator and tyres nearly new, cost about for two; £30, or nearest.—Hunston Marsh, Glos.

QUADRANT, 6 h.p., two engines, low forecarriage, fast; any trial; thorough £19; bought car.—Stones, Maldon House, Southend-on-Sea.

REXETTE, 6 h.p., 1907 model, 3-seater torpedo back, new condition through good motor cycle part payment.—Sinclair Rd., East Molesey.

61 h.p. Tricar, 1907, Chater-Lea open built, water-cooled, three speeds, and all latest improvements; £27.—22, Bruce Grove, Tottenham.

TRICAR, 4 h.p., coach-built, M.M.C. Osborne four speeds and free, has everything in good condition, spares; £16 Athletic Ground, Kensal Rise.

1908 9 h.p. Riley Tricar, new condition, three speeds, reverse, Bowden controls, most luxurious car, sprung all wheel, F.N. part exchange.—164, Coventry Mills.

6 h.p. Rexette, coach-built, splendid condition, Palmer cords front, new spare Cont £80 insurance policy; must sell; buying nearest reasonable offer.—M. Love, 34, A Reading.

TRICAR, detachable, 4½ h.p. twin Minerva basket car, new Dunlops on front, Dermatine belt, in splendid condition, extra front wheel, £28.—W.A.C., 68, Tweedley, Kent.

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6 h.p. Ariel-J.A.P. Forecar, wicker seat, springs, 2½ tyres, B. and B., Osborne matine, front fork and tyre to convert to spares, beautiful condition; bargain, £22 day; worth £40, must sell.—S.D., motorist, Coulsdon, Surrey.

LAGONDA Tricar, 10-12 h.p., water-cooled, stayed, and very strong machine, just in and in splendid condition, front tool box lamp brackets, which replace front seat, single machine, two car lamps, two generators, and electric speed indicator, numer, spares; £50.—Needham, Anfield House, W pool.

9 h.p. Singer, three speeds and reverse fitted up with three lamps and electric tool box, horn, quantity of spares, Bow tyres perfect, whole engine and gears, etc. thoroughly overhauled and renewed by maker; £15; over £20 of spare parts; owner getting lute bargain, £70.—Dr. Gouldsborough, Palace Rd., S.E.

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LIGHT Rigid Sidecar, 26; £3 10s.—10, St., Cambridge Heath.

41 h.p. Stevens Engine, Millford forecar worth £16, sacrifice £12.—28, Marl lake.

LIBERTY Sidecar, Peter-Union, good 5s.; also 3½ h.p. Kerry.—Vallins, 43, New Cross.

SIDECAR (coach-built), 26 in. wheel, bra holstered red (left); £4 5s.—256, H lesden Green.

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MED. — Latest Chater-Lea sidecar, quite new by 2½ tyre; £5 10s.—Matthews, pawnshop, West Croydon.

Sidecar, for narrow doors, wholesale and retail; Middleton and Co., Manufacturers, Watlington Green, London, N.

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Attachment, adjustable side stays, 2½ and brakes, wing guards, art cane chair, up to new; £5 10s.—59, Barking Rd., Cam-

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Sidecar, this year's model, made through genuine Chater-Lea fittings, 26 by 2½ only used twice; £6 8s.; wanted, Sun- ular cycle.—F.W., 137, Broomwood Rd., mon, S.W.

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Fancy Prices for sidecars.—£5 is plenty especially as we use nothing but the best y, Chater-Lea. Although we invented the ver charged more than £5 10s. Now our £25, and we give better value than ever. l. Illustrated list free.—Oakleigh Motors, sendale Rd., West Dulwich.

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ix Quad, good condition, two speeds, re- 28; exchange good make motor cycle.— Hitchman St., Fenton, Staffs.

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4 h.p. De Dion Motor Tricycle, water-cooled, two-speed, chain driven, perfect condition; £35.—Kemp, Bungalow, Mountfield, Sussex.

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PALMER.—12h.p. Duryea 2-seated car, 3-cyl., epicyclic gearing, wood wheels, tyres all good; £20.

PALMER.—5h.p. Velox car, two speeds, wire wheels, light little car, in running order; £12.

PALMER.—9h.p. Rexette, 3-seated car, 2-cyl., twin back tyre, perfect working order; £35.

PALMER.—12h.p. M.M.C., tonneau, seats five, 2-cyl., 810 by 90 tyres, wonderful condition at the price, £40.

PALMER.—8h.p. De Dion, genuine, seats five, engine under bonnet, solid tyres; £35.

PALMER.—12-16h.p. Panhard delivery van, 4-cyl., carry about 25cwt., magnificent condition; £60.

PALMER.—10-12h.p. Daimler delivery van, carry nearly two tons, convertible lorry; £60.

PALMER.—16-22h.p. Gladiator, side entrance, 4-cyl., five lamps; great bargain, £125.

PALMER.—10h.p. Panhard, limousine, Centaure, Krebs carburetter; offered at clearance price £85.

PALMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen; bargain, £100.

PALMER.—12-14h.p. Humber, tonneau, 4-cyl., nearly new Moseley tyres, raked steering; £85.

PALMER.—18-24h.p. Prunel landaulet, side entrance, 4-cyl., M.O.V., grand hire car; great value, £125.

PALMER.—17-21h.p. Mors limousine, 4-cyl., magneto, side entrance, pressed steel frame, silent, reliable carriage; £150.

PALMER.—40-50h.p. Lorraine-Dietrich, 1907, 4-cyl., magnificent vehicle; cost over £1,000, sacrifice for £325.

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PEUGEOT Car, 2-seater, sell or exchange; seen at any time.—R. Griffin, Kendal.

8h.p. Argyll, detachable tonneau, in very good condition; £35.—Sully, 10, Old Town, Clapham.

£25.—6h.p. Pick, 2-cyl., 2-seater car, perfect.—Jones, Albion Saw Mills, Down Place, Hammersmith.

REXETTE, 2 cys., 10h.p., seats three, new tyres and condition; £45.—Curle, Stewart's Rd., Battersea.

8h.p. M.M.C., light tonneau, good puller; £28, tricar, motor cycle part.—20, Potternewton Lane, Leeds.

10h.p. Star Car, 2 cys., tonneau; £35, want tricar, Drummond lathe.—20, Potternewton Lane, Leeds.

12-16h.p. Belsize, tonneau body, with hood, in good order; £60, or near offer.—Coachman, The Hall, Hathersage.

12-14h.p., 4 cys., detachable tonneau, gate change; £55, smaller car, tricar part.—20, Potternewton Lane, Leeds.

SUNBEAM Mabley, perfect running order; must sell; room wanted; £16.—Warr, 154, Boundary Rd., St. Helens, Lancs.

8h.p. Darracq, tonneau, bucket seats, grooved Dunlops, ball bearings, smart car; £28.—Pilkington, Marble Place, Southport.

6h.p. Beeston Humber, 2-seater, three speeds and reverse, in splendid order; £35.—Storey, 110, Albany St., London, N.W.

REGAL, 6h.p. genuine De Dion engine, 2-seater, three speeds, reverse, very smart; £45.—406, Garratt Lane, Wandsworth.

9h.p. Modern Type Oldsmobile, detachable tonneau, handsome car, simple control; £35.—Write, 1, Bedford Rd., Clapham.

9h.p. 2-cyl. V - engined, 2-seated, 1908 pattern Riley, with hood, lamps, tools, etc., tyres like new; £75.—Mann, Egerton, and Co., Ltd., Norwich.

HUMBERETTE, Beeston, 5½h.p., 2-seater, Cape hood, wind screen, four lamps, fast, smart; photo if required; £35.—King, 28, Fowler St., Camberwell.

PEUGEOT, 10-12h.p., 4-cyl., tonneau, seats five, hood, screen, no faults; trial; £65, or near offers, for quick sale; bargain.—26, Offerton Lane, Stockport.

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HORLEY Car, 2-seater, 8-10h.p., twin-cyl., White and Poppe engine, high side doors, all in good condition; trial and examination; £85.—Frost, High St., Grays.

5h.p. Panhard Stirling, three speeds, reverse, tyres good, £20, or exchange good motor cycle; also 3h.p. Auto motor cycle, £7 10s.—Smith, Plumber, Wivenhoe

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ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

ECLIPSE.—12h.p. National, 3-cyl., 2-seater, hood, very good condition; £45.

ECLIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £52.

ECLIPSE.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.

ECLIPSE.—14h.p. Brooke, tonneau, 3-cyl., three speeds, in excellent order; £36.

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £65.

ECLIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

ECLIPSE.—10-12h.p. Gnome landaulet, four seats inside, splendid order; £92 10s.

ECLIPSE.—9h.p. tonneau car, 1-cyl., in good running order; £25.

ECLIPSE.—6h.p. Humberette, 2-cyl., three speeds, good little runabout; £22 10s., bargain.

ECLIPSE.—7h.p. Pope-Tribune, 2-seater, £32.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 1135 Putney.

8h.p. M.M.C., 4-seater, two speeds and reverse, two nearly new tyres on back, two spare tyres, three lamps, in good running order; £25.—Missin, Cottingham, Hull.

DARRACQ, 9h.p., tonneau, painted red and lined, three speeds and reverse, good hill-climber, all in good condition; bargain, £35.—Hill, Freemason's Arms, Dounshire Hill, Hampstead.

EXCELLENT 12h.p. Belsize Car, just overhauled, Salisbury lamps, spare tyre, etc.; £55, or exchange powerful cycle and sidecar of recent date and cash.—Full particulars, 113, Oxtou Rd., Birkenhead.

5½h.p. Humberette 2-seater Car, engine, gears, tyres, and condition as new, guaranteed in perfect running order, most reliable; trial offered; £40, or nearest offer of cash considered. — Haigh, Decorator, Goole.

6h.p. O.T.A.V., 2-seater, 1909 model, practically new, and perfect condition, splendid climber, light and fast, with hood, lamps, spare tyre (unused); £50, take good motor cycle part exchange.—Saker, Avenue Rd., St. Albans.

WOLSELEY, 12h.p., 2-cyl., 4-seater, four speeds and reverse, Dunlop tyres, perfect condition, splendid hill-climber; price £60; would take tricar or motor cycle in part exchange.—Louis B. Davis, 3, New St., Birmingham.

BARGAIN, £45 cash, for quick sale.—6½h.p. Darracq car, seats four, wind screen, nearly new, hood, recently re-painted and overhauled; owner buying larger car; seen by appointment.—E. Luscombe, 3, Bridge Rd., Hammersmith, W.

4-SEATED Car (Decauville), 2-cyl., cardan drive, direct drive on top, four speeds and reverse, Dunlop grooved tyres, two spare covers, non-skid on back, complete with lamps, in perfect running order; can be seen and tried any time during the next two weeks at 2, Rochester Rd., Earlsdon, Coventry.

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A SAMPLE—4 h.p. MODEL DE LUXE, handle-bar control, etc. £39

LOOK AT THESE. RELIABLE SINGLES.

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1907 3½ h.p. Magneto ROC, clutch	£25 0
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3½ h.p. REX, spray, vertical engine	£9 10
3 h.p. LLOYD'S, low frame, 26in. wheels..	£13 10
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2½ h.p. ANTOINE, trembler, long bars	£9 10
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2 h.p. RALEIGH, splendid condition	£7 10
2 h.p. BUCHET, spray, long bars	£9 10
3½ h.p. M.M.C., vertical, low, spray	£12 15
3½ h.p. ARIEL, vertical, M.O.V.	£15 15
1907 3½ h.p. N.S.U., two-speeds	£21 0
3½ h.p. PHELOX & MOORE, two speed and magneto, accessories	£35 0
1908 4½ h.p. Twin MINERVA, Roc gear	£32 0

£3 deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

TOURIST TROPHY WINNERS.

1909 Twin ROC, two speeds	£57 15
1909 Twin VINDEC	£64 0
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5½ h.p. Twin REX, spring forks	£17 17

BROWN AND BARLOW and **AMAC** Carburettors, with handle-bar control. B. and B., 30/-; Amac, from 29/-. **BIG EXCHANGE ALLOWANCES.**

£6 **TOP-CLASS SIDECARS** to suit any make. Beautifully plated, enamelled, and upholstered; to suit right or left side; three-bolt fastening, 2½" best make tyre.

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Three-note Horns, shift a "Loco"	8/-
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Duck-voiced Horns, double twist	5/3
MINERVA Spring forks, as new	£1 17 6
COWEY SPEEDOMETER	£4 4 0
New XL'ALL Spring Forks	17/6
Swan-neck Seat-pillars	4/-
Separate Generator Headlights	8/6
Rex Pattern Handle-bars, heavy gauge ..	6/6
Enamelled Mudguards, complete with stays: 3in. 2/11, 3½in. 3/6 per pair.	

TYRES TYRES

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ENGINES for all.—New and second-hand lowest prices; cash or instalments bored and new pistons from 16s.; repairs all tyres; see testimonials; 12 years' experience.—The Record Motor Co., Wembley.

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TREMBLERS for all makes of engine pure platinum tips, 1s. 3d. each G.O.M., Birmingham.

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JEBRON, Registered 291-289, vast platinum, cures misfiring; best contact screws, rockers, magnetos, coils. Jebro

JEBRON, 2s. 6d. each rivet fitted; Je 9d.; Jebro screws fit Bosch magnet contact breakers 5a, 5b, 5c, 5s. 6d. pair; ronised, 2s. 6d. each. Over 10,000 fitted

JEBRON, King of Contacts, fitted retu From the inventor, J. Edwards H bert Rd., Plumstead, Kent. Liberal trad

JEBRON Contacts were used by Mess (24 hours), C. R. Collier, H. V. Martin, when making their recent world

IRIDIUM Champion Contacts.—Any r turned same day, 1s. 3d. each, wa special iridium trimmers, 9d.; magneto s 1s. 3d. each.—Williams, 16, Wellington

PLATINUM Contacts (warranted pure fitted; 1s. each, post free 1s. 1d.; day.—E. C. Potter, jeweller, 72, Myddelton well.

MOTOR Ignition Repairs.—Coils, accu netos repaired by skilled workmen; lists free.—The Victoria Garage and Elect Coventry.

R.O.M. Synchronised and Ideal con strongly recommended by "The Catalogue free.—Continental Motor Co Av., London, E.C.

IGNITION Coils and Magnetos repaired accumulators repaired and charged manship, moderate charges. Tel.: 453.—Electricians, Coventry.

MAGNETOS.—Any make repaired on ti skilled workmen; magnetos re-magn work guaranteed.—The Victoria Garage Co., Ltd., Park Side, Coventry.

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TYRES.

HOLDTITE Patches, the absolutely on on the market.

HOLDTITE Patches, the only patch come off, no matter what heat or

HOLDTITE Patches, small size, 1s. per free on receipt of 1d. stamp.

SURRIDGE'S Indianrubber Magneto Co each, post free.

HOLDTITE Solution, splendidly made, ber tin.

SURRIDGE, 58, George St., Camberv S.E.

UNUSED New Continental Cover, 26 by —Jones, Hendre, Penprys, Pwllheli.

26 by 2½ New Heavy Continental Ribbed each.—Cuthbertson, 8, Garrick St.,

LUCKY Farrar.—Bought two tons tyres advanced; Clucher covers, 17s. 6d.; all sizes; Continentals and other makes eq Square Rd., Halifax.

HALIFAX.—Clincher tubes, all sizes, w 11d. each; Clincher A Won covers, I have just bought ½ of a ton of brand new cycle covers, any size per return; approval 17s. 6d. each; 24 by 2½, 14s. 11d.—Halifa change, Westgate, Halifax.

THE MOTOR CYCLE

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ADDRESS—20, TUDOR STREET, LONDON E.C.

THE T.T. AND TWO-STROKE ENGINES.

READERS will have noticed that among the entries for the Tourist Trophy Race published last week appear three motor cycles fitted with two-stroke engines. One is the Scott, already fairly well known; the remaining two are newcomers—the Premo and the Rex. The first named has a water-cooled twin-cylinder engine, while the others have air-cooled single-cylinder engines. The maximum cylinder capacity in the T.T. Race is 500 cubic centimetres for single-cylinder engines, and 750 c.c. for twins, but many have overlooked the fact that, for the purpose of placing two and four-stroke engines on terms of equality when racing in competitions, the A.C.U. decided last year that the cubic capacity of a two-stroke engine should be multiplied by 1.25 in the case of air-cooled cylinders and 1.32 for water-cooled cylinders. The cubic capacity of the water-cooled Scott engine when handicapped in this manner is 584 c.c. and the limit is 750 c.c.—a very wide gap, but the single-cylinder Rex and Premo machines being in the neighbourhood of 470 c.c., are, when the addition is made, considerably over the 500 c.c. limit for single-cylinders, and were therefore considered ineligible for the T.T. The A.C.U. has therefore decided to accept the Rex entry of a four-cycle single-cylinder machine as a substitute, and the makers of the Premo are fitting a cylinder of smaller dimensions to enable it to come within the limit. This is a satisfactory compromise, but it is a great pity that the two-stroke engine should not have a chance to show what it can do against four-stroke engines of equal size without a handicap. We may here interpose that we are not criticising the decision of the A.C.U., but merely commenting on

the facts of the case. The T.T. Race is being run on a cylinder capacity limit. There is no fuel limit and no formula will be used to decide the result. Why therefore should not a two-stroke engine be allowed to compete without the handicap? If without any increase in weight or bulk it can on the average beat the four-stroke engine for speed and hill-climbing (which at the present stage we very much doubt), it is a pity that it should have a handicap placed upon it. The fuel consumption of a two-stroke engine is greater than a four-stroke of equal size, but as there is no fuel limit in the race under discussion that does not count. In the case of a hill-climbing competition, the results of which are decided on a formula, probably the handicap framed by the A.C.U. is the fairest method of placing all on an equality which can be devised. This is because in most motor cycle hill-climbing competitions the formula used is the A.C.U.

$C \times T$

or Professor Callendar's formula, $\frac{C \times T}{W}$, and any

two-stroke engine is almost certain to win where cubical capacity is such a big factor in the sum. The Tourist Trophy Race is quite a different event from a hill-climb, or, in fact, any other motor cycle competition, because it is ostensibly promoted to improve the ordinary everyday touring mount. By handicapping a machine its best points are not brought out. A two-stroke or any other type of engine might with encouragement prove to be superior to types at present in vogue, whereas if it never has a chance to shine, improvements will only be effected by a slow and laborious process of the survival of the fittest.

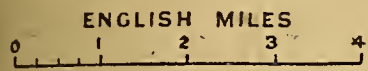
International Tourist Trophy Race, September 23rd.
COMPLETE LIST OF ENTRIES.



THE following table is a complete list of all the entries for the International Tourist Trophy Race in the Isle of Man on Thursday of next week. Never in the history of the race has such a large and representative entry been secured, and we congratulate Mr. F. Straight and the executive of the Auto Cycle Union on their success. In addition to the well-known makes of machines, practically all of which are represented, there are names of motor

cycles which have not previously competed in a T.T. Race. The Indian, Premier, Scott (two-stroke), Martin, and Premo (two-stroke) are all fresh aspirants to T.T. honours. Let us hope the weather will be propitious and that no incident will occur to mar an enjoyable day's sport. "The battle of the cylinders" promises to be as exciting as the race for the Tourist Trophy itself, while all will agree that the organisers have been very generous with the cash prizes.

No.	Entrant.	H.P. and Make of Machine.	Make of Engine.	No. of Cyls.	Bore.	Stroke	Cubical Capacity.	Rider.
					mm.	mm.	cc.	
1	Triumph Cycle Co.	3½ Triumph	Triumph	1	85	88	499	J. Marshall
2	H. Reed	5 Dot.	Peugeot	2	75	75	662	Entrant
3	Norton Mfg. Co. ..	3½ Norton	Norton	1	82	94	496	J. L. Norton
*4	Noel E. Drury	5 J.A.P.	J.A.P.	2	85	60	680	Entrant
*5	C. B. Franklin	3½ Triumph	Triumph	1	85	88	499	Entrant
6	W. H. Wells ..	5 Indian	Indian	2	71.5	89	714	Entrant
7	G. Lee Evans	5 Indian	Indian	2	71.5	89	714	Entrant
*8	S. C. Perryman	5 Norton	Norton	2	75	84	742	Entrant
9	Robert Ellis	3½ Rex	Rex	1	84.5	89	499	Entrant
10	Rex Motor Mfg. Co.	5 Rex	Rex	2	77.5	79.375	749	F. A. Applebee
11	Rex Motor Mfg. Co.	3½ Rex	Rex	1	84.5	89	499	O. C. Godfrey
12	W. Grimstead	5 Rex	Rex	2	77.5	79.375	749	Entrant
14	J. F. Jones	3½ Triumph	Triumph	1	84	86	476	Entrant
*15	W. O. Bentley	3½ Rex	Rex	1	84	89	493	Entrant
*16	C. E. Murphy	3½ Triumph	Triumph	1	85	88	499	Entrant
17	J. Stewart	3½ Triumph	Triumph	1	85	88	499	Entrant
18	H. A. Collier	6 Matchless	J.A.P.	2	85	65	738	Entrant
19	H. Collier & Sons, Ltd.	3½ Matchless	J.A.P.	1	85	85	482	H. V. Colver
20	C. R. Collier ..	5 Matchless	J.A.P.	2	85	65	738	Entrant
*21	W. H. Bashall	5 Bat	J.A.P.	2	85	65	738	Entrant
*22	J. T. Bashall	3½ Bat	J.A.P.	1	85	85	482	Entrant
*23	Hugh Gibson	3½ Triumph	Triumph	1	85	88	499	Entrant
24	Rex Motor Mfg. Co.	5 Rex	Rex	2	77.5	79.375	749	T. A. Carter
25	Rex Motor Mfg. Co.	5 Rex	Rex	2	76	80	726	A. J. Sproston
*26	James Adamson	3½ Triumph	Triumph	1	85	88	499	Entrant
27	N.S.U. Motor Co., Ltd.	5½ N.S.U.	N.S.U.	2	75	84	742	Leslie C. Munro
28	Brown Bros., Ltd.	3½ Brown	Brown	1	85	85	482	R. M. White
29	Brown Bros., Ltd.	3½ Brown	Brown	1	85	85	482	R. M. Brice
*30	J. Baxter	5 Rex	Rex	2	76	80	726	Entrant
31	Rex Motor Mfg. Co.	3½ Rex	Rex	1	84	89	493	J. C. Smyth
32	Rex Motor Mfg. Co.	3½ Rex	Rex	1	84.5	89	499	R. Lord
33	Premier Cycle Co. ..	3½ Premier	White & Poppe ..	1	85	85	482	G. E. Stanley
34	Premier Cycle Co. ..	3¾ Premier	Premier	2	66	80	548	B. V. Jones
35	W. Heaton	3½ Rex	Rex	1	84	89	493	Entrant
*36	H. Lister Cooper	3½ Triumph	Triumph	1	85	88	499	Entrant
*37	F. C. Bagshaw	5 Rex	Rex	2	77.5	79.375	749	Entrant
*38	A. Moorhouse	5 Rex	Rex	2	77.5	79.375	749	Entrant
*39	H. Rem Fowler	5-6 Rex	Rex	2	77.5	79.375	749	Entrant
*40	T. Greer	5 Rex	Rex	2	77.5	79.375	749	Entrant
41	Clifford Wilson	3½ Rex	Rex	1	84.5	89	498½	Entrant
42	N.S.U. Motor Co., Ltd.	4 N.S.U.	N.S.U.	1	82	94	496	R. J. Bell
43	Eric S. Myers	3½ Scott, 2-stroke ..	Scott	2	66.66	63.5	585.3	Entrant
*44	H. H. Bowen	3½ Bat	J.A.P.	1	85	85	482	Entrant
45	Triumph Cycle Co.	3½ Triumph	Triumph	1	85	88	499	W. F. Newsome
46	Triumph Cycle Co.	3½ Triumph	Triumph	1	85	88	499	A. G. Fenn
*47	P. Butler	5 Dot.	Peugeot	2	75	75	662	Entrant
*48	A. V. Blake	3½ Triumph	Triumph	1	84	86	476	Entrant
49	W. G. McMinnies	3½ Triumph	Triumph	1	85	88	499	Entrant
50	Gordon L. Fletcher	4 Indian	Indian	1	82.5	93	497	Entrant
51	H. Martin	5 Martin	J.A.P.	2	76	82	744	Entrant
52	H. Martin	5 Bat	J.A.P.	2	85	75	738	F. W. Dayrell
53	R. O. Clark	5 "C" F.N.	"C" F.N.	4	55	57	540	Entrant
54	J. Taylor	3½ Peugeot	Peugeot	1	84	86	476	J. Giuppone
*55	J. Lang	5 Tee-Bee	J.A.P.	2	-	-	-	Entrant
56	Premier Motor Co.	3½ Premo, 2-stroke ..	Premo, 2-stroke ..	1	85	80	494	J. Leno
*57	F. C. Wood	3½ N.S.U. ..	N.S.U.	2	63	80	498	Entrant
*58	F. H. Maclean	3½ Triumph	Triumph	1	84	86	476	Entrant
*59	H. H. Bowen	5 Bat	J.A.P.	2	-	-	-	J. D. A. Munro

* Private owners.



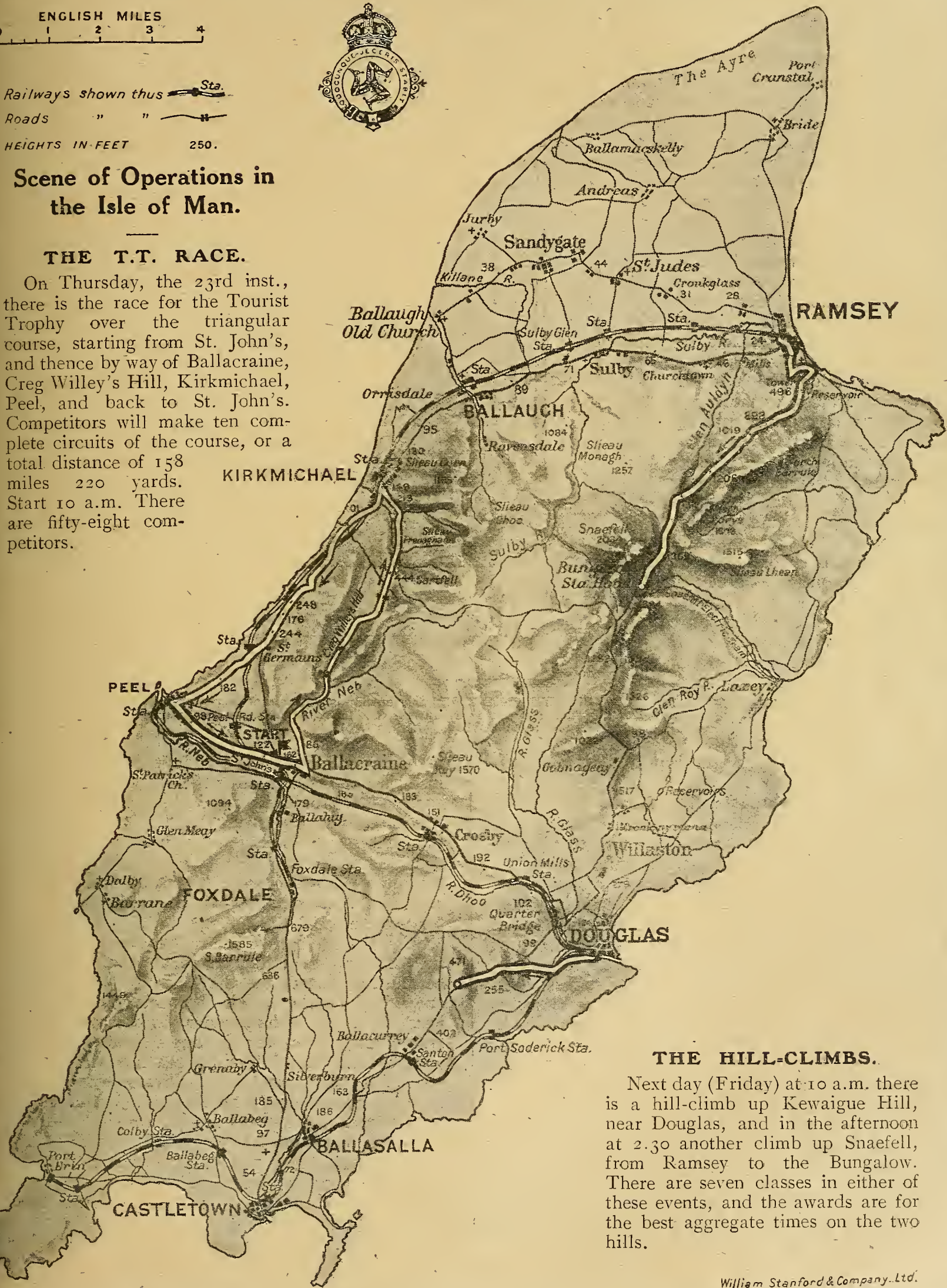
Railways shown thus  Sta.
 Roads " " 
 HEIGHTS IN FEET 250.



Scene of Operations in the Isle of Man.

THE T.T. RACE.

On Thursday, the 23rd inst., there is the race for the Tourist Trophy over the triangular course, starting from St. John's, and thence by way of Ballacraine, Creg Willey's Hill, Kirkmichael, Peel, and back to St. John's. Competitors will make ten complete circuits of the course, or a total distance of 158 miles 220 yards. Start 10 a.m. There are fifty-eight competitors.



THE HILL-CLIMBS.

Next day (Friday) at 10 a.m. there is a hill-climb up Kewagie Hill, near Douglas, and in the afternoon at 2.30 another climb up Snaefell, from Ramsey to the Bungalow. There are seven classes in either of these events, and the awards are for the best aggregate times on the two hills.

OCCASIONAL COMMENTS.

BY "IXION"

A Sporting Type of Hill-climb.

The average motor cycling hill-climb is shorn of much interest because each competitor ascends *solus* against the watch, instead of riding neck and neck simultaneously with a fellow competitor. There are several hills up and down the country where there is lots of room for two competitors to ride side by side. Clubs which hold events solely for sport could enjoy a very pleasant afternoon by running off a hill-climb in heats of two riders apiece on one of these comparatively straight hills, weeding out the heat winners until only two men were left to contest the final. If desired, the ordinary type of hill-climb might precede the side by side sprints, formula and fastest time prizes being first decided, and the riders being afterwards handicapped in so many seconds start for the neck and neck class, according to the performances registered in the solitary timed ascents. The advantage of this type of climb is that quite an easy hill will provide excellent sport, provided it is *straight and fairly broad*. Clubs that have already held climbs of the normal type up really stiff hills might organise a handicap neck and neck climb, basing their handicaps and starts on the records of their previous climb. It is a fine sight to see two riders flying up a gradient abreast at high speed.

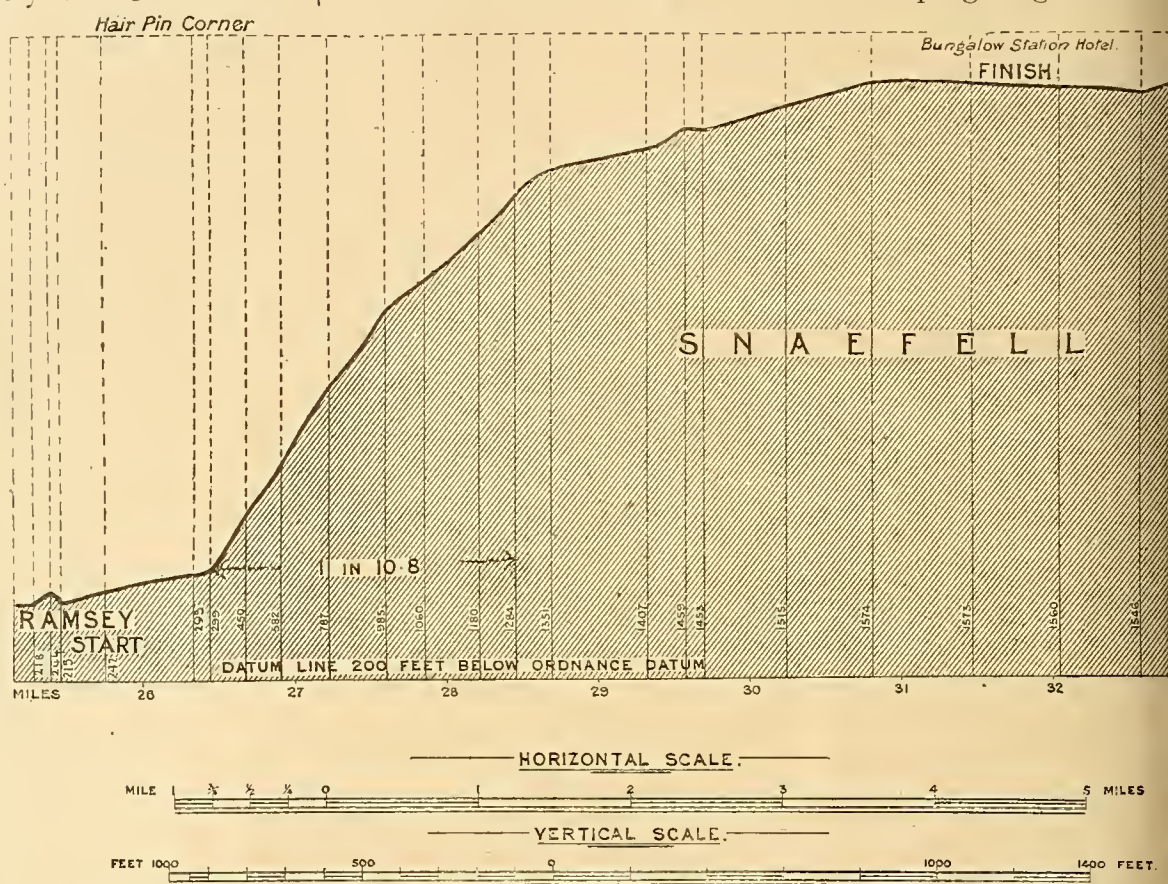
Tyre Troubles in Big Trials.

From four years' experience of jointed detachable inner tubes I have good reason to know that there are tubes of this type on the market which are every whit as reliable as the endless tubes. For some time past the gentlemen who frame regulations for important trials have felt bound to leave an appreciable time margin over each control lest they should penalise the rider of a no-trouble machine for being afflicted by tyre troubles. I respectfully suggest that the days of that necessity are passed, since every rider can easily carry a stock of detachable tubes which will relieve him from the necessity of ever repairing a puncture by the roadside. I put a stop watch on a novice rider the other day when he was replacing a jointed tube after a puncture, and the time occupied from bringing his road wheels to rest until he restarted with a nice rotund tyre was 4m. 35s. If such a speedy replacement is within the power of a rider in his first year, it is within the power of those who compete in six-day trials, and consequently I think that organisers may safely commence to ignore the tyre factor in big trials and to frame their time regulations on a closer schedule. If a cover collapses hopelessly from wear in a week's ride the rider deserves

to be penalised for using it, and there should be no objection to any rider's repairing his punctured jointed tubes after the day's ride is over without penalty.

Standard and Special Machines.

I have a letter from a correspondent attacking myself and one or two others for our campaign against the



A SIX MILE HILL-CLIMB. A contour section of part of the mountain road which crosses Snaefell in the Isle of Man. This course has been selected by the Auto Cycle Union for the second hill-climbing competition to be held on the 24th inst., the day after the T.T. Race.

use of special machines in hill-climbs. He gives several instances of these speed models having been used with success in prolonged reliability trials, and says we "have been nicely shown up." On the contrary, I think recent events have rather justified the line certain contributors to this paper have adopted *re* these special machines. I will tackle his point first. It is true, certainly, that some hill-climb winning machines performed creditably in the Six Days' Trial. It is also true that if my correspondent had been in the yard of the Chequers at Uxbridge on a certain morning just before the start of the Six Days he would have seen one rider changing a pair of wheels and tyres; another inserting metal washers under the base of his cylinder, and slipping caps over his tappet heads, etc., etc. We want to bar from hill-climb practice all fakes which are not at the disposal of the private owner. Secondly, it is an open secret that several hill-climbing cracks have broken frames this season through rashly riding them too much on the open road. Thirdly, at Denholme Steep and Newnham, where racers and roadsters were separated, the times in the touring classes were very appreciably slower than the times in the racing classes; and amongst the prominent machines in the racing classes were several which had previously competed more or less regularly in "standard tourist" classes.

THE SIMMS MAGNETOS.

THE Simms Magneto Mfg. Co., Kimberley Road, Willesden, has probably had more experience with the ignition portion of the motor cycle's mechanism than any other firm in the British Isles, being associated with its production as early as 1902. For the last two years the firm has devoted itself entirely to the manufacture of magnetos and sparking plugs, and a visit to the Welbeck Works is one of absorbing interest. In the testing shop hundreds of magnetos are being run at 2,500 r.p.m. for a whole day, and for an hour or two the speed is accelerated to 4,000 or 5,000 r.p.m. Before testing, the machine has every part carefully gauged and examined for mechanical accuracy, and again after being run all day the process is repeated. Such delicate operations

as armature winding and condenser making require the greatest care and can only be performed by highly skilled workpeople, and as soon as these parts have left the hands of the operators they are separately tested. It is only by careful testing and supervision, and by a well-established plant, that successful magnetos can be made, and the Simms Co. not only exercises the former, but possesses the latter. The motor cycle magneto machine is known as the S.A. type, which is largely fitted to Triumph and other well-known motor bicycles. Since last described it has undergone no striking alterations, except that it is fitted with an improved oil cap and a new H.T. terminal, which is quite waterproof and remains unaffected even if the machine is soused with water from a puddle.

MOTOSACOCHE IMPROVEMENTS.

RIDERS of these excellent lightweights have from time to time experienced trouble through the belt hooks pulling through the round twisted belt, but through an ingenious arrangement, it is claimed, this small defect has been overcome by the aid of a steel combined hook and eyelet fixed to each end of the belt. In fig. 1 the device is shown ready to be placed in position. To fix it the end of the belt is untwisted slightly and folded double, the eyelet B is laid centrally along it, and the centre of the loop and of the hook are marked on the leather. Holes at F and D are then punched clean through both sides, and near the hole F another hole E is made. The hook is then inserted through the holes E and F, and the belt end is again folded over, when it will be found that the holes C and D correspond with the centre of the eyelet B. The hook A is then pushed through, and the pull is taken not on the leather alone, but also on the steel eyelet, thus render-

ing pulling through practically impossible. In fig. 2, representing the other end of the belt, the same procedure is followed, A being the hook and B₁ the eyelet. Motosacoché motor bicycles are now fitted as a standard with strong stands of a practical nature, which allow the back wheel to be removed with the stand *in situ*. A further improvement consists of the

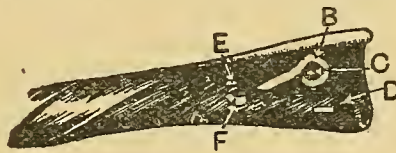


FIG. 1.

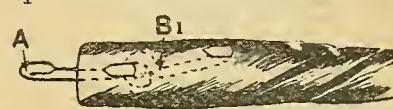
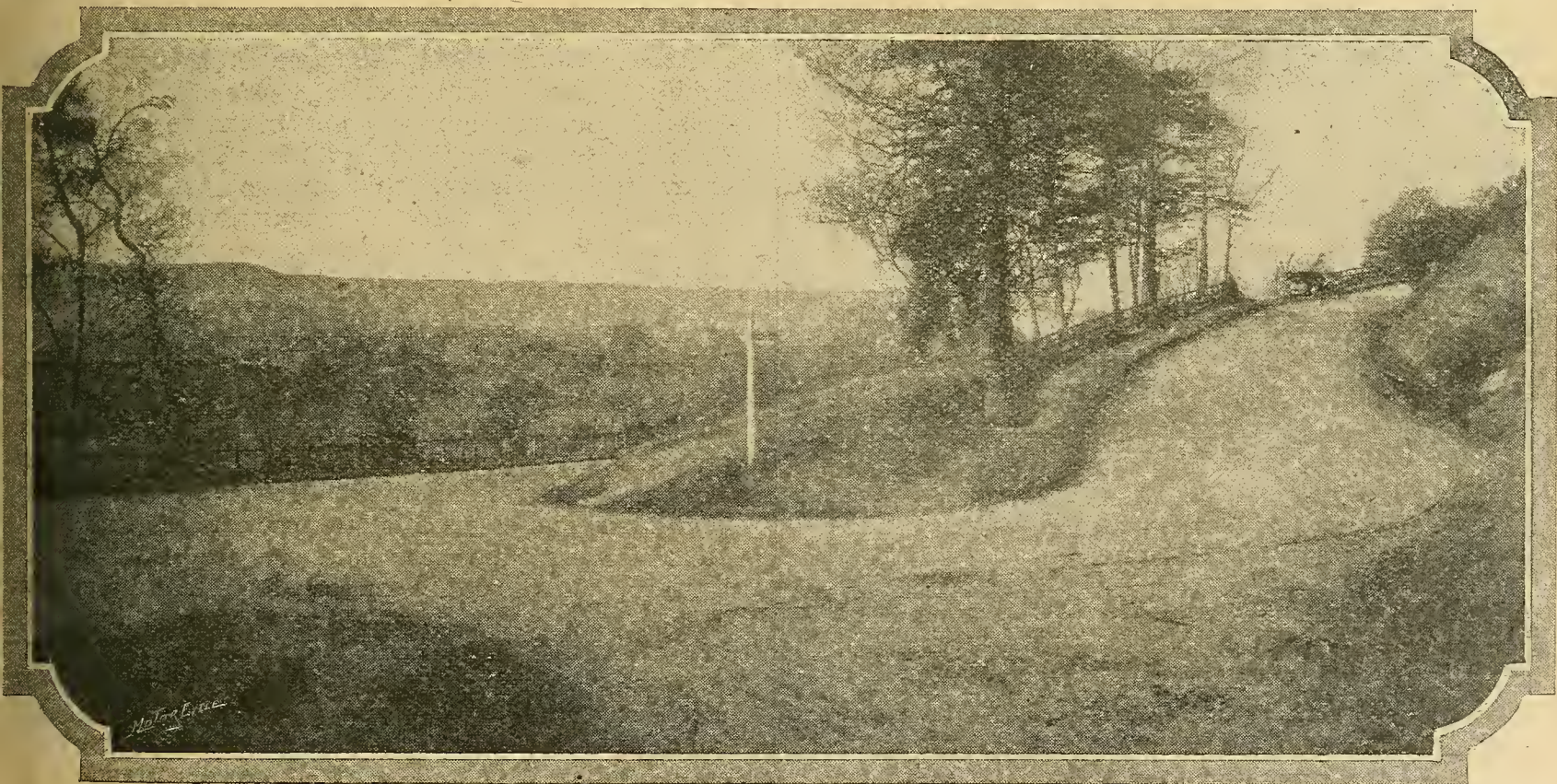


FIG. 2.

introduction of spare oil and petrol tanks, which are merely light metal cylinders, which will fit into pump clips attached to the top tube of the machine. In them just sufficient petrol may be carried to last about twelve miles. The makers inform us that they have sold a large number of machines this year.



After the race for the Tourist Trophy. The hairpin bend at Ramsey, included in the A.C.U. six miles hill-climb up Snaefell on Friday afternoon next week. About a third of a mile higher up the hill, there is another acute bend, the "Goose-neck," almost as bad as the one depicted.

A MEET OF PASSENGER MOTOR CYCLES.

ON July 28th an enthusiastic motor cyclist, Mr. A. H. Millinger, "Helsby," Alcester Road, Moseley, Birmingham, addressed a letter to *The Motor Cycle*, and made the excellent suggestion that Midland owners of passenger motor cycles should meet at Stratford-on-Avon on August 7th and compare notes on the fitments of their respective mounts. This suggestion was warmly received by numerous readers, some of whom readily responded to Mr. Millinger's invitation. On the date mentioned thirteen owners of passenger vehicles foregathered at the Swan's Nest, Stratford-on-Avon, and, a photographer being present, we are able to pictorially represent on the next page some of the owners with their passengers and machines. For this courtesy we are indebted to Mr. Millinger, who has, in addition, provided us with brief particulars of each machine, and in some cases the owner's remarks on the merits of his mount are given.

Generally speaking, those who attended this meet were of the opinion that the rear tyre of a motor bicycle with sidecar attachment gave trouble at the beads, and that stronger tyres are wanted for this work. Belts were also troublesome in many cases. Several praised the Whittle link belt for passenger work, although it is only fair to mention that every make of belt was not represented at this meet. Of course, a change speed gear and free engine were voted a necessity for serious touring. Those without these adjuncts fitted to their machines found that motor cycling with a passenger was not exactly ideal. A similar meet will doubtless be arranged next year by one or other of the party, but it has been suggested that the hour of meeting should be fixed a little later than 3 p.m. to enable riders from a distance to have more time to reach the rendezvous.

Owners of passenger machines are asked to keep this meeting in mind for another year.

THE END-TO-END SIDECAR RECORD.

ON Monday of last week the Rex twin-cylinder motor bicycle and Millford sidecar which was successfully driven from John-o'-Groat's to Land's End in record time by the brothers Bentley was returned to Coventry for an examination of the seals we had placed upon the engine, frame, and sidecar, and these we found to be intact. The machine had been sent from Penzance to Coventry by rail, not because it was in an unfit condition to be driven by road, but on account of pressing business engagements which necessitated Messrs. Bentley's return to London by train immediately the ride was concluded.

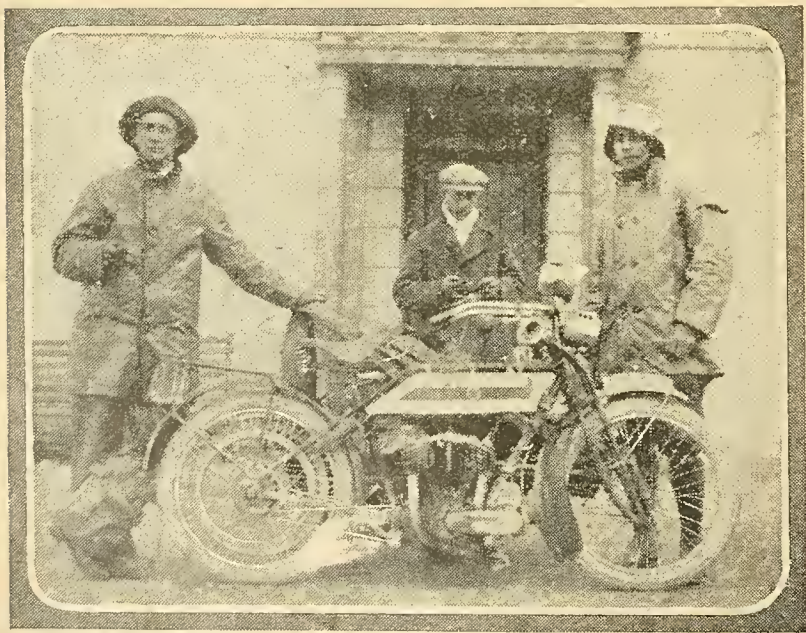
We are pleased to record that both motor bicycle and sidecar were in good condition, and to prove

Stoneleigh Hill, which has a gradient of 1 in 8½ at the steepest part. About half the climb was accomplished on the top speed, only the steepest portion calling for a change of gear.

The Shamrock-Gloria tyres and belts stood the End-to-end test remarkably well—in fact, the tyres never punctured—but, owing to rain, which fell during half the journey, the belts required some amount of attention in the way of shortening. When one realises that the riders had three nights of eight hours' darkness each on the road the performance becomes much more significant. The Bentleys, who took it in turns to drive, reached Land's End at seven o'clock on the 2nd inst., and at 7.15 were on the way back to Penzance, and caught the 11.5 train to London. Next day they were attending to business.

From Douglas Bros., Kingswood, Bristol, comes a booklet of instructions published specially by the Bosch Magneto Co. on the management of the special magneto fitted to the Douglas twin-cylinder motor bicycle. As many readers know, this engine has horizontally opposed twin cylinders. The magneto is described as the DA1 two-cylinder (Douglas). A copy of the booklet will be sent free to any rider of a Douglas motor cycle upon receipt of card.

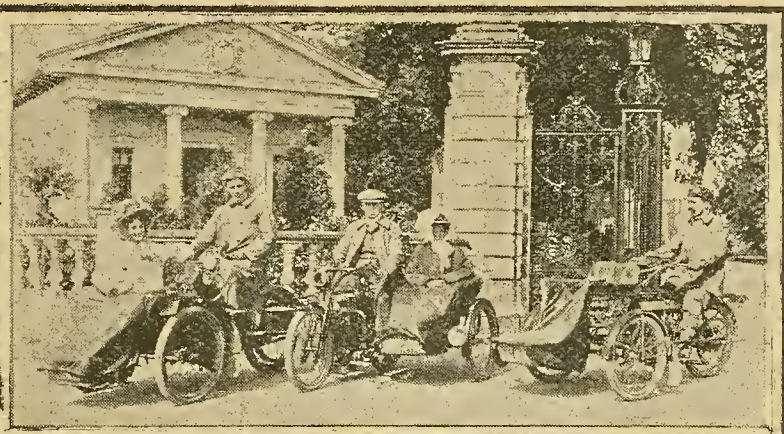
Practically every car driver carries an emergency spare tin of petrol nowadays as a permanent fixture on the car. This tin is seldom opened unless the tank starts a leak or through some unforeseen circumstance the car runs short of fuel. Under such conditions motor cyclists are usually dependent on others unless they have had the foresight to carry a small spare supply of petrol. A neat black enamelled cylindrical tank has now been introduced by Thos. Clayton and Son, Ltd., Birmingham, especially for the purpose. It is 12in. long by 2in. diameter, with a screwed filler cap at one end. Brass band clips encircle it for attachment to a convenient frame tube. With one of these emergency tanks fitted no rider need fear a broken petrol pipe, a leaking tank, or other cause of a fuel shortage.



At Land's End, the finishing point of the record ride by the brothers Bentley on a twin Rex and Millford sidecar. The End-to-end sidecar record seems to be almost as much coveted as the bicycle record, for hardly had the news of this ride been circulated than we were requested to seal another machine.

that the long journey from John-o'-Groat's to Land's End had not affected the pulling powers of the engine one of the Rex representatives took us a short ride in the neighbourhood of Coventry, and with twenty-four stones on board, the combination easily climbed

A MEET OF PASSENGER MOTOR CYCLES



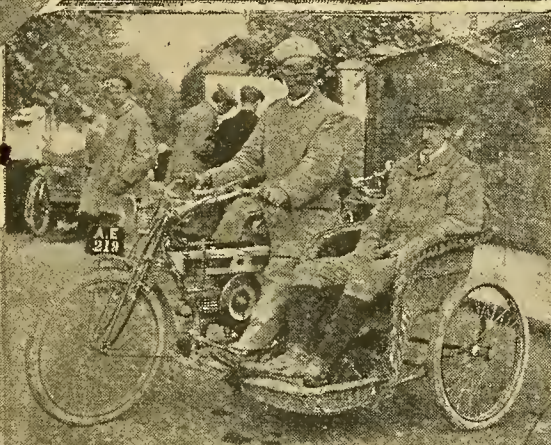
J. P. Kemp, Handsworth. 6 h.p. water-cooled 1903 "Rex" tricar. Two-speed, chain drive. Dunlop tyres.

W. A. Millinger, Moseley. 5-6 h.p. "Rex-de-Luxe," with Roc adapted two-speed gear. Whittle belt. Continental and Dunlop tyres. Mills-Fulford fixed wheel sidecar.

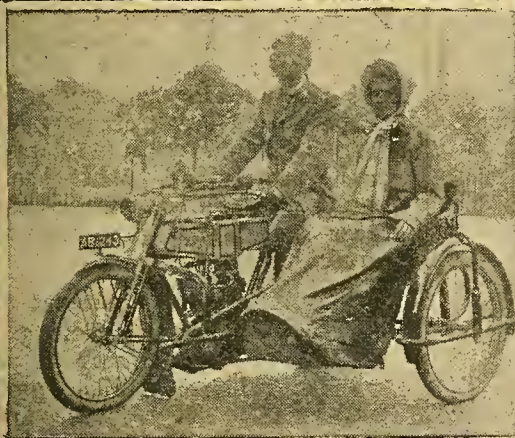
W. E. Milns, Edgbaston. 3½ h.p. two-speed "Humber," with forecar. Whittle belt. Roc adapted clutch.



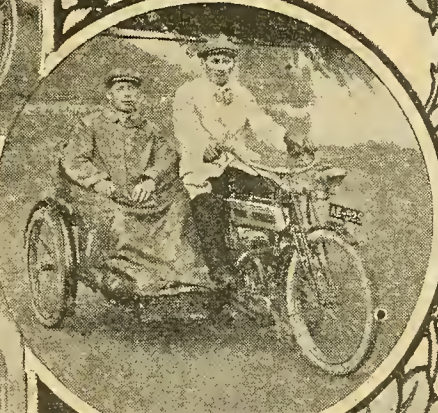
T. Tyson, Leicester. 3½-4 h.p. "Kerry," fan-cooled. Root and Clarke's two-speed epicyclic gear on extended engine shaft. Chain drive. Chater-Lea fittings. Mills-Fulford sidecar. Clincher A-Won tyres. Distance run 12,000 miles.



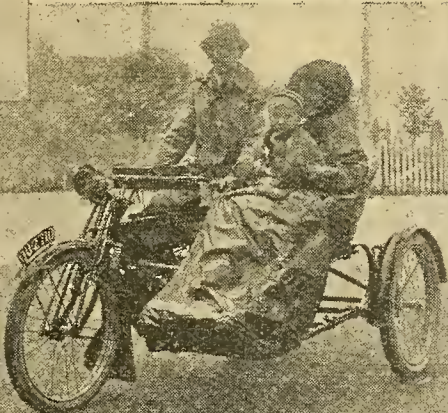
A. J. Lambert, Lydney, Gloucester. 2½ h.p. twin "Douglas," and rigid Chater-Lea sidecar. Only trouble belts pulling through.



G. Jones, Evesham. 7-9 h.p. "Bat." J.A.P. engine. Phelon and Moore two-speed gear (combined chain and belt drive). Continental Model-de-course tyres. Lomax detachable non-skid band.



G. F. Davies, Stourbridge. 1908 3½ h.p. "Triumph." Mills-Fulford fixed wheel sidecar. Single gear, 5½ to 1 R.O.M. back tyre. Rubber belt. Would like two speeds and free engine.



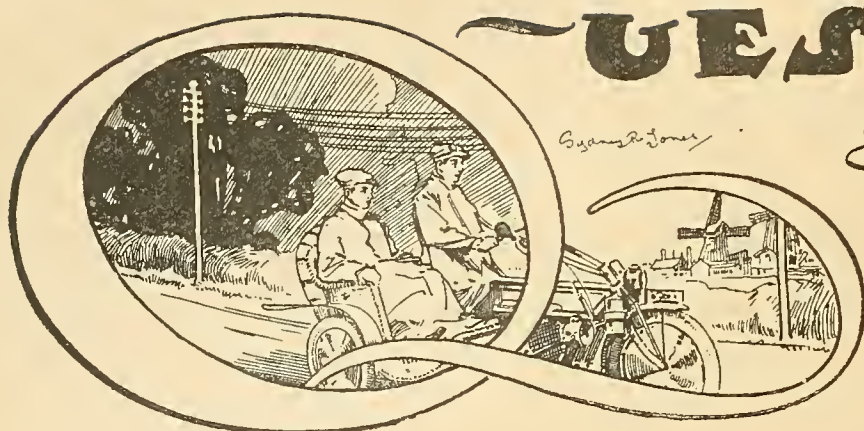
G. F. Chippendale, Birmingham. 3½ h.p. two-speed gear "Humber." Montgomery spring wheel coach-built sidecar. Whittle belt.



F. E. Lee, Stoke-on-Trent. 6 h.p. "N.S.U." Two-speed. Palmer Cord tyres. 11D. Whittle belt. Mills-Fulford Castor wheel sidecar. The celluloid wind screen greatly adds to the comfort of the passenger.



W. T. Rigby, Sutton Coldfield. 5-6 h.p. twin "Peugeot." Free engine and two speeds. Druid spring forks. Mills-Fulford Castor wheel sidecar. Whittle belt. Dunlop tyres.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St. E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Two Routes from Salisbury.

?

Kindly advise me which is the best route from Salisbury to Nottingham, and also from Salisbury to Bolton.—H.S.T.

Salisbury to Nottingham: Salisbury, Andover, Whitchurch, where turn left and go through Newbury, East Ilsley, Abingdon, Oxford, and Banbury. At the village of Princethorpe turn right for Rugby, Leicester, Loughborough, and Nottingham. Salisbury to Bolton: You had better follow the same route to Nottingham, and go on from there through Ripley, Matlock, Bakewell, Buxton, and Stockport, to Bolton.

Surface Carburetter causing Sluggish Starting.

?

I have a 3 h.p. Quadrant bicycle with carburetter inside tank. It is an old pattern, but compression is good, also spark at plug, but it is very hard to start. Have tried a new plug, cleaned contacts, charged accumulator, but there is still the same trouble in starting. Once going there is plenty of power.—L. F.

The trouble is probably due to the surface carburetter. At the present time the petrol sold is much heavier than when the machine was first designed. You can obtain .680 petrol by applying to your nearest agent, or direct from Carless, Capel, and Leonard, Hope Chemical Works, Hackney Wick.

Backfiring. Spring Forks.

?

(1.) I have a 3½ h.p. 1908 Minerva (accumulator) which has given me great satisfaction, but, should I run it on the stand and stop it, it kicks back and locks the chain. Of course, it has a band brake on rear wheel, and sometimes when above occurs it takes a bit of work to get it slackened again, and the rear wheel goes round with a snap. What is the cause and remedy? (2.) Kindly let me know what kind of springs for front forks would suit above machine?—R.W.

(1.) It would appear that you run the engine too long on the stand, and cause either the sparking plug points, some sharp projection in the engine, or particles of carbon to become red hot, with the result that the charge is pre-ignited and the explosion drives the engine backwards. A short circuit might cause the trouble. (2.) We should advise you to purchase the spring forks sold by the makers of your machine.

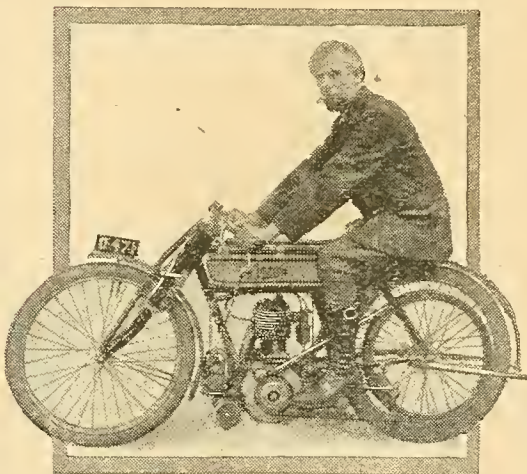
BIO

A Question of Gear Ratio.

?

I have a 1907 Triumph which fully laden weighs 210 lbs. This includes speedometer, pannier bags, large tool roll, tank full of petrol, oil, lamp, etc. My own weight in motor clothes is 162 lbs., making a total of 372 lbs. The gear at present is the standard one of 4½ to 1, and I find some difficulty in climbing several of the hills round here, frequently having to pedal. I don't think it is want of power, as I can get forty-five miles an hour on the level, and can go up a rise near here of half a mile long with a gradient something like, say, Ludgate Hill, at over thirty miles an hour, i.e., if I get a good rush at the

ENTRANTS FOR THE T.T. RACE.



J. L. Norton (Birmingham), 3½ h.p. Norton, 82 x 94 mm., B. and B. carburetter, magneto ignition, Dunlop tyres, Druid spring fork.

foot. Would you advise me to fit a 4in. pulley which would give a gear of approximately 5 to 1? Would this cause overheating on long level stretches keeping machine at legal limit, and would it mean much more wear to the engine and petrol and oil consumption? My present petrol consumption is 120 miles to the gallon. Further, I find it difficult at present to bring the machine down to ten miles an hour, and think a lower gear would help this.—H.S., Fife.

No, a 4in. pulley would not be too small, especially if you use a flexible belt. A 5 to 1 gear would not cause overheating, but we should strongly recommend you to fit an adjustable pulley. It is most useful, not only

for altering the gear, but for varying the tension of the belt. A lower gear naturally increases oil and petrol consumption, but not appreciably so.

Misfiring with Spark Lever Advanced.

?

I have a 1908 Rex Featherweight, which has taken lately to misfiring when spark lever is advanced more than about half-way. The compression is good, valve springs all right, carburetter quite clear, and plug all right. Can it be due to contact points of the magneto being too close? Kindly tell me the proper distance apart for them to be when current is breaking contact. At present I have difficulty to get thick paper between them.—S.F.

The trouble is probably due to you requiring a new fibre for contact breaker lever. First of all try adjusting the platinum points till they separate the correct distance recommended by the makers of the magneto. This is .5 mm. but the running is very little affected if the points break slightly less or more than this amount. We presume you have ascertained that the platinum points meet quite squarely, and the surfaces are clean. Also that magneto is correctly timed.

Underpowered for Sidecar Work.

?

I intend fitting a Montgomery sidecar to my 3 h.p. Triumph (1906), gear 5 to 1. (1.) Will this machine be powerful enough for touring in Derbyshire without much pedalling?—total weight twenty stones. (2.) Which type do you recommend for this machine, rigid, castor wheel or flexible? (3.) Are butt-ended tubes any more trouble than endless ones? Do they wear as long and would you carry one as a spare?—F.S.

(1.) We very much doubt if the machine will climb the hills in Derbyshire with sidecar and passenger unless a two-speed gear is fitted, and even then you would be demanding too much from your little engine. 3½ h.p. is the smallest engine we recommend for passenger work, even if a change speed gear is fitted. (2.) All types mentioned are satisfactory, and have their respective advantages. It is therefore, purely a matter of your own personal taste. (3.) Butt-ended tubes if properly fitted, give no trouble, and we certainly recommend you to carry one as a spare when touring.



Leslie C. Munro (Surbiton), 5½ h.p. Twin N.S.U., 85×84 mm., Bosch magneto, Continental tyres.

Route from Ealing to Derby.

I notice you recommend a route from Ealing to Derby via St. Albans, Luton, and Bedford. I am going to Derby, and propose taking the following route: Rickmansworth, Aylesbury, Buckingham, Towcester, Daventry, Lutterworth, Leicester, Loughborough, and Derby. Can you recommend this route? Are the roads good? Which is the more interesting.—C.C.T.

The route via Rickmansworth, Aylesbury, and Lutterworth is quite a good one, and is probably more interesting than through Luton and Bedford. On the other hand, the first-named route would probably be the faster of the two.

Slipping a Clutch to Aid in Hill-climbing.

Do you think a free engine clutch such as the Mabon would fit a 2½ h.p. Rex, and would it be of any practical assistance in climbing hills? I know the makers say it can be slipped a good deal, but I do not know if that in itself would help. Would it be quite reliable and would the extra weight of such fitment be too heavy for such a small engine? I can manage all ordinary hills with any machine as it is, but there are a few mountain passes in this district—miles long—which cannot be rushed, and I am unable to pedal hard enough to keep the engine speed up.—A. M., South Africa.

The clutch could be made to fit, and would be of assistance in climbing hills if eased slightly when the engine revolutions fall off. This enables the rider to pick up speed again. There is a considerable amount of overhang with a weighty clutch on a small engine-shaft, but it would not affect the running of your engine materially. If the mountain passes you mention are several miles long and very steep, you would not be able to slip the clutch definitely without causing considerable wear and friction. It would be better to get a more powerful machine if you cannot climb the passes without a lot of pedal assistance.

Misfiring and Overheating.

I have a 3 h.p. Singer, Bosch high-tension magneto, and Longuemare carburetter with a ten slot jet. It goes very well on about half throttle, but when I come to a hill and try to give it threequarters or full throttle it begins to misfire, and the misfiring gets worse as I close the extra air lever. The carburetter does not flood. The opening of the inlet valve (automatic) used to be more than ¼ in., but I strengthened the spring with a washer as the engine backfired into the inlet pipe and carburetter. The rocking arm in the magneto and the fibre ring are worn. Would this account for advancing and retarding the spark having little or no effect on the speed of the machine, about fifteen to twenty miles per hour? The spark always seems to me to occur at the top of the stroke, whether lever retarded or not, and I



Hugh Gibson (Southport), 3½ h.p. Triumph, 85×88 mm., Bosch magneto, Dunlop tyres.

have noticed that the engine begins to knock whenever I open the extra air inlet more than half-way. After a run of 100 miles a whitish deposit seems to settle on the magneto points, and then the engine misfires at slow speeds. Would carbon deposit cause the cylinder head to get red hot after running a mile or two fairly fast?—A. McINTOSH.

If the rocking arm and fibre ring in the magneto machine are worn they should be replaced without delay, and a great improvement in running will be noticed. The deposit on the platinum points is probably due to their burning, and this could be obviated by keeping the condenser connections clean. These are formed by the brass cap and the spring which holds it in position. The magneto machine would also be improved if magnets were remagnetised by the makers. Both ends of the spring should be kept bright. Excessive carbon deposit will sometimes cause the cylinder head to get red hot after running. You had better, therefore, have the cylinder taken off and the piston and cylinder thoroughly cleaned.

A Puzzling Case.

I ride a 1½ h.p. Wolf, accumulator, V belt, compression good, valves work well, ignition correct, accumulators fully charged, no signs of overheating, and I have been careful about lubrication. It starts easily, goes like a bird for about five miles, then slowly slackens pace to about eight miles an hour, and I cannot get any better pace out of it. It will run at this rate for miles, but no faster. Opening the throttle only makes the engine race, but the belt appears to grip all right.—DR. R. The trouble is one which is rather difficult to diagnose—possibly it is due to a partially choked carburetter. Opening the throttle cannot make the engine race unless the belt slips.

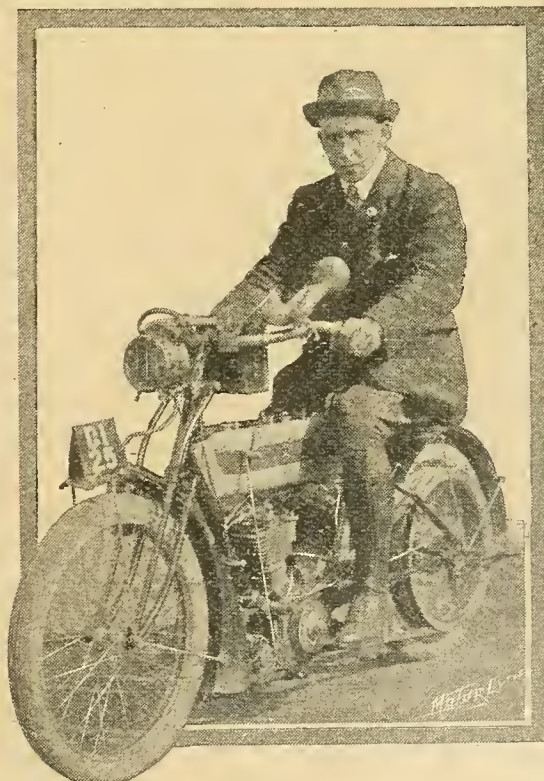
READERS' REPLIES.

Fouling of Sparking Plugs.

In answer to Frank H. Crimes, I would advise him to use Lodge plugs. I used to have the same trouble with my 1908 Rex, which has disappeared since fitting these plugs.—E. B. STAPLETON.

Misfiring in One Cylinder.

In *The Motor Cycle* for Aug. 25th I notice an enquiry from "W.O." re 5 h.p. twin Rex which will only start on front cylinder, and runs some distance before the back cylinder starts up. I had exactly the same trouble with my own twin Rex, and traced it to the induction pipe. The collar attaching pipe to rear cylinder had come unsoldered (the rear cylinder naturally gets hotter than the front), and this cylinder was consequently getting a very weak mixture. When the rear cylinder gets warmed up by the front one, or the engine speed increases, there is sufficient suction on the carburetter to overcome the air leakage through the broken joint, and the rear cylinder starts up.—CECIL H. DOBSON.



A. J. Moorhouse (Manchester), 5 h.p. Twin Rex, 77.5×79.375 mm., magneto ignition.



ON a long distance tour, when the rider would be at the furthest point a thousand miles from home, the preparations are naturally of a somewhat protracted nature. The first successful move was obtaining a month's holiday, and the next was to get an absolutely trustworthy machine. I had parted with my faithful 1908 Triumph just before Christmas, but was awaiting delivery of a 1909 model of the same make, promised by my agent, Mr. Eric Myers, for February 1st. It is advisable to be a member of a club for touring abroad, and, seeing that I required no legal advice or aid, etc., but simply touring information and facilities, I joined the C.T.C. A fortnight before starting I had my luggage forwarded to an hotel at Nice (my objective), there to await my arrival. Motor cyclists have been urged by one or two writers not to venture on a long tour with a machine they are not well acquainted with. My machine had only been delivered a fortnight, but I had no qualms in the Triumph—my fifth motor cycle. So it was with perfect confidence that I sallied forth on the 1st March from my home at Harrogate. I was bound for Southampton, and first made for Wetherby, where I was to join the Great North Road. Before reaching Wetherby I was delayed a minute or two by a slipping belt, caused by snow on the road. Afterwards an uneventful run through Doncaster, Bawtry, Newark, and Grantham brought me in time to Huntingdon—a distance of 140 miles from the start. Here I elected to stay the night, and was comfortably quartered at "The George." My new mount was in a very dirty state after the muddy roads I had encountered. Next morning I was occupied for half an hour in an endeavour to regain the Great North Road, eventually proceeding by way of Biggleswade and St. Albans. Here I branched off and got hopelessly mixed up in the by-lanes in trying to avoid London. Somehow I managed to reach Staines, and here I found the front wheel bearing rather "creaky." A cycle dealer removed the wheel and detached the bearing cups to find a quantity of liquid mud. New balls were fitted and the bearings regreased, etc., and I was again on the way, reaching Basingstoke in good time, and later arriving at Winchester.

Improvement in the Road Surface.

I experienced roads varying from slush to mud, then to frozen ruts, and now I was pleased to find them gradually improving all the way to Southampton, although in one part I had passed a number of young fellows tobogganning on a beautiful road, with pines on either side. I was soon threading my way through the busy streets

to the docks, from where I had to embark on the midnight boat to Havre. I was annoyed to find that I was forbidden to go on board or even to take my machine on until eight o'clock. It now began to snow heavily, so I wheeled my machine into the shelter, and then went and booked return passage for self (7s. 6d.) and machine (10s.), and also got some money changed.

The snow had almost ceased, and all was busy on the docks, as a ship from China had just arrived. Slowly the passengers filed down the gangway, representing all nationalities, from Chinese with their circular caps and pigtailed to the military man from India on leave, wearing his solar topee. Under the buzzing and flickering arc lamps, with the snow gently falling, the sight of these people—lascars and what not—looking after their voluminous luggage and speaking hurriedly in so many foreign tongues was impressive indeed.

At eight o'clock I fetched my machine, and the men were soon busy "slinging" it on board and lashing it firmly to the ship's side under the bridge.

Soon after midnight I heard a shuffling of feet and a cry of "All right aft." "Then let go forward," and in a few minutes we were steaming down Southampton Water. Seven hours later (Wednesday morning) found us at Havre with a regular unhealthy blizzard blowing, which was very disappointing to me, as I had looked forward to having perhaps some favorable weather. After getting a "permit" at a cost of sixty centimes (this, by the way, being the only formality I had to go through at the hands of the Customs, as I had got a Customs ticket from



The landing stage at Havre.

En route to the Riviera and Back by Motor Cycle.—

(C.), I wasted time in the vain hope of the weather clearing up. This it refused to do, so I was advised to go to Rouen, where it was *sure* to be better. I accepted this advice and booked second class for Rouen, which cost 6f. 25c. for myself and 2.25 for my machine. The train did not start till twelve, and I boarded the train after lunch. After a tiresome journey of about fifty miles I arrived at Rouen, putting up at the "Hotel de la Poste," which I found very comfortable.

Waiting for the Snow to clear.

The following day continued very snowy and slushy, and so were the next four days. I therefore visited various places of interest in Rouen, always keeping an anxious eye on the weather. On Sunday, the 7th March, proved to be a glorious day, so I took a walk a few miles along the road to



Auxerre. Women washing clothes by the banks of the river Yonne.

is for the purpose of inspecting the condition of the roads. As they were fairly satisfactory, I decided to start on the following day. Looking over my shoulder to see that all was in order, I noticed a small cut in the back tyre, a rubber non-skid. Next morning I started about nine o'clock, having previously filled up with a supply of petrol, which cost two shillings a gallon. It is no easy matter riding on the right-hand side of the road in the busy streets of Rouen, and was far from pleasant at first. Once outside Rouen, I was rather long time in reaching Vernon and Mantes, and then I found myself within a few miles of Paris. Stopping at a wayside shop to fill up with petrol, my machine was quickly surrounded by about a dozen testers who were testing cars from some works near Paris. The cute idea of turning the petrol injector to the compression tap soon caught their eye, and I had a busy time seeing that they did not fill my under head with petrol. One chap kindly found the nut and put it on my stand almost before I found the one was missing. Then came the inevitable questions—"What power?" "How fast can you go?"

"Where are you going to?" etc. The road approaching Paris began to get rather worse and very difficult to find. Passing through St. Germain, I was soon at Versailles. The cruel *pavé* was heart-breaking; the tremendous holes in the road gave me the worst half-hour I have had on a motor cycle. Nobody seemed to know the way without going through Paris and its awful *pavé*, but at last I found a driver of a small car, who put me on the right track. The road surface varied considerably, but improved towards Melun, where I spent the night, thankful for a fine day, and, considering the difficulty I had had in finding the road and time wasted in towns, I was quite satisfied with only knocking off 100 miles. Tuesday being a beautiful day and the roads in perfect condition, I made splendid progress through Montau, Sens, Joigny, and Auxerre, in places doing a good thirty miles an hour on a straight road mostly bordered with tall trees. I could easily hear the

peculiar "swish, swish" which I had heard of. Petrol I was lucky to get at 1s. 6d. a gallon—the cheapest so far.

A Succession of Tyre Troubles.

Soon after noon I felt my back rim bump heavily on some village setts, so I spent the next half-hour in mending my first puncture, caused by a sharp stone piercing the hole in the cover which I had previously noted. A few miles further on the same thing happened again, but this time in the country and on a lovely road, so, lazily lighting a cigarette, I sat down and surveyed my punctured tyre. Continuing my way a few miles, the back tyre burst with a deafening "bang." More rest, more cigarettes, more work, and then I was off again, but this time riding very carefully. Soon it appeared as if I was in for a real bit of climbing at last, so, driving with throttle nearly closed, I injected

a pumpful of Price's A. and slowly approached a cliff which almost rose sheer up from the end of the road. My excitement grew as I got nearer and nearer, so, kicking the cut-out open, I made a dash forward, prepared for anything, and got the surprise of my life. I had landed into a tunnel, with just a speck of light appearing in the distance and no lamps. My exhaust was making a tremendous din, so, closing it, I had a look down for my levers, and could not even see my handle-bars, let alone the sides of the tunnel and the surface of the road! It was decidedly weird, and not a little startling at first. To unexpectedly meet a 60 h.p. car half-way through would most decidedly result in a nervous breakdown for the lot of us. Unfortunately, I had no lamp on my machine.

(To be continued.)

The Lancashire Motor Exchange are making a speciality of supplying motor cycles for export to the colonies. Full particulars will be sent by the firm, whose address is Lancaster Road, Morecambe.

CURRENT CHAT

Time to
Light Lamp

SPECIAL FEATURES

THE T.T. RACE WEEK.

THE T.T. AND TWO-STROKE ENGINES.

HARROGATE TO THE RIVIERA AND
BACK.

Sep. 15..7.15 p

,, 18..7.8

,, 22..7.0

Death of the Founder of the Quadrant.

We sincerely regret to have to record the death of Mr. Wm. Priest, which took place at his residence, Hampton-in-Arden, Warwickshire, on Monday of last week. Mr. Priest was the senior partner in the Quadrant Motor Co., Earlsdon, Coventry, and many years ago founded the business of the Quadrant Cycle Co., Birmingham, which grew to large proportions. The deceased gentleman was one of the first to recognise the possibilities of the motor cycle, and the Quadrant was one of the first all British built machines which met with success. Mr. Priest was very well known in Midland business circles, and was at one time president of the Cycle Manufacturers' Trade Protection Association. When the Quadrant Cycle Co., Birmingham, met with reverses Mr. Priest, in conjunction with two of his sons and Mr. T. Silver, commenced the manufacture of the Quadrant motor cycles at Earlsdon, Coventry, under the title of the Quadrant Motor Co. We offer our sincere condolences to the family in their bereavement.

Great Orme's Head climbed on a Motor Bicycle.

As long ago as 1904 J. Edge, Liverpool, climbed Great Orme's Head, Llandudno, on a Bat pedalless motor bicycle, but as far as we are aware until lately no motor cyclist has accomplished Edge's feat. J. C. Bennett Mitchell, Leeds, recently made two ascents on a 3½ h.p. Bradbury, from which the pedals had been removed—one by way of the Tygwin Road, which we are told includes a stretch of 1 in 3½, and the other by way of a new road from the Marine Drive, which has two very sharp hairpin bends. The second half of the ascent has to be *viâ* an old quarry road deeply rutted and of rough boulder-strewn surface.

Petrol Imports.

7,627,242 gallons of petroleum spirit were imported last month, duty having been paid on 2,694,562 gallons. From the 30th April to the 31st August duty has been paid on 10,402,358 gallons of petrol.

Imports of Motor Cycles.

Last month's imports of motor cycles and parts show a slight improvement over August last year, the figures being £5,541 and £4,417, respectively. During the eight months ended 31st August, the import figures were:

	1907.	1908.	1909.
Motor cycles—			
£42,189	£30,958	£29,891	
Parts thereof—			
£22,592	£17,441	£19,387	
Total value—			
£64,781	£48,599	£49,278	

Exports still Increasing.

The value of last month's exports of British motor cycles and parts is more than double the figures for the corresponding month of 1908, viz., £9,054, as compared with £3,906. During the eight months ended 31st August, British motor cycle exports are represented by the following figures:

	1907.	1908.	1909.
Number of complete motor cycles exported—	462	556	856
Value—			
£16,093	£19,053	£30,517	
Parts thereof			
£19,482	£13,652	£21,637	
Total value—			
£35,575	£32,705	£52,154	

Re-exports.

Re-exports of foreign made motor cycles and parts from this country have reached a value of £17,513 during the eight complete months of the present year. The 1908 figures for the same period were £7,608, and 1907 £3,990.

A New Method of Timing.

A movement to put an end to the objections regarding checkers' watches reported to be inaccurate, in reliability trials against time, and also complaints regarding many riders training over known courses, has been introduced by the Bradford M.C.C., and will be tried in two long-distance runs down for decision this month. At the start of each run all competitors' watches will be sealed and times will be taken from them by checkers *en route*. If any rider declares his watch to have gone wrong, the time will be taken from the checker's watch.

Moreover, the course will not divulged until time of starting, while each rider's schedule with times worked out will be handed to him.

Police Traps.

A measured furlong from Lewish Workhouse, on the road to Catford

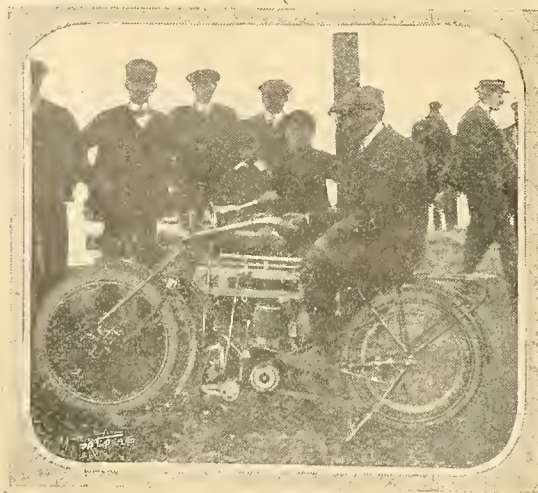
There is a trap at Northwood Middlesex, by the railway bridge approached by a dip on either side.

Another slightly nearer Harrogate possibly worked only at week-ends.

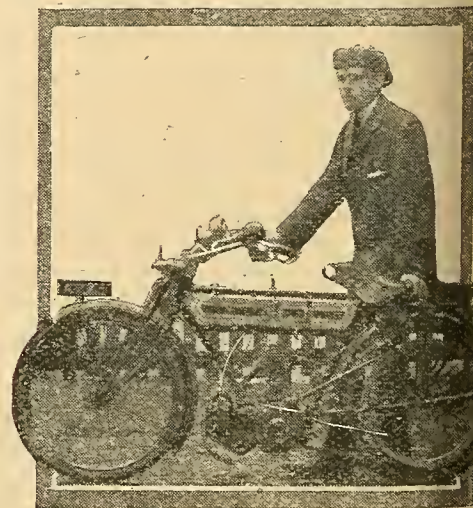
There is a measured quarter of a mile on the open road two miles from Arundel, on the road to Worthing to the east. There are rumours that the trap is shifted from time to time, and works occasionally on both sides of Arundel.

The police trap referred to on the Norwich-Fakenham road in our issue of the 1st inst. apparently lacks confirmation, as we have heard on good authority that the Norfolk police are not trapping in the open road, where no danger exists.

Between Sheffield and Huntingdon motor cyclists are recommended to drive carefully at Wickersley, Bramley, and to exercise great caution in passing through Retford, where the ten mile speed limit is enforced. There is also an occasional trap from South Muskham to Newark, while the Lincoln Bennington to Great Gonerby, Ponton to Colsterworth traps are continuously working. The latter traps are worked very fairly, and a certain mileage over the legal limit is generally allowed. In Colsterworth itself there is a ten mile speed limit and a trap is occasionally worked in the village. There are occasional traps at Stilton and Stukeley, while the police are active in the villages of Alconbury, Buckden, and Fenstanton.



At the summit of Great Orme's Head, Llandudno.
J. C. B. Mitchell and his 1909 Bradbury.



One of the private owners in the T.T. Race.
A.V. Blake (Larne, Co. Antrim), 3½ h.p. Triumph
84×86 mm.

Police Traps (continued).

Several motor cyclists were stopped by the police in Sussex to have their licences examined last week. This happened near Ashdown Forest and in other parts of the county, but we have reason to believe that this was merely a general examination of licences, and no fines were taken.

A 220 yards trap half a mile beyond Woodford on the Epping Road. Plain clothes officers hide behind the hedge on the right. Any motorist exceeding twenty miles per hour is stopped.

Caithness, Contour, Route 322, Thurso to John-o'-Groat's, from Castle-town to Dunnet, about three miles over Dunnet Links. Route 325, Thurso to Westerdale, movable trap one mile long between Thurso and Halkirk. Trap from Westerdale to Halkirk four or five miles.

The Pneumatic Tyre Majority Celebration.

On the opening day of the Stanley Show a banquet and presentation, in the form of a suitably inscribed silver basket, will be made to Mr. Harvey On Cros, J.P., as some little recognition of the unique services rendered to the cycle and motor industries.

The British Motor Cycle Racing Club.

Owing to the T.T. Race in the Isle of Man taking place on the 23rd inst., it has been considered advisable to postpone the date of the sixth members' meeting, originally fixed for September 15th, until Wednesday, September 29th.

The State of Chatham Hill.

A correspondent wishes to warn readers of the very bad state of the road on Chatham Hill. Riders ascending should keep strictly to the left, but when descending take the centre of the tram track. He adds that cycling accidents are alarmingly frequent.

Open Hill-climb on Amulree.

The Edinburgh M.C.C. has decided to hold an open hill-climb on Amulree on October 9th. It will be remembered that this ascent was included in the Scottish Five Days' Trials, and proved a stumbling block to nearly all. Every conceivable make of motor cycle has been catered for to attract a large entry, ten classes having been included. The trials hon. secretary is P. E. Tolfree, 17, Falcon Avenue, Edinburgh.

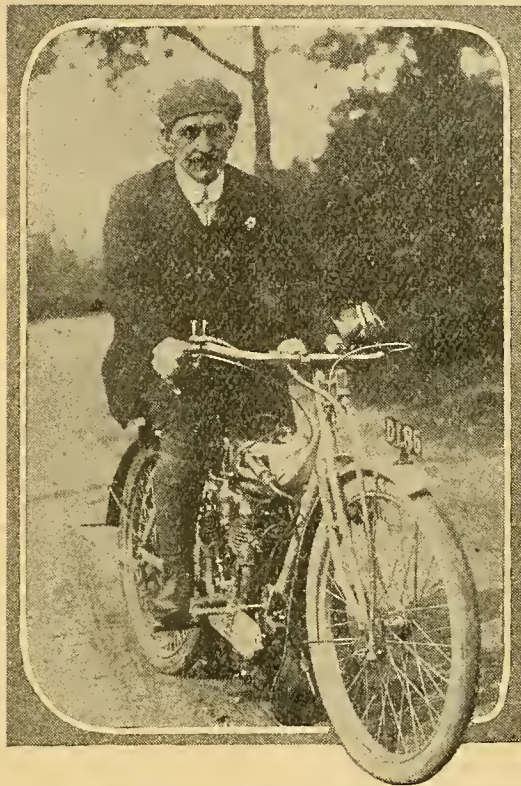
The Rule of the Road.

With so many competitors in the Tourist Trophy Race, it behoves one and all to adhere carefully to the rule of the road both in practice and during the race. By so doing accidents may be prevented. We are led to publish this reminder, as we notice there are quite a number of riders new to competition and speed work among the entrants. The danger of accidents is always greater as the speed gets higher.

The Western District M.C. Hill-climb.

We are asked to point out that the particulars circulated among the members for the above event mentioned that in filling up the entry form it was necessary to state whether a variable gear was fitted or not; therefore it was contemplated that variable gears

would be used in some or all of the classes. The riders of the Zenith Gradua machines stated on their entry forms that their machines were fitted with variable gears, but it was not until just before the start of the event that they were informed that they could only compete in a separate variable gear class or in the racing class, and this only on condition that they used one gear all the way up the hill. They declined to accept these conditions, and withdrew from the contest. In the report of the hill-



H. Reed, winner of the Twin-cylinder Trophy in last year's T.T. Race. This year he will ride a 5 h.p. Twin Dot-Peugeot, 75 x 75 mm., a.o.i.v., Amac carburetter, and magneto ignition.

climb in the "Club News" pages of September 1st, it was stated that the Zenith Graduas were barred in the competition. Later information, however, proves they were only barred in the single-cylinder touring class, but their riders naturally declined to compete in any other class if they could not use the variable gear with which the machine is provided as a standard fitment.

Are Special Motor Roads Wanted?

The Road Improvement Bill was fully discussed by the R.A.C. and its associated bodies on the 3rd inst., and the following resolution was unanimously passed: "That the General Committee of the Royal Automobile Club and Associated Clubs expresses its satisfaction with the Development and Road Improvement Funds Bill, Part II., and further expresses the hope that the attention of the Road Board will be specially given to the improvement and widening of existing roads for facilitating motor traffic rather than to the construction of special motor roads."

Tourist Trophy Trifles.

Some of the competitors have left their practising very late. We know of one or two entrants who were not expecting delivery of their machines until the end of this week.

Anent the leaderette in the issue of the 1st inst. relating to wear of cylinders during the race, we note that several of the twin-cylinder machines are only 1 cubic centimetre short of the limit. Truly this is cutting it fine. It means that if both the cylinders have worn a hair's-breadth by the end of the race, the capacity of the engine will exceed the limit.

The total number of entries received for the race is fifty-nine. In allotting the numbers, the fateful 13 has been omitted. Of the fifty-nine entrants, twenty-four are private owners of the machines they will ride. Single-cylinder motor bicycles number thirty-two, twins twenty-six, and four-cylinder one.

The fact that so many riders of single-cylinder machines have entered goes to show that they fancy their chances against the multi-cylinders of greater power, and it would be impossible to forecast the result with accuracy.

Giuppone will use one of the new pattern 84 x 86 mm. single-cylinder Peugeot engines, with overhead mechanically-operated inlet valve.

Practising on the course commenced last Thursday. Competitors are allowed to practise up to 8 a.m., except on Sundays.

America is represented in the race by three Indian machines—two twins and a single of 82½ x 93 mm. (to be ridden by G. L. Fletcher), which is new to this country.

Snaefell, the venue of the climb on Friday afternoon next week, is generally regarded as the most severe test to which motor cycles have yet been put, excepting, perhaps, the French Mont Ventoux hill-climb. We heard a car owner last week offering to wager that no single-gear motor bicycle could climb Snaefell. We should not like to make so sweeping a statement.

S. C. Perryman and B. V. Jones are using Simms magnetos on their twin-cylinder machines, not Bosch as stated in last week's issue. It was expected that a new twin Norton engine with overhead mechanically-operated inlet valves would be ready in time for the race, but Mr. Perryman has now decided to revert to his 75 x 84 mm. a.o.i.v. twin.

In next week's issue we shall publish the entries for the hill-climbing competitions on Kewagie and Snaefell.

FUTURE EVENTS.

- Sept. 23—THE TOURIST TROPHY RACE FOR MOTOR CYCLES IN THE ISLE OF MAN.
- " 24—Hill-climb on Kewagie Hill, Isle of Man. Five classes. Start 10 a.m.
- " 24—Hill-climb up Snaefell. Start 2.30 p.m.
- " 29—British M.C.R.C. Sixth Members' Meeting at Brooklands.
- Oct. 6—Race meeting at Brooklands (two events for motor cycles).
- " 11—Two Hours Record Race at Brooklands, organised by the British M.C.R.C.
- " 9—Edinburgh Motor Cycling Club Open Hill-climb on Amulree.
- " 10—A.C.U. Fourth Quarterly Trial of 1909, Uxbridge to Banbury and back.
- " 16—Motor Cycling Club Private Race Meeting and Gymkhana on Brooklands track.
- " 23—Motor Cycling Club closing run of the year to Brighton.

THE INTERNATIONAL TOURIST TROPHY RACE.

Officials.

THE following gentlemen have been selected to act as officials in connection with the forthcoming race and hill-climbing competitions in the Isle of Man on September 23rd:

Judges.—Messrs. J. W. G. Brooker, H. G. Cove, Victor Hart, J. W. Orde, Robert Todd, and Archibald Sharp.

Chief Marshals.—Messrs. F. C. Baisley, J. R. Nisbet, R. D. F. Paul, and J. K. Starley.

Marshals.—Messrs. H. P. Beasley, H. G. Bell, E. M. P. Boileau, R. S. Brooke-Hitching, S. W. Carty, D. K. Hall, J. Haslam, Dr. H. R. Mayo, A. E. Newton, S. W. Phillpot, H. C. Pickering, W. Pratt, C. E. Rackham, A. J. Wilson, and the members of the Manx Automobile Club.

Press Steward.—Mr. F. A. Hardy.

Timekeepers.—Messrs. A. V. Ebbelwhite, C. P. Glazebrook, and A. Geo. Reynolds (official timekeepers Auto Cycle Union and Royal Automobile Club).

Clerk of the Scales.—Mr. B. H. Davies.

Time Auditors.—Messrs. J. Baynes, R. A. Tyler, A.C.A., and F. Little.

Secretary.—F. Straight, 18, Down Street, Piccadilly, London, W.

The T.T. Race Fund.

The above fund has now reached the sum of £67 16s., made up as follows:

Amounts previously acknowledged in <i>The Motor Cycle</i>		
G. M. Mackay	...	£59 8 0
Vanguard	...	0 2 0
Five Stourbridge Triumph riders (per R. T. Davis)	...	0 3 6
	...	0 12 6

Hunter Bros. (Clapham)	...	...	0 10 0
Leslie C. Munro	...	...	0 5 0
Robert Clayton	...	...	0 2 0
E. B. Hall	...	...	0 5 0
Norman Hughes	...	...	0 3 0
J. K. Starley	...	...	1 1 0
Indian Motorcycles	...	...	3 3 0
F. S. Barnwell	...	...	1 1 0
Miss Muriel Hind	...	...	1 0 0
Total	...	...	£67 16 0

The expense of holding the race this year is much greater than last, principally because the R.A.C. is not organising a motor car race in the Isle of Man; therefore all the cost falls on the shoulders of the A.C.U., which feels justified in asking motor cyclists to assist. The cash prizes amount to £82 7s. alone. Donations, however small, will be welcomed, and collecting sheets can be obtained from the secretary, 18, Down Street, Piccadilly, W., or *The Motor Cycle* Offices, 20, Tudor Street, E.C., and Coventry.

For every £1 up to £100 contributed to the fund *The Motor Cycle* will give 1s. Cheques, postal orders, etc., should be made payable to the Auto Cycle Union, and may be addressed to the Club or the Editor of this journal as above. All contributions will be acknowledged in *The Motor Cycle*.

A Late Entry.

We have received notification from the A.C.U. that an additional entry for the T.T. Race has been received. This was after the list on page 686 had gone to press. The entrant is a private owner named A. West, and he will ride a 3½ h.p. Triumph, 85 × 88 mm., cylinder capacity 499 c.c.

M.C.C. RACE MEETING & GYMKHANA AT BROOKLANDS.

LAST week we inserted a paragraph respecting the Motor Cycling Club holding a gymkhana meeting in Mr. DuCros's park. The idea has grown, and the club has now decided to make this event quite a new departure, and turn it into a private race meeting and gymkhana at Brooklands Track on Saturday, October 16th, commencing at 12 o'clock (noon). All members will be catered for, especially the ordinary rider on the every-day motor cycle who has never before had the luck to get a chance of a run on the track.

Preliminary Programme.

1. MOTOR CYCLE HANDICAP RACE. Two laps of the track (about 5½ miles). For riders who have never ridden in a race at Brooklands. Engines not exceeding 500 c.c. Entrance fee, 2s. 6d.

2. MOTOR CYCLE HANDICAP RACE. Same conditions, but for engines between 344 c.c. and 1,000 c.c. Entrance fee, 2s. 6d.

3. MOTOR CYCLE HANDICAP RACE. Open to all of the members. Engines up to 1,000 c.c. Distance, three laps (about 8¼ miles). Entrance fee, 2s. 6d.

4. CAR HANDICAP RACE. For drivers who have never raced at Brooklands. Three laps of the track. Entrance fee, 2s. 6d.

5. MOTOR CYCLE "CIRCLE" RACE. Gymkhana event. Entrance fee, 1s.

6. MOTOR CYCLE "LIFE BELT" RACE. A gymkhana event. Entrance fee, 1s.

7. MOTOR CYCLE "TORTOISE" RACE. A gymkhana event. Entrance fee, 1s.

8. CAR "ENGINE STARTING" RACE. Gymkhana event. Entrance fee, 1s.

9. CAR "BENDING" RACE. Gymkhana event. Entrance fee, 1s.

10. CAR "TORTOISE" RACE. Gymkhana event. Entrance fee, 1s.

The handicap will be decided on the system of a preliminary run round the track, and any increase in speed in excess of five per cent. will disqualify.

Only members of the club can enter the competitions, but members can introduce as many friends to the track as they wish, and, at a later date, tickets will be supplied on demand.

After October 1st the club is willing to elect new members, their first subscription carrying them on to the end of 1910. This, therefore, is an advantageous time to join the club, as new members will not only get fifteen months' membership for one year's subscription, but can also take the opportunity of participating in this event at Brooklands. Full notices will be sent to all members through the post.

For this event only Mr. S. H. Fry is acting as trials hon. secretary.

On October 4th Messrs. Phelon and Moore will open their new London premises at 11-12, Mortimer Street, W.

DUBLIN & DISTRICT M.C.C.

RACING AT PORTMARNOCK.

The above club brought the year's competitions to a conclusion on Saturday last with a race meeting on the Velvet strand at Portmarnock. Three events made up the programme, and in each of these F. J. Walker, on a twin-cylindered 5 h.p. Rex, was the scratch man. Walker was very successful, winning two of the three events, and the third was won by T. J. Dunphy, on a J.A.P. The handicapping, which was done by the club committee, was very satisfactory.

DETAILS.

Two miles handicap (out and home).—T. J. Dunphy, 3½ h.p. J.A.P., 15s. start, 1; J. Healy, 5 h.p. twin Peugeot, 0s., 2; R. H. Taaffe, 5 h.p. twin Peugeot, 5s., 3. Won by s., 14s. between second and third. Winner's nett time, 1m. 13s.

Four Miles Handicap.—F. J. Walker, 5 h.p. twin Rex, 1; M. J. Chambers, 2½ h.p. F.N., 100s., 2. Won easily. Winner's nett time, 5m. 49s.

Ten Miles Handicap.—F. J. Walker, 5 h.p. twin Rex, 1; R. Walsh, 2½ h.p. J.A.P., 140, 2; R. H. Taaffe, 5 h.p. twin Peugeot, 30s., 3. Winner's nett time, 15m. 19s.



Back markers in the Ten Miles Handicap of the Dublin and District M.C.C. races at Portmarnock Velvet Strand.

MURATTI TROPHY RELIABILITY TRIALS.

The committee of the Ulster Centre M.C.U.I. held a further meeting on the 10th inst. to consider the result of above trials. At the finish of the competition on August 31st, C. E. Murphy reported to the hon. secretary that he had been marked 1½m. wrong at the Banbridge control, and the timekeeper was asked to attend the meeting in order to give some information. He (the timekeeper) explained that he set his watch by the Post Office clock, but it transpired that one of the P.O. lady clerks informed him afterwards that the clock was 1½ to 2 minutes fast on the morning of August 31st,

which was exactly the difference between the watches Murphy carried and the time marked on his check books. However, the committee decided to adhere to the times recorded in the check books. It was also decided to deduct one mark for each full minute a competitor was early or late. The riders were finally placed as follows: 1, J. Stewart (3½ Triumph), 160 marks, Muratti Trophy (won outright) and gold medal; 2nd, C. E. Murphy (3½ Triumph), 159 marks, gold medal; 3rd, O. C. Godfrey (3½ Rex), 156 marks, gold medal; 4th, J. Coulter (3½ Triumph), 145 marks, silver medal.

CLUB NEWS

Barnsley and District M.C.C.

The following are the results of the Barnsley and District H.P. x T L.C.C. hill-climb, worked out on the formula
$$\frac{W}{H.P. = \frac{D^2 \times \sqrt{S \times N}}{18000}}$$
 Horse-power was calculated on the Coventry and Warwickshire M.C. formula, which is—

Formula.		Time.
1. E. Slater (3½ h.p. Triumph)	...	42½s.
2. J. Haslam (2½ h.p. J.A.P.)	...	54½s.
3. T. W. B. Durant (3½ h.p. Durant-J.A.P.)	...	45½s.
4. F. Scorch (3½ h.p. Triumph)	...	49s.
5. E. H. Longley (3½ h.p. Peugeot)	...	51½s.
6. F. Greenwood (5 h.p. Rex)	...	40½s.
7. J. Oxley (2¾ h.p. Douglas)	...	58s.
8. T. Dunk (5 h.p. Rex)	...	39½s.

Richmond and District M.C.

The annual reliability trial (motor cycle section) for the Harpmael Challenge Cup took place on the 5th inst., and the holder of the cup, F. C. Wood (who only wanted one more win to make it his own) was again the winner. The run was from Surbiton to Winchester and return, a distance of 110 miles, and in the event of more than one competitor making a non-stop run the cup was to be awarded to the one who adhered nearest to his stated schedule speed. Secret time checks were made at various places. The entry was very good, and included two new machines which will compete in the Tourist Trophy Race. The following members made non-stop runs:

Difference from Schedule.	
1. F. C. Wood (3½ h.p. N.S.U.), winner	6m. 43s.
2. C. Dibben (3½ h.p. Triumph)	9m. 50s.
3. Dr. Brewerton (12 h.p. Lagonda)	10m. 9s.
4. J. S. Spring (3½ h.p. Triumph)	10m. 53s.

In addition to the cup, the club awards a medal to each competitor who made a non-stop run.

Brighton and District M.C.C.

The undersigned team of three challenge any other team or teams of three members of the above club to a reliability run

to Hartfield and back on the 26th inst., start from headquarters 10.30 a.m.: Messrs. C. Smith, J. Best, and R. Wilkins. Particulars and conditions of the run will be found on the club notice board, the losing team to pay 1s. per member into the club's prize fund.

Hull and East Riding A.C.C.

Dr. W. H. Coates (president) has kindly invited the members of the above club to tea at Bleak House, Patrington, on Saturday next, the 18th inst.

A pace-judging competition has been arranged to be held on the journey to Patrington, starting from Martfleet tram terminus at 2.30 p.m.

The judges' report in connection with the High Hunsley hill-climb is now to hand, and reads as follows:

CLASS I. (UP TO 76 x 76 MM.).

	Fig. of merit.
1. W. Crawford (2 h.p. Minerva)	8.910
2. Mrs. Thomlinson (2½ h.p. J.A.P.-Kestrel)	7.376

CLASS II. (1905, OR EARLIER MAKE).

1. W. Crawford (2 h.p. Minerva)	8.778
2. S. Missin (65 x 72 Rex)	7.732
3. W. Pannell (77 x 77 Singer)	6.092

CLASS III. (SINGLE-CYLINDER, ANY SIZE).

1. Mrs. Thomlinson (2½ h.p. J.A.P.-Kestrel)	7.313
2. R. Pearson (3½ h.p. Triumph)	7.278
3. G. Bosville (3½ h.p. Triumph)	7.039
4. G. Mumbv (3½ h.p. Triumph)	6.610
5. R. N. Pilling (3½ h.p. Triumph)	6.449
6. F. Mallison (3½ h.p. Bradbury)	5.713

CLASS IV. (TWIN-CYLINDERS).

1. A. Evans (5 h.p. V.S.)	5.764
2. A. W. Raynor (5 h.p. Rex)	4.948
3. A. Willis (5 h.p. Rex)	4.778
4. J. McDougall (6 h.p. Sarolea)	4.338

CLASS V. (PASSENGER MACHINES).

1. W. Crawford (6 h.p. Sarolea)	8.641
2. R. Akester (4½ h.p. J.A.P.-Rover)	7.777
3. A. H. Walker (5 h.p. Rex)	7.427
4. A. Evans (5 h.p. V.S. and sidecar)	6.685
5. J. McDougall (6 h.p. Sarolea and sidecar)	6.093

Club News.—

Hertfordshire County A.C.

A hill-climbing competition (handicap) is to be held at Aston Hill, on Saturday, the 25th inst. Class I. is for motor bicycles, entry fee 3s. 6d., which must be sent in by Friday next.

Manchester M.C.

The Manchester Motor Club held a hill-climbing competition on Saturday, the 4th inst., which was the last it will organise this year. There was a capital entry of motor cycles and cars. The weather, however, was very unfavourable, which has, unfortunately, been the case for most of the club events during 1909. There were two motor cycle classes for machines with single and multi-cylinder engines. The results on club formulae are as follow:

H.P. \times T

Where h.p. = horse-power, T = time in seconds,

W

W = combined weight. H.P. calculated as follows:

$D^2 \times S \times N$

Where D = diameter in mm., S = stroke in mm., N = number of cylinders. Results:

Class 1.—1, A. J. Moorhouse ($3\frac{1}{2}$ h.p. T.T. Triumph); 2, C. E. Kettle ($3\frac{1}{2}$ h.p. Triumph).

Class 2.—1, D. Thomas (5 h.p. Peugeot); 2, H. J. Scale (6 h.p. Antoine).

Class 1 (Novice).—1, E. Jones ($3\frac{1}{2}$ h.p. Premier); Class 2, F. W. Sixsmith (7 h.p. Matchless).

A. J. Moorhouse made the fastest time of the day.

In the forthcoming T.T. race the club will be represented by four members, viz., P. Butler, W. Heaton, A. J. Moorhouse, and Harry Reed (holder of the twin-cylinder trophy).

Essex M.C.

The annual gymkhana takes place on Saturday next, the 18th inst., the venue being the Essex track, High Beech, near Loughton, in the middle of one of the most picturesque portions of Epping Forest. The competitions are timed to begin at 3.30 p.m. and a highly interesting programme has been arranged. Full particulars may be obtained of the hon. sec., Mr. Harold Fuller, Wyndale Road, Woodford. Ladies are particularly invited to be present. Tea will be served during the progress of the sports.

Coventry and Warwickshire M.C.

The Thames Valley run on Saturday and Sunday last was quite as successful as the weather conditions allowed. Nineteen members and friends on motor cycles and cars left Coventry at 1.15 p.m. for Oxford, Henley-on-Thames, and Maidenhead. Doubtless if definite arrangements could have been made with the clerk of the weather, the muster would have been larger. At the start the clouds looked threatening but after Banbury the weather was beautiful, and remained so until the completion of the run. The headquarters at Maidenhead were the New Thames, where everyone was made thoroughly welcome. On Sunday the launch, *Lady Constance*, chartered by the club, went upstream *via* Boulter's Lock, which was, of course, crowded. The return journey was *via* Reading, Pangbourne, and Shillingford. The section of the Bath Road from Maidenhead to Reading cannot be recommended; it is not only uninteresting, but has an atrociously "pot-hole" surface. The fine scenery of the Thames Valley from Pangbourne to Shillingford was, however, some compensation for this poorly mended piece of road. Mr. A. P. Smith, the assistant hon. secretary, is to be congratulated on the success of the run, which would have been certainly more largely attended had the weather been more settled on the Saturday.



The Manchester Motor Club's competitions are always well organised and supported. Our picture shows a competitor, W. Manock (7 h.p. Peugeot), ready to start in the last members' hill-climb of the year. In this event, fastest time of the day was accomplished by A. J. Moorhouse ($3\frac{1}{2}$ h.p. T.T. Triumph).

Club News.—

Wimbledon and District M.C.

The result of the above club's hill-climb is: 1, A. Warrington (4½ h.p. Minerva); 2, W. R. Wacher (3½ h.p. Triumph); 3, F. Winters (4½ h.p. Minerva). The reliability trial will be held at an early date.

Alderdeen and District M.C.C.

The club held a hill-climbing competition on the 4th inst. at the Cairn-o'-Mount. The climb was from the Bridge of Dye to the summit, and was undoubtedly the most severe test of the year. The fastest time was made by P. Bischoff on a 3½ h.p. T.T. Triumph, the second being J. Bruce, also on a 3½ h.p. T.T. Triumph.

Motor Cycling Club.

In the petrol consumption trial on the 4th inst. only one award has been made in Class 1 for single-cylinder machines, W. A. Jacobs (3½ h.p. Rex), who takes a gold medal. The gold medal in Class 2, for multi-cylinder engines, goes to R. C. Davis (5 h.p. Griffon); silver medal, J. V. Robinson (2¾ h.p. Douglas); bronze medal, G. L. Fletcher (2¾ h.p. Douglas).

Potential members of the Motor Cycling Club need not wait until early next year to join. Applications for 1910 membership may be sent in on or after October 1st, and if accepted the new members will be able to take advantage of the club's winter programme, including the annual dinner.

Newcastle and District M.C.

A hill-climb was held near Rothbury on the 5th inst., and a very large muster of members and friends attended. There was a good entry, and the competition was run off in three classes—passenger vehicles, single-cylinder motor bicycles, and twin-cylinder motor bicycles. The following awards were made, based on A.C.U. formula, and gold medals were awarded for fastest time in each class:

Passenger vehicles.—Fastest time, R. Wilson (6 h.p. N.S.U. and sidecar).

Single-cylinder motor bicycles.—Fastest time, R. Ellis (3½ h.p. Rex Speed King).

Twin-cylinder motor bicycles.—Fastest time, G. W. Raper (6 h.p. N.S.U.).

Passenger vehicles.—R. Wilson and E. L. Bates.

Twin-cylinder machines.—R. Crosier (2½ h.p. N.S.U.), 246; P. Roberts (4½ h.p. F.N.), 283.1; G. W. Raper (6 h.p. N.S.U.), 392.7.

Single-cylinder machines.—R. B. Smith (4 h.p. N.S.U.), 178.6; R. Ellis (3½ h.p. T.T. Rex), 265.2; R. L. Keene (3½ h.p. Triumph), 277.6.

Worcestershire M.C.C.

The recent reliability trial for the President's Cup was run over a distance of about 160 miles, the course being from Bromsgrove to Rhayader and back. Secret controls were arranged *en route*, and a time limit not exceeding twenty miles per hour and not less than eighteen miles per hour was fixed. A competitor arriving at controls before or after the specified time was penalised 1 mark per minute.

The competitors were: L. T. Baylis (3½ h.p. Corah), non-stop; G. R. A. Deacon (3½ h.p. Rex), non-stop; H. B. Denley (3½ h.p. Minerva), non-stop; H. J. Folkes (3½ h.p. Triumph), non-stop; H. C. Pickering (2½ h.p. Rex), non-stop; F. H. Southam (3½ h.p. Triumph), non-stop; T. Smith (3½ h.p. Rex), non-stop; W. E. Ward (3½ h.p. Triumph),

non-stop; R. T. Wood (3½ h.p. Triumph), non-stop; E. Burgess (5 h.p. Rex), retired to assist Mr. Pollock; H. T. Clarke (3½ h.p. Humber), puncture; T. W. Deakin (5 h.p. Rex), puncture; B. Potter (7.9 h.p. Elite), puncture; N. C. Pollock (5 h.p. Rex), tyre burst and left rim, retired; L. F. Parkes (7 h.p. Mist), belt jumped off pulleys, delayed 3m.; and G. Sanders (3½ h.p. G.S.), sooted plugs, delayed 4m.

Sutton Colfield A.C.

The annual reliability trial takes place on the 25th inst., commencing at 2.15 p.m. The course chosen is a circular one of about twenty-one miles (to be covered five times), starting from Sutton, thence to Lichfield, and passing through Tamworth, where there will be a control. There will be a tea interval of forty-five minutes' duration at the Castle Hotel, Tamworth, where petrol tanks may be replenished, but no adjustments to the machine will be permitted. The competitor making a non-stop run and riding nearest to schedule will be declared the winner. Valuable prizes are offered, including a silver challenge cup, to be won three times, whilst the second prize is a gold medal, kindly promised by the Triumph Cycle Co., Ltd. Bronze medals will also be awarded to all those making non-stop runs.

Sheffield and Hallamshire M.C.C.

The final of the above club's annual reliability trial, which took place on the 4th inst. on a circular course of fifty miles in the Derbyshire district, proved most trying on account of the bad state of the roads, and again resulted in a tie between J. Haslam (2½ h.p. J.A.P.) and F. H. Dunstan (3½ h.p. Rex), Doncaster, for first place. The awards for this competition are as follows: 1st, the club's shield and gold medal; 2nd, prize value £2 2s.; 3rd, prize value £1 1s. J. A. Stacey (3½ h.p. Triumph) takes the third prize with a loss of one mark, and T. Durant (Chapelton) with a loss of two marks the club's silver medal as fourth prize. The ride between Haslam and Dunstan will take place in the course of a few days. The above riders have each covered a distance of 374 miles with an aggregate loss of less than five minutes.

Edinburgh M.C.C.

This club held a fifty miles open reliability trial and hill-climb on Saturday last over a circular course, starting at Fairmilehead, and finishing at the same place. The trial was conducted on a twenty miles per hour basis, two controls having been arranged at the foot of Flotterstone Hill, on which competitors were timed on both occasions, the first being a slow and the second a fast climb. Marks were given

according to the formula — $\frac{\text{slow}}{\text{fast}} \times 100$ for hill-climb and 500 for

reliability. The fastest climb was done by W. D. Cairns, and the slowest by Percy E. Tolfree. A gold medal, presented by the N.S.U. Co., was awarded to the winner. The results are:

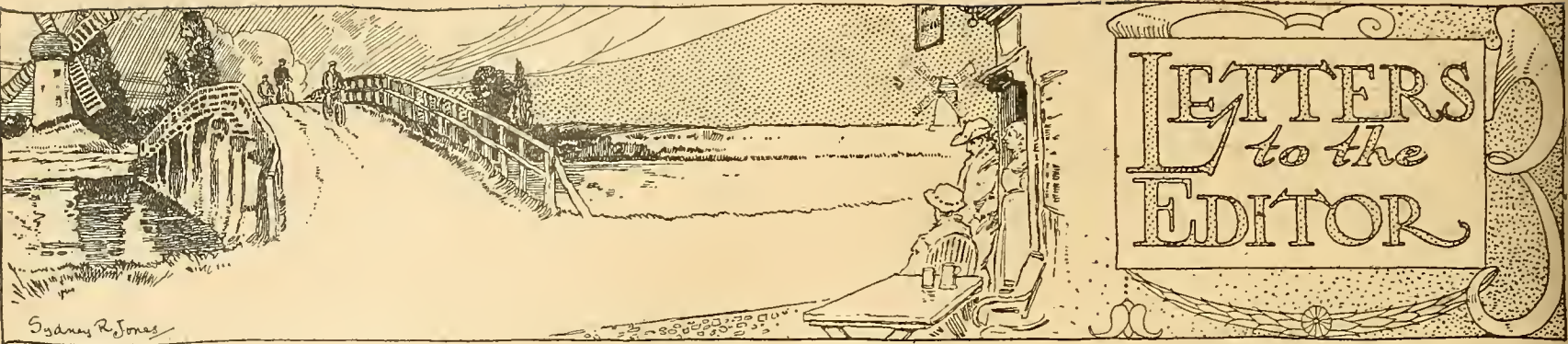
Rider and machine.	Marks gained.
1. Percy E. Tolfree (5 h.p. Roc) ...	286
2. W. D. Cairns (6 h.p. J.A.P.) ...	284
3. Ralph H. Salvesen (3½ h.p. Triumph) ...	273
4. J. T. Borland (6 h.p. N.S.U.) ...	204

Six other competitors took part, but were not placed.

The above club will hold an open hill-climb on the 18th inst. Further particulars may be had from Mr. Percy E. Tolfree, trials secretary, 47, Falcon Avenue, Edinburgh.

Edinburgh M.C.C.
open reliability trial and hill-climb. The competitors. P. E. Tolfree, the winner, is at the extreme right. His mount is a 5 h.p. Roc-Peugeot.





The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Controlling a Motor Bicycle from the Sidecar Seat.

[4253.]—Referring to letter 4176, August 4th, and photograph of Miss Lance driving a 6 h.p. N.S.U. from sidecar, may I ask—(1) How Miss Lance starts the engine? Does she always depend on some bystander to push the machine, or must a friend always accompany her? (2.) Does she find any excessive leverage on the length of handle-bar in taking sharp corners, and does she experience any trouble through stretching of Bowden wires? Incidentally I noticed two similarly steered machines driven by non-competitors on the last day of the A.C.U. Six Days' Trials which were very conspicuous on Birdlip. N.S.U.

Multi-point Ignition.

[4254.]—Referring to Mr. Ayton's article, "Speed and Power," published in *The Motor Cycle* on August 11th, when he refers to multi-point ignition, I presume he proposes to use a separate induction coil for each sparking plug, otherwise I fail to see how the mixture will be fired simultaneously at each point. The spark will always follow the path of least resistance, i.e., through the cleanest and most closely adjusted plug, and not half through each.

Perhaps Mr. Ayton will give further details for the benefit of readers of *The Motor Cycle*, including C. A. BARNES. [We have an article in the press on multi-point ignition, which will be published as soon as space permits.—Ed.]

The End-to-end Record.

[4255.]—I read Mr. Ivan B. Hart-Davies's account of experiences in his End-to-end record ride with much interest and congratulate him upon it, but should like a little of your space to make a few remarks thereon.

There are two points which I think call for comment, viz., the machine itself and the way in which the record was conducted to ensure success. As regards the machine, it seems that after all we are a long way from perfection if, in the opinion of the writer of the article (who is a most experienced and capable rider), there is a doubt about a machine which has travelled 5,000 miles being capable of breaking a 900 miles record.

Concerning the record itself, Mr. Hart-Davies's opening words express my meaning exactly. He says, "... the enormous amount of preparatory work," and further on, "I realised what heavy correspondence meant." We read that he beat the record by over seven hours. It follows that any further reduction in time must be mainly accomplished by even more perfect methods of organisation. It follows, sir, that only those who can acquire a new machine and have a long purse stand any chance in lowering the time.

Those who have these advantages can do much in the way of even better arrangements, such as a powerful car with expert mechanics on board to follow and tend the adventurer in all his troubles; small tent garages along the route with soup kitchen attached, and flagmen at dangerous corners, who could hand the rider a packet of sandwiches, and a special guide in busy towns to conduct him to his hotel, and whilst the aforesaid mechanics look after the machine, our hero is doing a Maskelyne and Cook trick by making "u" eggs disappear in "t" seconds.

Why not hire the Brooklands track and be done with it?

Motor cyclists would think much more of the performance of a man who started from one "End" all on his own and without preparations reached the other "End" (of course, in longer time), when they knew that his score was all off his

OWN BAT.

Fuel Consumption.

[4256.]—In recent numbers there has been some correspondence regarding fuel consumption. I wish to draw attention to a performance which is, if not a record of mileage, certainly a record of cheapness. The Middlesbrough and District M.C.C. held a fuel consumption trial on September 1st, over a fairly hilly circular course of 29½ miles, which had to be ridden in one and a half hours. The winner was Mr. Dale, who, riding a 1909 Triumph, only used 690 cubic centimetres of fuel, equivalent to 194 miles per gallon.

The fuel used was benzol (sp. gr. .882) which cost him 7d. per gallon in two gallon tins, and was part of his first tin, and the record I claim for him is the riding of 27 miles for one penny. The only alteration to the carburetter was the fitting of a smaller jet. I must confess I am interested in benzol manufacture, but in face of the above facts I am not at all ashamed to be so.

J. BELLERBY.

[4257.]—I am sure most readers will agree with me that F. C. James's letter, which appeared on September 1st, regarding Messrs. Brough and Reilly's performances in the Nottingham and District M.C.C. petrol consumption trial is written in a sarcastic vein, and is a direct challenge to both these sporting riders. Mr. Brough rode one of his own machines (a 5-6 h.p.) and Mr. Reilly a 3½ h.p. Triumph. The former's average over a circular course was 66 miles on 2 pints 15 ounces of petrol, which works out at 192 miles per gallon. Mr. Reilly's equally splendid performance worked out at 211 miles per gallon. Instead of Mr. James's letter congratulating them on their performances, this is an extract from it: "The other four 3½ h.p. machines in this particular trial averaged 127 miles per gallon—a most remarkable difference from No. 1 and No. 2."

On behalf of both riders I am prepared to deposit the sum of £10 with *The Motor Cycle* against Mr. James's £10 that both these riders shall under "official observation" beat their own performances over the same course. The loser's £10 to be given to some Nottingham charitable institution. Then, if Mr. James will accept my offer, he will soon learn how these performances are done.

F. PERCY JOHNSON.

Hill-climbing Competitions.

[4258.]—It appears to me that the hill-climb farce is just about played out. Clubs are on the look-out for fresh dodges to secure entries, the latest form of which is a gear gamble for all except a variably geared machine.

The great desire seems to be to prevent the best man and machine winning, and thus do away with any sport there ever was in it. In ninety-nine cases out of every hundred a hill-climb is only so in name, it is merely a question of speed; perhaps a better test would be to give the prizes to the man who could climb the hill on the highest gears; this, however, would still keep the variably geared type from having a "fair" chance, which would be most unfortunate.

Nobody seems to remember the days when T.T. models (the bane of every motor cyclist's existence) were unheard of. Who won then? Had the amateur any chance against Brice and the Brown for example? Everyone smelt his petrol, asked him what he had in the "little tank," if he used picric acid, etc., and yet when the machine was eventually dissected it proved to be "absolutely standard" in every detail. When all trade machines are picked from a large stock, then and only then will the amateur have a sporting chance against the trade.

F. C. MUSTARD.

Surface Evaporation.

[4259.]-Replying to letter No. 4250, Mr. Dickman puts his finger on the weakest spot when he mentions the nuisance of having continually to open the needle valve of a surface carburetter, but surely this could be overcome. If the same time and grey matter had been expended on the surface as on the spray type this objection would fall to the ground. I do not think much of the other two objections, which could both be overcome. I never experienced them. *Re* grade of spirit, 680 can still be had if it be asked for, and if motorists who have surface carburetters would ask their dealers to get them a can they would find that it is worth the extra 1d. or 2d. per gallon, even with a spray carburetter. *Re* the wires "festooning" the machine. Much improvement in this matter has been lately made, but my remarks still hold good regarding most machines. I am still of the opinion that the present-day carburetter is not worth the price asked for it.

CYGNUS.

Sunday Competitions.

[4260.]-Why does Mr. H. E. Vowler in letter No. 4234 uphold all competitions taking place on Sunday if, as he states, he is in favour of Saturday events? I am sure that the large majority of members of the Western District M.C. can, when necessary, turn out on Saturday afternoons for a competition, as is evidenced by the record turn-out for the annual hill-climb on Saturday, the 28th ult., when twenty-one members with their machines were present, and that during holiday time. I know of several members who are strongly opposed to Sunday competitions. Why not consider all the members, and have such events as hill-climbs, petrol consumption tests, and, say, the club's Coventry and back run, on a Saturday? To have many all-day Saturday competitions, I admit, is not convenient to the majority of the members, including myself, and I am quite in accord with some of the long reliability trials being held on Sunday. Under the circumstances which arose, however, I proposed that the club's Coventry and back and Salisbury and back events for the Triumph and G. B. Winter Cups respectively, be held on a Saturday.

I think Mr. Vowler should discriminate between "glory" and "enthusiasm." Does he accuse competitors in other events of being partial to "glory" if they wear armlets or carry numbers? Also does he think them unnecessary when a big entry is received and the timekeepers and checkers are unacquainted with the riders? Surely there should be some organisation in a competition if it is to be made interesting. Members do not take part with the sole object

of pot-hunting. Perhaps some disinterested reader will kindly state his views on the matter, and act as judge. I can only say that all I do is in the interests of the club, and with the object of getting large and sporting entries in the different club events. In conclusion, I hope the A.C.U. will not condemn the practice of holding some of the competitions on Sunday.

F. H. MULLETT.

Hon. Sec. Western District M.C., London. (Anti-Humbag No. 2.)

Motor Cycling in Ceylon.

[4261.]-Perhaps it might interest those motor cyclists who are always complaining about the price of petrol, delay in obtaining spare parts, etc., to hear how motor cyclists in Ceylon have to manage. There are two towns in the island which contain a motor shop worthy of the name, so that one has to carry a small workshop in one's toolbag unless one wishes to be stranded miles from any help. The price of petrol is from two rupees, or 2s. 8d. per gallon, up to about four rupees, or 5s. 4d. in the large outlying towns.

Our best engineering firm charges two rupees for recharging an accumulator. The price of a seven foot length of Whittle's belt (3ths) is only £1 18s., and other spare parts are not procurable in the island at all, so that some of the roadside repairs are rather quaint. Bungalow door-handle knobs for the jet chamber of a carburetter, nails for belt fasteners, bits of brass terminals fitted to retain loose gudgeon pins, telephone wire for brake cables have all been seen—even a length of "Whittle's" belt made by a Singha'sese carpenter to complete the unprocurable six inches. The roads are mostly sharp ascents and descents, with hairpin corners thrown in generously. Two-speed gears are a necessity on anything under 5 h.p., and a fan would be found extremely useful. The only consolation we have is that when we write to the home firms for parts, etc., we are always very well treated.

T. DENHAM-TILL.

The Six Days Trials.

[4262.]-To me the awards in the above trials are a grievous disappointment, so much so that I find myself writing my first letter to the press.

My case is, full marks under all heads except hill-climbing, for which very few got full marks, and I have been awarded such low marks for this that my gold medal has vanished.

My performances on the test hills, as recorded in *The Motor Cycle* of July 21st, are as follows: Dinas, dismounted; Festiniog, dismounted; Birdlip, excellent. There is no



Climbing Mont Ventoux in the recent hill-climbing competition. This mountain pass in the French Alps is even more severe than the forthcoming hill-climb of the A.C.U. from Ramsey to the foot of Snaefell, being 13½ miles long with gradients varying from 1 in 11 to 1 in 7½. Aurus, the rider in the illustration, completed the ascent in 42 min. 8 secs. on a French Excelsior motor bicycle.

question about it, I failed completely on Dinas, as did ninety per cent. of the riders, but on Festiniog, owing to the hill being obstructed by cattle (about which I complained to the judges at the time), I had to dismount and run beside my machine for about fifty yards of the hill—not altogether a failure, I think. A clean ascent of Birdlip completed my record. On this performance I have been awarded 25 out of a possible 75.

I observe other riders, whose records were certainly no better, obtaining much higher marks. I could quote several instances, but a couple will suffice. I take the records from *The Motor Cycle* of July 21st, and they are, I take it, official; and I trust I shall not be accused of ill-feeling in repeating them here.

Competitor No. 11 made the following performance: Dinas, dismounted; Festiniog, successful; Birdlip, dismounted. I believe I am correct in saying that this competitor dismounted and ran alongside his machine on Festiniog, yet his performance is "successful," while mine is "dismounted." Is this a better performance than mine? I do not think it is; yet he is awarded 50 marks and the all-coveted gold medal.

Competitor No. 19 failed on all test hills, and yet is awarded 45 marks, and this in spite of the fact that he had a change-speed gear.

I thought that it would have been only necessary to point out to the powers that be the inconsistency of these two awards with my own to have the matter immediately rectified, but no, they "see no reason for altering their decision."

I will conclude with what I consider another inconsistency. One competitor, whose tank developed bad leakage, had it removed from his machine and repaired by outside assistance at Shrewsbury headquarters, yet he obtained full marks for reliability and a gold medal.

J. O'M. DIXON.

Hotel Accommodation and Charges.

[4263.]—While cordially sympathising with all the sentiments contained in the leaderette on "Hotel Accommodation and Charges," I must protest against the statements that prices have automatically ascended with the "advent of the motor." My opinion is that "the advent of the motor" has had nothing to do with any increase in charges made at hotels, or any increase in charges made in any other trade. If there is any increase, it is chiefly due—

First, as far as hotels are concerned, to the increase in taxes on all liquors and tobaccos, hotel licences, and compensation charges.

Secondly, to the ever-increasing local rates and taxes, licensed premises being looked upon by the local assessment committees as a species of evergreen milch cow.

Thirdly, to the increase of wages, cost of provisions, etc.

Naturally enough, proprietors of hotels (being merely human), have found it impossible themselves to meet these various demands made upon them for all this increased expenditure, and have been unfortunately compelled to allow the British public to participate in the pleasure (?) of sharing the expenses with them.

The mass of officialdom (Governmental and local) which now appears to dominate the British Isles is being provided for by the increased taxation I refer to, and is an enormous expense per annum to the ratepayer. The public are at last awakening to that fact.

So when making use of hotel accommodation one must not forget the reasons for what may seem a heavy charge, and I trust in bringing the matter more clearly before your readers I have not bored them.

THE ROAMING MAGGOT.

Inconsistent Fines.

[4264.]—Thinking it may be of interest, and that it may also serve as a warning to readers, I beg to give you some particulars of the extraordinary disparity in penalties inflicted at Haywards Heath.

On May 9th last, a day which will long be remembered by some unfortunates, I rode to Brighton and back, and, thanks to the particularly malignant style of police trap worked in Hand Cross that day, the result was a conviction for a speed of seventeen miles per hour on the homeward journey, through the Hand Cross ten miles limit, the fine and costs totalling £3 10s. 7d. Now, last year, a friend of mine was convicted at Epsom of a speed of, I believe, thirty-two miles per hour, the fine and costs amounting to £1 6s. First offence in both cases.

What puzzles me is why it should be possible for me to be fined as above for a speed of seventeen miles per hour and my friend only 26s. for a speed of thirty-two miles per hour. There does not seem to be any rhyme or reason in it.

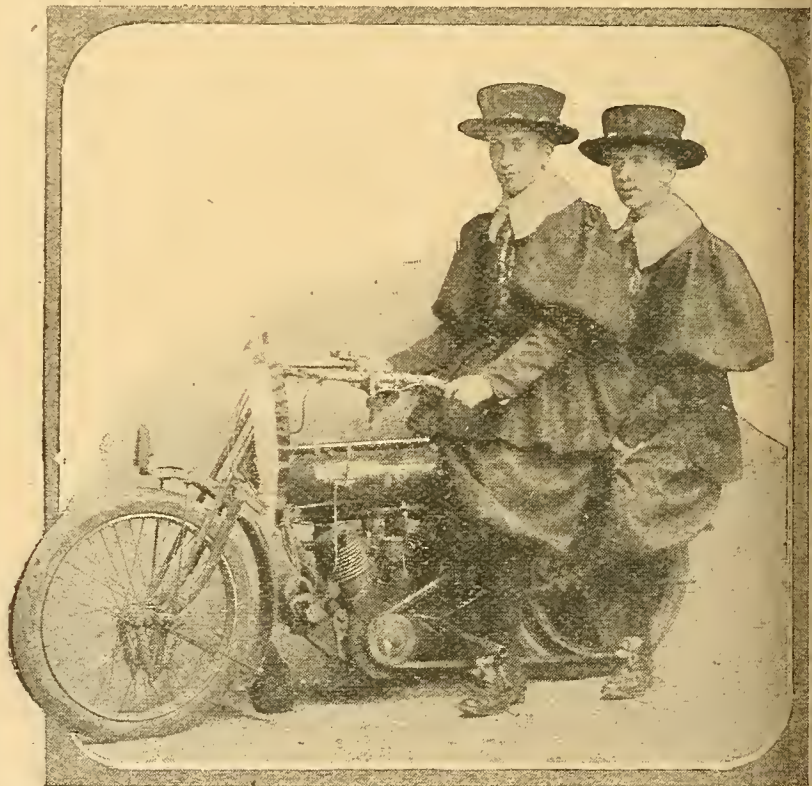
I should strongly advise readers who may be riding in East Sussex to take extraordinary care in ten mile limits, and should they be stopped by the police and asked to show their licences, let them bear in mind that full particulars of same, also number of machine, are noted, so that should the rider pass through a trap and exceed the ten or twenty mile limit, as the case may be, the police working the trap have simply to note the number, without showing themselves at all, and the only intimation the rider will have that he has exceeded the limit will be the receipt by him of a registered letter, notifying him that proceedings will be taken. I did not receive the summons until over two months after date of alleged offence.

The result of these methods is that motor cyclists, who may be riding alone, have not the slightest chance of defending themselves, however careful they may have been, and whatever evidence the police may advance in reference to their speed. The bench appears to scout speed indicator evidence in most cases.

TENMILIMIT.

The Use of the Carrier.

[4265.]—I noticed a few weeks back you wrote an article deprecating the growing use of the luggage carrier for the purpose of carrying a passenger. I think that this arrangement is less strain on both driver and passenger than having a sidecar attached. My remarks, of course, only refer to cases where rider and passenger are used to the carrier method of riding.



I can conceive no better way to carry two persons, for the speed and cost of upkeep are about the same as for a solo mount.

I enclose a photograph of my brother and self on a 6 h.p. twin Antoine-Chater-Lea, on which we travelled about 2,000 miles (on one belt). The machine was geared $3\frac{1}{2}$ to 1, and would take two to the top of Pebble Hill, Dorking.

The photograph is of interest, I think, as the dresses depicted were worn in the Church Pageant at Fulham, and the motor cycle was used to take us to the performance and back.

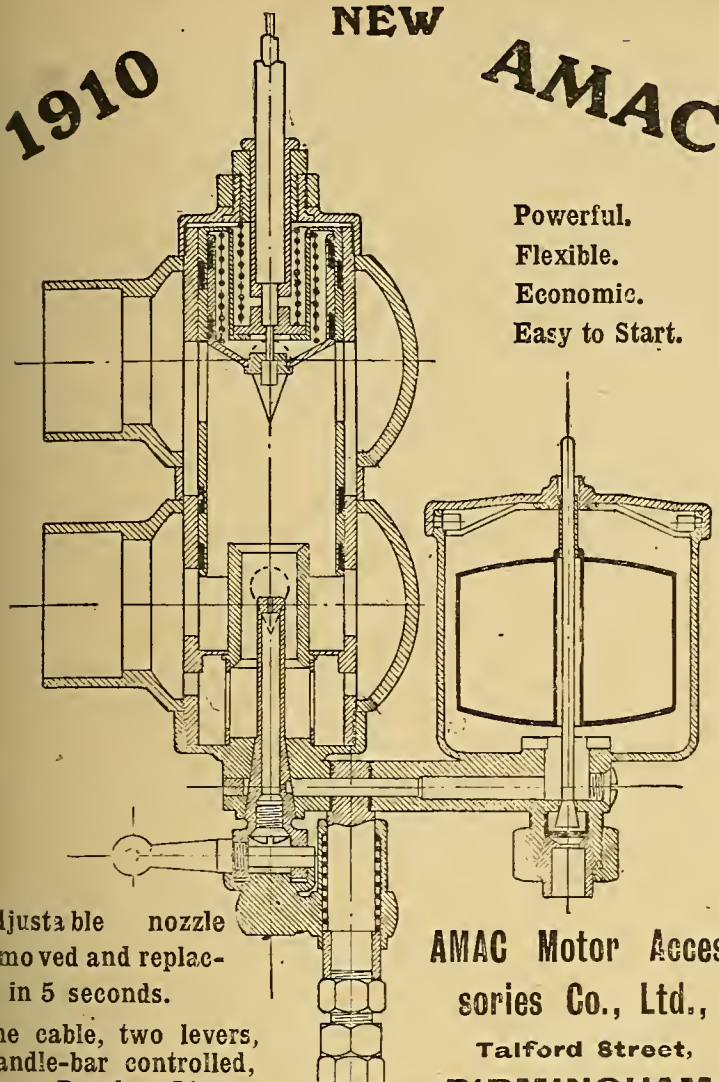
G. F. HUNTER.

EXPERIENCES WANTED.

"H.H." wishes to know if any rider of a chain-driven machine has been thrown or come to grief in any way through engine seizure.

"N. G. L." would be glad if any reader can suggest a method of improving the hill-climbing qualities of a 3 h.p. vertical twin Werner, geared $5\frac{1}{2}$ to 1.

1910 **NEW** **AMAC**



Powerful.
Flexible.
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Easy to Start.

Adjustable nozzle removed and replaced in 5 seconds.
One cable, two levers, Handle-bar controlled, Bowden Licence.

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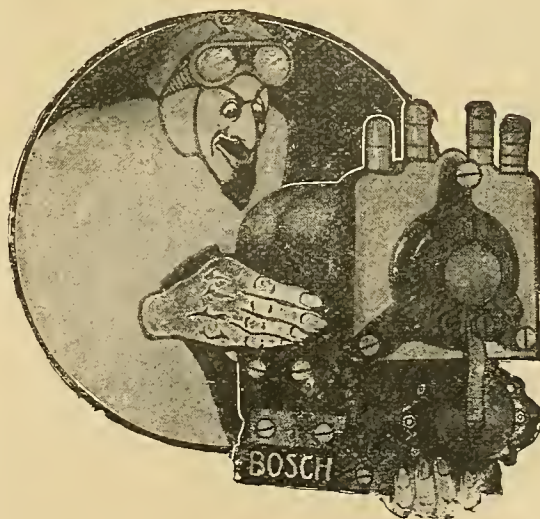
please note :

For a few days prior to the race, Mr. Bennett, of the

BOSCH Magneto

Co., will be at the Hotel Sefton, ready and pleased to give advice and assistance to competitors whose machines are fitted with Bosch Magneto.

Spare parts for every type of Bosch Magneto may also be obtained from Mr. Bennett.



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In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

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ALL BEST MAKES OF MOTOR CYCLES STOCKED. EXCHANGES. DEFERRED PAYMENTS.

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£50 worth for £42.

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PREMIER

MOTOR CO., has FREE ENGINE CLUTCH in back wheel, J.A.P. AUTOMATIC LUBRICATION, and BAND BRAKE on front wheel.

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1909 BRAND NEW N.S.U.

3½ h.p., List price £43 10s. Our price **£33.**

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TWO-STROKE MOTOR.

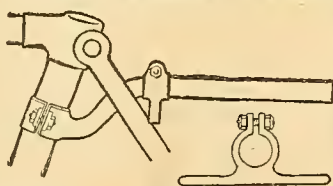
The first perfected motor of this type.

We are now booking orders for this engine, which has been subjected to prolonged Bench and Road Tests. It is free from overheating and all other troubles formerly associated with the two-stroke principle. Trade and private enquiries invited.

GENUINE BOSCH PLUGS.

BOSCH.	Our Price	BOSCH PLUGS.
BOSCH.		BOSCH PLUGS.
BOSCH.	3/-	BOSCH PLUGS.
BOSCH.	GENUINE	GENUINE.
BOSCH.	BOSCH.	GENUINE.

THE PREMO LOW-SEAT PILLAR



Still enjoys a lively sale.

FITS ALL MAKES.

Converts the old high-frame machines into modern designs.

Nickel Plated, 5/6 each.

Special Long Handle-bars for use with above if required.

6/6 each. TRADE DISCOUNT. SENT ON APPROVAL.

NEW ACCESSORY LIST JUST OUT.

SEND FOR LIST OF SHOP-SOILED ACCESSORIES.

Premier Motor Co., Ltd.,

ASTON ROAD, BIRMINGHAM.

Telephone 4310. Telegrams, "Primus, Birmingham."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters addressed to numbers at "The Motor Cycle" When this is desired, 2d. will be charged for registered and three stamped and addressed envelopes must be forwarded replies. Only the number will be the advertisement. Replies should be addressed to "The Motor Cycle," Coventry"; or if "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," other parties are advised of this upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision after the goods is three days. For all transactions of £10 or more in value, a deposit fee of 2s. 6d. is charged. deposit matters are dealt with at Coventry, and money orders should be made payable to 1 Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and answer to their enquiries are requested to register as an indication that the goods advertised already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to one by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

NEW Rex Lightweight, 3.6 R.A.C. rating, will accept £16 cash to clear.—Hayward, gate, Darlington.

2 3 h.p. Brown, spring forks, low spring saddle, 24" able pulley, H.B. control; £9 10s.—23, Av., Monkseaton.

3 1 h.p. Latest Excelsior, absolutely new, with accessories; listed £45, will accept £40 to Hayward, Skinnergate, Darlington.

3 1 h.p. Minerva, late 1906 standard model, 24" pulley, spring forks, lamp, etc., good condition; nearest £13.—130, Croft Terrace, South Shields.

4 1 h.p. 4-cyl. F.N., in real good order, Palm 24" both wheels, with usual accessories; gain, only £24.—Hayward, Skinnergate, Darlington.

5 1 h.p. N.S.U., twin, magneto, perfect thr flexible sidecar, spares, accessories; sat reason for selling; bargain, £23; take 2 1/2 h.p. part.—Moon, Westbourne Villas, Darlington.

SECTION II.

York and Lancashire.

BARGAIN.—5 h.p. motor cycle for sale.—Loa Ardsley, near Wakefield.

3 1 h.p. Centaur, two-speed, £14; also Montgomery, £2.—64, Whitworth Rd., Rochdale.

19 08 N.S.U., 3 1/2 h.p., spring forks, grand condition; £21.—Cross, Triumph agent, Rotherham.

REX, 3 1/2 h.p. (1906), good running order, accurate; £11.—Simister, 127, Church St., Blackpool.

2 3 h.p. Simms, magneto, excellent condition, low, cheap.—94, Cambridge St., Ashton Lyne.

HUMBER, 1909, two-speed.—May be seen on tion to Bevan, 8, Brentwood Terrace, Leeds.

TRIUMPH, 1908, lamp, horn, and spares, condition; £32.—Rev. Ellison, St. Anne's, Lanes.

BRADBURY, 3 1/2 h.p., magneto ignition, 1908 model, new; £35 to clear.—Wragg, 95, St., Sheffield.

19 09 Humber, two speeds, practically new; trial; £37.—Nightingale, The Poplars, Gr near Preston.

HUMBER, 3 1/2 h.p., free engine and clutch, order, tyres in good condition; £12.—15, 1 St., Warrington.

LIGHTWEIGHT N.S.U., magneto, bought in as good as new; 14 guineas.—A. Rathbone, Newtown, Wigan.

5—6 h.p. J.A.P., magneto, B. and B. carburettor; forecar; £25, or exchange.—42, Manor Headingley, Leeds.

1 3 h.p. Bradbury Motor Cycles, in good order; sell for £4; room wanted.—Co Haslingden. Tel: 2Y.

In answering these advertisements it is desirable to mention "The Motor Cycle."

OR BICYCLES FOR SALE.

Ormonde, Ormonde frame, Peter-Union tyres, perfect order, suitable solo or sidecar, splendid, handle-bar control; £14, sacrifice, worth, 170, High St., Slough.

h.p., 4-cyl., 1908½, perfect condition throughout, mileage only 45; compulsory sale; cost with spares over £60, great bargain, £35, or best offer, 32, Thornbury Av., Southampton.

Triumph, 84 by 86, splendid condition, many res; £34, or offer; want twin engine, carburetors, magneto complete, between 6 and 8 h.p., own make.—E. Butler, Cotham Park, Bristol.

h.p., 1909 machine, two speeds, handle started, stable pulley, spring forks, unpunctured Dunlop stand carrier, and spares; sacrifice at £30; ring country.—Dr. Goodden, 57, Southbourne, Bournemouth.

Opportunity to secure the identical 3½ h.p. motor ridden by the editor and described in "The Motor Cycle," July 28th, standard specification, studded absolutely perfect; 36 guineas.—Petersfield Co., Petersfield.

h.p. Hamilton, Chater-Lea extra low frame, Continental tyres Amac H.B. control carburettor, footrests. Brooks B105 padded seat just overhauled, light, strong, smart machine wanted.—38, London Rd., Southampton.

F. McNab's 85 by 85 Trump-J.A.P., winner race, etc., Chater frame, Brooks saddle, J.A.P. pulley, J.A.P. carburettor, Dunlop tyres, belt, battery ignition, numerous spares, perfect condition, ready for road; price £32. Motor Works, Liphcok.

PH. April, 1909, perfect running order, complete with all accessories, including Premier searchlight, spring seat, Cowey speedometer (latest new), shield over rear wheel, magneto switch, two R.O.M. tyre, Triumph clutch in rear hub, all new, a truly luxurious mount, price £44; set 4s.—A. Arkell, Donnington, Stow-on-Wold.

SECTION VIII.

, Essex, Middlesex, Surrey, Kent, Sussex.

Brown, in good going order; £8.—28, Ruskin, Manor Park, Essex.

Want Bargains in second-hand motor cycles, get them at Wauchope's.

REVE Lightweight, magneto, almost new.—3, St. St., Manchester Sq., W.

De Dion, very smart and low; sacrifice £9.—torist, 9, Acre Lane, Brixton.

Want Bargains in second-hand and new motor cycles, you can get them at Wauchope's.

h.p. Rex, B.B., new June, spares; £26.—torist, 72, Grantham Rd., Clepham.

Quadrant, magneto, spring forks, in grand order; £20.—Bunting, Wealdstone.

De Dion Pattern Motor Cycle, everything as new; £15.—1, Melbourne Av., West Ealing.

yl., magneto, spring forks; no reasonable offer.—B., 67, Beaumont Rd., Chiswick.

T Bicar, 3 h.p. Fafnir engine, 7 to 38 m.p.h.; —R. Karm, 106, Haverstock Hill, N.W.

F.N., 4-cyl., condition excellent, lamp, horn, all tools; £25.—78, Gordon Rd., Ealing.

Noble, engine rebored, and machine in perfect order; £9.—6, Trafalgar Rd., Dalston, London.

1908 Magneto Rex, good order; £15; bought —Bird, 6, Amersham Vale, New Cross, S.E.

Triumph (B200 plated saddle), as new, in every perfect; £40.—"Wilmott," Rose Hill, RnsE.

h.p. Minerva, M.O.I.V., spray, French grey, low, fine order.—C. Smith, 19, Cheriton Sq., Bal-

magneto, special finish, wheel steering, bucket best offer above £28.—Horner's, Store St.,

London Agency, 21, Store St., Tottenham Court

Phone, 13456 Central. Special autumn ex-

London Agency have for clearance motor cycles

£4 10s. Send for list. Store St., W.C.

London Agency, shop-soiled 1909 Rex motors,

trial or exchange terms.—Store St., W.C.

06 twins from £12; also Advance from £13;

p. Chase, and 5-h.p. twin, £15.—Store St.,

Humber, chain drive, Dunlops; £5 10s., genu-

bargain.—Motorist, 7, Lingham St., Stock-

Minerva, Chater-Lea No. 6, beautiful machine;

face £18.—Letters, H., 16, Devonshire Sq.,

Triumph, new July, 1907, two ignitions, fine

dition; £29.—G. Dale, 43, Charlton Village,

h.p. magneto, clutch, live axle, new condition;

—Paradise, 129, Orchard Rd., Plumstead,

N.S.U.s, N.S.U.s, N.S.U.s FOUR ONLY.

3 h.p. N.S.U. Motor Cycles to under-mentioned specifications:

ENGINE—3 h.p. genuine N.S.U., M.O.V., 75 × 75 mm. vertical in frame.

IGNITION—Magneto.

TYRES—Peter Union, 26 × 2½.

CARBURETTER—Genuine N.S.U. (handle-bar controlled 15/- extra).

FRAME—Low built.

GENERAL—Finished throughout in standard N.S.U. style.

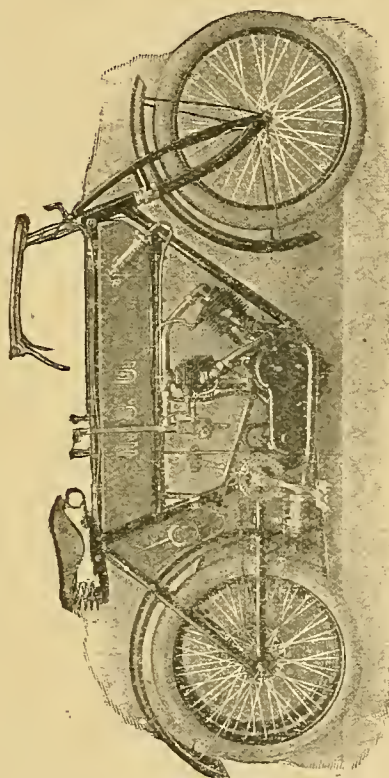
We are in a position to offer these machines to the public at the unprecedented low price of

£25 5s. 0d. (Nett Cash Only).

It must be understood that we cannot at this price entertain either deferred payments or exchanges. The price is so low to bring the machines within the reach of all.

Never before has a standard machine, perfectly new and guaranteed, been offered to the public at such a low price.

OTHER MODELS.



24 and 26in. wheels, 2½ in. tyres (except 5½ h.p.s., which have 2½ in.), magneto ignition, girder forks, two brakes, and fully guaranteed.

PRICES.

Maker's price. Our price. Deferred Payments.

3½ h.p.	£40	£31	£33
3 h.p.	£43	£32	£34
4 h.p.	£50	£35	£37
5½ h.p.	£52	£37	£39

Deferred payments—One-third down, balance £2 per month. Exchanges arranged on best possible terms. Let us mail you Catalogue. It's free for the asking.

See Miscellaneous Columns for List of Second-hand Machines.

TO CORRECT

an impression which has been circulated recently in view of the low prices, we believe, of these machines, we beg to state that

WE GUARANTEE

these N.S.U.'s to be sold through no fault whatsoever and to be in every respect standard 1908 models, offers subject to machines being still unsold.

TRADE DISCOUNTS TO BONA FIDE AGENTS.

Other Genuine Bargains from—

Maudes' Motor Mart

136, Great Portland St., LONDON, W.

Telephone: 552 Mayfair. Also Powell Street, Halifax

Call, and inspect these machines on the road, their running will astound you.

MOTOR BICYCLES FOR SALE.

2½ h.p. Minerva, perfect order, low position; after 7, or appointment; £9.—42, Wellesley Rd., Chiswick.

1909 Triumph, new July, all spares, ridden 360 miles; £40.—Hood, 64, Colworth Rd., Leytonstone, Essex.

1909 Triumph, delivered July 16th, all spares, done 50 miles; £42.—546, High Rd., Goodmayes, Ilford.

3 h.p. Rex, new tyres, climb anything; trial; £14, or offers.—Leck, St. Margaret's, Christchurch Park, Sutton.

1909 Humber, two speeds, new July, ridden 1,000 miles; no fault; £35.—112, Hatfield Rd., St. Albans.

2 h.p. Lightweight; £12 10s.; condition perfect, enamelled grey, low Palmer cord.—53, Falmier Rd., Enfield.

LOOK.—5 h.p. twin two-speed Kerry, spring forks; best offer buys; cash needed.—75, Manor St., Chelsea.

2½ h.p. Twin Fairy, overhauled, with spares and accessories; £10 10s.—Wright, Birklands, Horsell, Woking.

8 h.p. Twin Orion Racer, magneto, new condition; sell cheap, or good tricar.—Dalby, 117, Pritchards Rd., Hackney.

8 h.p. Minerva, J.A.P. carburettor, non-skid back tyre, grand machine for sidecar; £22 10s.—Waring, Daventry.

F.N., 2½ h.p., in Chater frame, self-variable pulley, footboards, grand order; £11 10s.—16, High St., Swanley.

TWIN 5 h.p. Minerva, magneto, spring forks, footboards, grand order; £20.—Oliver, 16, High St., Swanley.

If You Want to arrange exchanges, now is your time.—Go to Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

F.N., 1½ h.p., magneto, spring forks, all perfect condition; £20; inspection any evening.—198, Fulham Rd., S.W.

£8.—3 h.p. Ormonde, just been overhauled, splendid hill-climber.—Chapman, Lyndhurst, Park Rd., Enfield Lock.

1909 Moto-Reve, special fitments; £30, or exchange 1909 3½ h.p. Minerva.—K., White House, Buckhurst Hill.

1909 2½ h.p. Lightweight Corah-Jap, spring forks, magneto; bargain, £22.—H., 5, Fieldview Terrace, Canterbury.

TRIUMPH, 3½ h.p., 1908 engine, splendid condition, new this year; £33.—E. Jones, 97, Albemarle Rd., Beckenham

2½ h.p. Humber, powerful, fast, belt drive, good as new; bargain, £8.—37, Walton Rd., Green St., Upton Park.

3 h.p. Werner, Michelins, trembler, exceptional condition; sacrifice £7.—Bartlett, 15, Nightingale Parade, Balham.

MINERVA, 2 h.p., Chater frame, Palmer tyres, excellent order; £6, offer.—Alfred Stokes, 16, High St., Swanley.

£10.—Vertical Engine, long bars, low, trembler coil, three accumulators, perfect order.—24, Cornwall Rd., Brixton.

BAT, 3½ h.p. M.M.C., perfect condition, low saddle, new Palmer, and belt; £12.—41, Ashford Rd., Cricklewood.

2½ h.p. Durkopp, spring forks, long footboards, trembler coil, Watawata belt; £8.—50, Luton Rd., Walthamstow.

1907 Triumph, 3½ h.p., magneto, splendid machine, in perfect order; sacrifice £27.—43, Wimbledon Rd., Tooting.

2½ h.p. Ascot, Longuemare, just re-bushed, new Dunlop, perfect order; £10, offers.—50, Beresford Rd., Kingston.

3 h.p. Quadrant, spring forks, low, reliable, good hill-climber; £10.—Morris, 9, Fench Place, Shore-ditch, London.

TRIUMPH, 1909, brand new, not soiled, complete with tools; £42.—Bowers, 7, Guildford Rd., Stockwell, S.W.

3½ h.p. Brown, recently overhauled, new inner tubes, 32 parts, and lamp; £18.—Wilton, Gennings, Hutton, Maidstone.

F.N., 1½ h.p., Bosch magneto, spring forks, thoroughly reliable; £18, lowest.—Wates, 77, Mitcham Lane, Streatham, S.W.

WHITTLES.—Vindee Special, 5 h.p., twin, late model, magneto, spring forks, two speeds, excellent order; cheap, £26.

WHITTLES.—F.N., genuine, 4½ h.p., 4-cyl., late type, magneto, spring forks, very fine condition; sacrifice £28.

WHITTLES.—Antoine, 6 h.p., twin, Chater-Lea fittings, with Liberty sidecar, splendid order, runs well; cheap, £18 18s.

WHITTLES.—1908 F.N. 1½ h.p. Lightweight, magneto, extra good; £17 10s.—Whittles Motor Exchange, Earlsfield. Phone, 711 Post, Wimbledon.

In answering these advertisements it is desirable to mention

"The Motor Cycle."

MOTOR BICYCLES FOR SALE.

MAUDES'.—Four 3h.p. N.S.U.'s, brand new 1908 models, with magneto ignition, ideal lightweights; to clear at £25 5s. Remember, four only.

MAUDES'.—5-6h.p. Rex de Luxe, Roe clutch, magneto, spring forks, cantilever seat, splendid order; £25.

MAUDES'.—4h.p. Antoine, Mabon clutch, low built, 26in. wheels, very good tyres; £16.

MAUDES'.—Deferred payments, terms third down and balance 10 per cent. monthly; no additions in most cases.

MAUDES'.—Our prices for N.S.U.'s: 3½h.p., £31; 3½h.p., £32; 4h.p., £35; 5½h.p., £37; all brand new and perfect.

MAUDES'.—3½h.p. Quadrant, low, 26in. wheels, spring forks, spray; £12, first cheque secures.

MAUDES'.—Kerry, 5h.p., twin-cyl., 26in. wheels, enamelling and plating very good condition; £15.

MAUDES'.—Fafnir, 1908 model, 3½h.p., magneto, Chater-Lea frame, low built, spring forks, torpedo tank; £20.

MAUDES'.—Rex, 5h.p., twin, very low, spring forks, aluminium finish, splendid condition, thoroughly overhauled; £17.

MAUDES'.—1½h.p. Motosacoche, good running order, low built, practically a gift at £12 12s.

MAUDES'.—Werner, 2h.p., B. and B. carburetter, handle-bar controlled, splendid order; £8.

MAUDES'.—Peugeot, 4½h.p., Chater-Lea frame, 26in. wheels, very good tyres, perfect; £17.

MAUDES'.—M.M., 3½h.p., magneto ignition, 1909 model, an exceedingly fast machine, the pick of the American market; £20.

MAUDES'.—Humber, 2½h.p., chain drive, spray carburetter, very good order; £8.

MAUDES'.—Singer, 3h.p., vertical engine, new tyres, magneto, good running order; £15.

MAUDES'.—Minerva, 2h.p., wants slight adjustments, otherwise sound; £5.

MAUDES'.—Ariel, 3h.p., 26in. wheels, very good tyres, good order all round; £15.

MAUDES' Motor Mart, 136, Great Portland St., London, W. Tel.: 552 Mayfair, for best bargains in motor cycles and accessories. A call will convince you.

2½h.p. Excelsior, complete, touring machine, excellent condition, all accessories; £9.—Gregory, 1, Acris St., Wandsworth.

2½h.p. Bucket, overhead valves, low position, long bars; £4 15s.; appointment.—20, Brunswick Sq., Camberwell.

2h.p. Werner, good condition, Michelins, Continental belt, low, fast; £7.—Burrows, 212, Humberstone Rd., Plaistow, E.

1909 (delivered June) 3½h.p. Excelsior, Cowey speed indicator, Mabon clutch, Autoclipse lamp, R.O.M. tyres; £35.—Below.

3½h.p. Ariel, real bargain; just overhauled, re-enamelled; £12.—Below.

2½h.p. Minerva, 1907, perfect little machine for beginner; complete, £11 5s.—Harlook, 73, Denmark Hill. Phone, 20, Brixton.

VINDEC, 3½h.p., Mabon clutch, Truffault spring forks, accessories, faultless; £17.—1, Cornwall Terrace, Baker St., London.

2½h.p. De Dion, perfect, 26in. wheels; can be seen by appointment; £13.—Address, C., 57, Kennelworth Rd., Grove Rd., E.

1¾h.p. F.N., 1908 model, perfect order, X'fall saddle, footrests, stand, spares; £18 18s.—Luff, 13, Kirkdale, Sydenham.

3½h.p. Minerva, fine condition, new back tyre; £10, or near offer; never given trouble.—19, Boscombe Rd., Shepherd's Bush.

1908 5½h.p. Wolf, Sarolea engine, H.B. control, very low, perfect order; £20.—4, Forest View Av., Whipp's Cross, Leyton.

G.B. Motor Cycle, 3½h.p. Noble engine, low frame, 26 by 2½in. new tyres, complete, perfect order, accumulator ignition; £20.—Below.

LADY'S 2h.p. 2-stroke light Motor Cycle, good running order; £10.

HUMBER, chain drive, free engine, good running order; £10.—Below.

RALEIGH, chain drive, two-speed, good running order; £12; seen and tried any time.—Collier and Sons, Matchless Wks., Plumstead.

1¾h.p. Werner, good condition, in Chater frame; sell, or exchange higher power, or anything useful.—Holdstock, Sittingbourne.

4h.p. Military Model Roe, clutch, two speeds, Bosch, splendid condition, 1907-8, little used; £26.—84, Rodenhurst Rd., Clapham.

3½h.p. Quadrant, splendid condition, spring forks, spares, tools, lamp; £18 10s., nearest offer.—Harris, Capstone, Chatham.

3h.p. Humber, perfect, Dunlops, £8; Amac handle-bar control carburetter, £1; wanted, good generator.—200, Church Rd., Willesden.

3h.p. Humber, new back tyre, good going order, £5 10s.; 3h.p. M.O.V. Clarendon, a bargain, £7 10s.—Barker, Oxford Rd., Worthing.

TRICARS.

SPECIAL EXCHANGE ALLOWANCES.
GARAGE ROOM REQUIRED

4½ h.p. W.C. ROVER, two speeds, wheel steering, Longuemere, trembler coil ..	£22 10
4½ h.p. W.C. BRADBURY, two speeds, open frame, wheel-steering, foot clutch	£29 10
Ditto ditto fine condition	£35 0
5½ h.p. W.C. REXETTE, two speeds, open frame, foot clutch, foot and side brakes	£27 10
Ditto ditto one of the best, a flier	£35 0
5 h.p. W.C. HUMBER, two speeds, open frame, Longuemere trembler coil	£33 0
4½ h.p. PHOENIX TRIMO, H.T. magneto, two speeds, chain drive	£27 10
4½ h.p. W.C. HUMBER, two speeds, Longuemere, chain drive, foot clutch	£16 10

Cash offers considered.

5½ h.p. TWIN REX, H.B. control, spring forks, and brand new DE LUXE SIDECAR with art cane body, latest improvements and 26 x 2½ tyre, £22 10s.

3 4 WE HAVE JUST PURCHASED of a Ton of Brand New PERFECT Motor Cycle Covers. Best make. All sizes. 17/6 each. New Clincher A Won Covers 17/6, Tubes 4/11. Bargain list on application.

SHOP SOILED
1909 REXES. 1909.All models in stock. Liberal exchanges.
OFFERS CONSIDERED.

"POPULARS."

1909 3½ h.p. magneto REX, shop soiled....	Offers
1909 4 h.p. N.S.U. de Luxe, 100 miles only	£39 10
1908 3½ h.p. N.S.U., magneto, new	£30 10
1909 3½ h.p. REX Tourist, done 50 miles. Offers.	
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1908 3½ h.p. Magneto REX Racer	£29 10
1907 4 h.p. Magneto ROC, Roe clutch	£24 10
2½ h.p. J.A.P. Racer, overhead valves	£16 0
3½ h.p. Light, Low REX, long bars	£12 10
3 h.p. HUMBER, spray, free engine	£10 10
3 h.p. BRADBURY, low, 26in. wheels ..	£13 10
1906 3½ h.p. REX, spring forks, M.O.V. ..	£15 10
3 h.p. SINGER, belt drive, H.T. magneto	£19 10
3 h.p. ZEDEL, 26in. wheels, fine mount ..	£14 10
3½ h.p. ARIEL, very powerful, spray	£13 10
3 h.p. CLYDE, magneto, long bars	£15 0
2½ h.p. KERRY, light and low, 26in. wheels	£9 10
2 h.p. M.O.V. MINERVA, spray, good	£6 15
3 h.p. ROVER, M.O.V., Longuemere	£10 0
3½ h.p. REX, handle-bar control, Amac....	£10 10
3 h.p. HUMBER, spray, splendid climber..	£9 10
2½ h.p. WERNER, spray, light, low	£8 0
2½ h.p. Light ARIEL, low build	£8 15
2½ h.p. LLOYDS, vertical, spray	£6 0

Monster List on Application.

SIDECAR MACHINES.

1909 7-9 h.p. T.T. DOT, magneto, as new ..	£40 0
1909 5 h.p. REX DE LUXE, shop soiled ..	Offers.
1908 5 h.p. Magneto, V.S.	£29 10
1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer Cords	£32 10
5½ h.p. Two-speed REX DE LUXE	£32 10
5½ h.p. REX DE LUXE, Roe clutch	£27 10
6 h.p. Twin ANTOINE and Sidecar	£18 10
5 h.p. Twin ZENITH Bicar	£19 0
6 h.p. Twin REX and Sidecar	£20 0
4½ h.p. Four-cylinder F.N., magneto	£23 10
6 h.p. Twin ANTOINE, ROM ignition ..	£17 10

Five 5½ h.p. Twin Rexes, spring forks, long bars, low frames, aluminium finish, blue lines, 26in. wheels. £17 17s.

Grand Sidecar machines. EXCHANGES.

EASY PAYMENTS.

£3 DOWN secures any of these.
Balance 5/- per week.

3 h.p. Lloyd's	£13 10	2½ h.p. Kerry ..	£9 10
3 h.p. Clyde	£15 0	4 h.p. Coronet	£15 0
4 h.p. Antoine	£16 10	2½ h.p. Werner	£8 10
3 h.p. Humber	£10 0	3½ h.p. Werner	£13 10
3½ h.p. Rex	£10 10	2 h.p. Thomas	£8 0
2½ h.p. Lloyd's	£7 10	2 h.p. Humber	£8 10
4 h.p. Atelier	£13 10	3 h.p. Bradbury	£10 10

200 AMAC and BROWN & BARLOW Carburetters in Stock. Liberal exchange. Allowances.

DE LUXE SIDECARS; 2½in. tyres, everything of the best, built by experts, 3-bolt attachment, 26 x 2½ Clincher A Won tyres £6 0

The **Halifax Motor Exchange,**
"LARGEST REX DEALERS"
Phone 746
Tel. Perfectica. 16, Westgate, Halifax.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Special sale this week, enormous reduction on all machines; do not fail to obtain a great bargain at 5, Heath St.

HAMPSTEAD (£8 10s.).—Fafnir, 3½h.p., Chater-Lea, good condition, with all accessories, Palmer bargain.—Below.

HAMPSTEAD (£7 10s.).—Humber, 3h.p., in good condition, with all new accessories; special gain, first cheque.

HAMPSTEAD (£28).—F.N., 4½h.p., 4-cyl., 1909 magneto, and spring forks, with all accessories.—Below.

HAMPSTEAD (£21).—Minerva, 3½h.p., 1909 new condition, handle-bar control, with series.—Below.

HAMPSTEAD (£25).—F.N., 4-cyl., splendid condition, 4h.p.; also 3½h.p., 4-cyl., £18.—Below.

HAMPSTEAD (£25).—Moto-Reve, twin, magneto, spring forks, 1909 pattern, splendid condition with all accessories.

HAMPSTEAD (£22).—Lincoln Elk, brand new latest model, magneto, handle-bar slightly soiled; special bargain.

HAMPSTEAD.—Sole London and district agents, Lincoln Elks, all models in stock; special to trade.

HAMPSTEAD (£12).—Singer, 3h.p., magneto, non-skid on back, all in splendid order, accessories.

HAMPSTEAD (£18).—F.N. 1½h.p. Lightweight magneto and spring forks, with all new accessories, bargain.

HAMPSTEAD.—Special bargain, new or second hand, Lincoln Elk; £22; 4-cyl. 1909 F.N.'s at reduction.

HAMPSTEAD (£28).—V.S., two-speed gear, magneto and spring forks, all accessories, bargain.

HAMPSTEAD (£15).—Peugeot, 3½h.p., spring forks, with all new accessories, splendid bargain, Heath St.

HAMPSTEAD (£15).—Motosacoche Lightweight model, with all accessories, guaranteed gain. Tel.: 2678 P.O.

HAMPSTEAD (£14).—Lincoln Elk, 3h.p. model, new condition, with accessories, gains, guaranteed.

HAMPSTEAD (£25).—Lightweight 1909 model Wolf, not run 100 miles, and guaranteed perfect.—Below.

HAMPSTEAD (£15).—Singer, 3h.p., magneto, condition; 4-cyl. F.N., £23, splendid order, bargains.

HAMPSTEAD (£14).—N.S.U., 3½h.p., good condition, all accessories; J.A.P., 4h.p., M.O.V., £21.

HAMPSTEAD (£8).—Whitley, 3h.p., good condition, accessories; Kerry, 3h.p., good running condition; £8 10s.—Below.

HAMPSTEAD (£25).—Moto-Reve, twin, spring forks all machines.—At 5, Heath St. Tel.: 2678 P.O.

3½h.p. N.S.U., electric horn, tools, spares, new skids, enamelling, plating unscratched; Wells, Station Rd., Dovercourt.

BRADBURY Motor Cycles; £46; exchanges payments arranged; catalogues free.—Bright and Hayles, Camberwell.

BRIGHT and Hayles, makers of the famous motor cycle; £35 10s.; catalogues free.—St., Camberwell.

3½h.p. Twin Peugeot, Palmer tyres, Chater copper tank, Longuemere; £18 10s.—73, St., Camberwell.

2½h.p. Noble, girder type frame, B. and B. carburetter, 26in. wheels; £7 15s.—73, Church St., Camberwell.

3½h.p. Triumph, 1907, just overhauled, ball engine, lamp, horn, spares, tyres excellent gain, £26.—Bunting, Wealdstone.

1907 Magneto Triumph, 1909 improvements, handle-bar control, excellent condition; 169, Markhouse Rd., Walthamstow.

VINDEC Special, 1907, 3½h.p., magneto, in condition, new belt, tools, etc.; £23 10s. Station Rd., Finchley, London, N.

TRIUMPH, 3½h.p., 1909 machine, delivered lowest cash £40, no offers.—Box L118, The Cycle Offices, 20, Tudor St., E.C.

3½h.p. Minerva, Royal Enfield, guaranteed £13.—Chamberlain, Victoria Dining Epping Rd., Buckhurst Hill, Essex.

3½h.p. Rex, new last month, ridden only 500 condition perfect (buying car); 30 g Prince, 9, Upper Tooting Rd., S.W.

MINERVA, 1½h.p., Palmer cords, two accumulators, lamp, perfect running order; bargain Penny, Chapel Rd., Cobham, Surrey.

LIGHTWEIGHT 1½h.p. Clement, B. and B. carburetter, without accumulator; £4, bargain 23, Josephine Av., Brixton Hill, S.W.

TOR BICYCLES FOR SALE.

ES and Co., N.S.U. Agency, High St., Acton, a few brand new N.S.U.'s at very low prices; as entertained; deferred payments.

N.S.U., brand new, magneto ignition, 1in. belt, 6in. wheels. 1908 specification; £30; approval; as entertained.—Eagles and Co., N.S.U. Agency, High St., Acton.

N.S.U., 1908, magneto, two-speed gear, with free engine, with Millford sidecar, new condition; £2; any trial.—Eagles and Co., Acton.

Minerva, latest pattern, unscratched, and equal new, spring forks, two accumulators; £18; ap—Eagles and Co., High St., Acton.

N.S.U., twin, Bosch magneto, spring forks, 1909 two-speed gear, free engine, with Millford £34 10s.; any trial.—Eagles and Co., Acton.

1909 Lightweight, Bosch magneto, spring forks, Palmer cord tyres; £22 10s., as new; ap—Eagles and Co., N.S.U. Agency, 275, High St.,

Low Fast Motor Cycle; £12, or exchange for primary cycle of good make and condition, and 5, Victoria Rd., Upper Norwood.

Twin Rex, 1907, and sidecar (nearly new), in optional condition; £20, or close offer.—Cornish, St. Ann's Rd., South Tottenham.

MPH, 1908, 3½h.p., magneto, spring forks, p, horn, spares, everything absolutely brand 1.—28, Rye Lane, Peckham, London.

Centaur, in new condition, £15; expert examination; spares, free engine; also 2½h.p. Kerry, £10; a.—85, Loftus Rd., Shepherd's Bush.

magneto, No. 6 Chater-Lea frame, 26 by 2½ Pal-tyres, perfect; £16; take push bike part pay-ndrit, 37, Crawthorpe Grove, East Dulwich.

larendon, low, reliable, first-rate condition, new achers, spares; only £11; reasonable trial; seen tment.—Write, Reith, Golf Club, Eltham.

Quadrant, N.S.U. two-speed, spring forks, all accessories, new belt, perfect condition; £19, or r.—Eggleton, 124, Whippendell Rd., Watford.

REVE, late 1908, ridden 250 miles only, ing forks, magneto, Shamrock-Gloria belt, ex-ndition.—"S," Hainault, Downs Rd., Epsom.

Magneto Brown, free engine, Brooks saddle, bber studded tyres, spring forks, nearly new; time; £26, or exchange.—18, Treseo Rd., Nun-

Standard Triumph, date of engine, August 10th, 009, run 125 miles; delivered a fortnight; £46, res; bought twin.—N. Dodd, Woldingham,

Brown, just been overhauled, new tyres, handle-., Michelin and Riches; £9 10s. for quick sale; r same.—Heath, 36, Busaeo St., King's Cross,

Quadrant, spring forks, magnificent machine, solutely perfect, specially selected engine, climb £15.—J.D., 58 Downs Park Rd., Dalston,

de, magneto, Chater frame, spring forks, Amac uretter, Dunlops, torpedo tank, low and fast; -5, Belgrave Mansions, Coldharbour Lane,

Avondale Motor Bike, good running order, for e, or exchange for an up-to-date sidecar to fit U., right side preferred.—Cassidy, 91, Tuinnell

N., magneto, 26in. by 2½in.; any reasonable ; exchange Triumph, or single, twin, mag-Moto-Reve, value £26.—1a, Lyall Mews, Eaton

Minerva, F.N. spray, tanks, enamelled French lined out, two brakes, stand, carrier, horn, plendid condition; £4 15s.—426, Hoe St., Wal-

AR Combination, £18; 3½h.p. Quadrant, Mahon h handle started, Palmer cord, spring forks, tgomery sidecar, all as new.—66, Grand Parade,

J.A.P., Palmers, spring forks and saddle (B100) lar, not run 2,000 miles, grand order, perfect all accessories; £20.—Shrimpton, St. Peters,

M.M.C., clutch, handle starting, low, long rs, perfect condition, climb any hill; £10; ap- only.—Motorist, 126, Tollington Park, Fins-

Triumph, Mahon clutch, extra heavy tyres, Clin-ers. £32; 1906 Triumph, Bosch magneto, Pal-tyres, splendid condition, £20.—Morgan, Bor-

ENN'S 7½h.p. J.A.P. Racer, not run 90 miles, t machine made, capable of immense speed; -Apply, 27, Mortimer Market, Tottenham

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Twin Minerva; £22; splendid condition, tyres punctured; photo; full particulars on applica-exchange push cycle.—112, Canbury Park Rd., Surrey.

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2 h.p. Rex	£5 1	2½ h.p. Humber	£5
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2½ h.p. Whiteley	£6 1	3½ h.p. King	£8

1909 "PREMIER" Magnetos.

Absolutely the finest magneto. £3 15s. each.

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6-7 h.p. SINGER, twin engine, M.O.V.	£32 0
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Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto. £17 10s., or exchange.

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A FEW Bargains for immediate clearance. End of season's stock. First cash or cheque secures.

1¾h.p. De Dion-New Hudson, £6 10s.; 2½h.p. Brown, £10 10s.; 7h.p. Peugeot, in Chater-Lea frame, £13 10s.; 2½h.p. Buchet, £5 5s.; 3½h.p. Bat, £12 10s.; 2½h.p. Humber, £5; 3h.p. R. and P., £8 10s.; 6h.p. twin-cyl. Antoine, £12 10s.; 2½h.p. Griffon, £12 10s.; 3½h.p. twin Werner, £10 10s.; 2½h.p. Minerva, M.O.V., £10, and others; inspection cordially invited. — Wanchope's, 9 Shoe Lane, Fleet St., London, E.C., off Ludgate Circus.

3½h.p. Bradbury, 1909 model, magneto ignition, Clincher non-skid tyre, machine not used; £39 10s.; entertain open frame tricar; appointment.—21, Wood Vale, Forest Hill.

F.N., 5-6h.p., 4-cyl., 1909, only two months old, all accessories and spare parts; a genuine bargain, £35, or near offer.—Apply, S. E. Hales, 14, Clifton Rd., Kingston Hill, Surrey.

4-CYL. F.N., 5-6h.p., 1909 model, perfect condition, tyres almost new, spare tube, valves, etc.; £29.—Simmons, c/o Ward and Budd, builders, Sutton Court Rd., Chiswick, W.

F.N. Bicycle, 2½h.p., complete in first-rate order, spare long handle-bars and seat, tools, lamp, pump, etc.; £14, no offers.—Winchester Laundry, 72, Granville Rd., Child's Hill, N.W.

3½h.p. Minerva, spring forks, Palmer cords, two brakes, £18; with sidecar, £22; exchange 5h.p.—S. Arvans, Aldenham, Watford.

1909 Humber, two-speed, live axle, perfect condition, lamp, watch, horn, two bags, spare cover; £35.—Thomas, Sunderland House, Ashchurch Park Villas, Shepherd's Bush, W.

3½h.p. Vindee, magneto, N.A.B., Autoclipse, tyres, plating, and enamelling almost like new, perfect order; £15; expert examination.—Smith and Francis, 5, Surbiton Rd., Kingston.

WHAT Offers for Two-speed and Roc clutch, Rex de Luxe twin, not yet delivered, having decided to buy ear, don't want to take delivery.—Nicholls, Holbrook Lane, Chislehurst, Kent.

3½h.p. Vindee Special, spring forks, X'fall spring saddle, Price's stand, new tyre and belt, horn, spares, etc.; 10 guineas; excellent condition.—Sinclare, Walton Rd., East Molesey.

2½h.p. Minerva Bicycle, splendid condition, Eadie fittings, Palmers, adjustable pulley, £12; also sidecar, Palmer tyres, as new, £4 10s.—Moore, 44, Heniker Gardens, East Ham.

3½h.p. Twin Aleyon, Griffon engine, spring forks, handle-bar control, low build, very fast, in perfect condition; take £28 for quick sale.—G. Nottingham, Colwood, Warminglid, Sussex.

3h.p. Fafnir, Chater-Lea frame, spring forks, faultless condition, engine just overhauled, tyres practically new, very fast and powerful, all spares; £12.—Fafnir, 43, Southbrook Rd., Lee, S.E.

5h.p. 1908 Twin-cyl. N.S.U. Motor Cycle, magneto ignition, only once used, low frame, machine as new; lowest cash bargain, £25.—Wanchope's, 9, Shoe Lane, Fleet St., London, E.C.

£10, or offer.—Clement-Garrard lightweight, 2½h.p. 26 wheels, 2in. A won tyres, low built, B100 saddle, Triumph bars, climb anything, smart machine.—Motor, 13, Edinburgh, Popham St., Islington.

1¾h.p. Lightweight F.N., magneto and spring forks, 1908 model, rubber studded tyres to both wheels; lowest cash price £16 10s.; guaranteed.—Wanchope's, 9, Shoe Lane, Fleet St., London, E.C.

GRAND Offer.—Owner going abroad. Almost new 5h.p. Aspet motor cycle, not run 500 miles, all up to date, very fast, only wants seeing; £17 10s.—Mant, 41, Lewin Rd., East Sheen, Surrey.

3h.p. Telecom, engine just thoroughly overhauled, new cylinder, new Amac carburetter, H.B. control, tyre re-treaded, footboards, low position; £12; appointment.—Springett, Haslemere, Billericay, Essex.

TWIN Griffon, Zedel engine, low racing frame, 26 by 2½ tyres, new rawhide belt, tyres not punctured; £18 10s., or will take single-cyl. machine in part payment.—Motorist, 3, Salisbury Rd., Richmond, Surrey.

TRIUMPH, 1908, splendid condition, nearly new Palmer cord back, Shamrock-Excelsior front, new 3-ply Watawata belt, two spare belts, etc.; £34.—G. Want, 21, Richmond Crescent, Barnsbury, N.

MOTOSACOCHE, spring forks, accumulator, horn stand, tools, etc., complete set spares, just thoroughly overhauled, splendid condition; trial willingly; £15.—Thompson, 20, Cheriton Rd., Folkestone.

3h.p. 1906 Triumph, spring forks, magneto ignition, engine is like new, nice handsome, medium weight motor cycle; price, very lowest, 20 guineas; guaranteed.—Wanchope's, 9 Shoe Lane, Fleet St., London, E.C.

3½h.p. De Dion, Roc clutch and two speeds, beautifully sprung, Chater-Lea fittings, handle-bar control, very low built, most reliable; must sell; £20 sacrifice.—17, Kenmore Rd., Mare St., Hackney, London.

2¾h.p. Kerry, F.N. carburetter, long bars, swan-neck sea-pillar, just overhauled and rebushed, enamel and plating first-class condition, Clinchers; £11; trial run by appointment.—59, Norfolk Rd., Seven Kings Ilford.

MOTOR BICYCLES FOR SALE.

1908 N.S.U., 3½ h.p., 24in. wheels, magneto, two-speed, new Michelin back, front tyre little worn, new rubber belt, new unused spare tube, new unused valve, springs, and many other spares.—At Wanchopes. £25.

5½ h.p. Twin Rex de Luxe, magneto, Roc clutch, first-class condition, £28 10s., or offer exchange good 3½ h.p. magneto; also forecarriage, good condition, Clinchers, basket, £4 to clear.—308, High St., East Ham.

3½ h.p. Rex, 1908 Show Model, nearly new, perfect, all spares, accessories, R.O.M. tyres, clothing (dust and rain, etc.), complete outfit; any trial any time; £30.—Stewart, 174, West Green Rd., Tottenham.

£4 Down secures a Wolf Lightweight; £10 1s. 9d. a Moto-Reve; £12 4s. 4d. a Bradbury; £11 15s. 6d. a Triumph; balance in 12 monthly payments.—A. T. Stanton, 619, Lea Bridge Rd., Leyton, London, E.

3½ h.p. Rex, magneto ignition, in perfect order, new B. and B. carburetter, with Bowden control, spring forks, practically new tyres, Palmer back, Continental front; £18 18s.; any trial.—Victoria Motor Works, Godalming.

DOUGLAS, 2½ h.p., 1909, Continental non-skids, Acetyphone lamp, horn, spare valves, tools, spring saddle-pillar, burglary policy, every accessory, all in perfect condition; write; £31.—K. Greig, 2, Ravenna Rd., Putney.

7 h.p. Twin Peugeot, spring forks, spring footboards, H.B. control, very low, just been overhauled; will ride 40 miles to intending purchaser; in splendid condition; £24 10s.; expert examination.—164, Tachbrook St., Pimlico.

6 h.p. J.A.P. (1909), magneto, Chater frame, spring forks, Bates rubber studded tyres, Autoclipse lamp, everything best quality; no reasonable offer refused; genuine; photo.—A. Russell, Light Oaks, St. James's Rd., Sutton.

TRIUMPH (late 1908), 3½ h.p., magneto, as new, 24in. Shamrock tyres, very low, footrests, H.B. control, spring forks, lamp, spares, splendid machine, climb any hill; £36, a bargain.—Write, Triumph, 151, Knight's Hill, West Norwood.

BRAND New Motor Cycle, 1908, 5 h.p., with F.N. engine, Bosch magneto, all refinements; cost £48, will take £20, nearest offer; also a 2½ h.p. motor bike, similar to above, cost £30, take £12 10s.—Motor, Clifton Buildings, Vandy St., E.C.

7 h.p. Twin Peugeot, No. 6 frame, Chater-Lea fittings and sidecar, £36, not run 800 miles; also 1908 5 h.p. twin Rex and sidecar, magneto, perfect order; trial—living up riding doctor's orders; price £29; offers wanted.—38, Sutton Rd., Southend.

5-6 h.p. 4-cyl. 1909 F.N., fitted with either two-speed gear or single gear, just overhauled, and in perfect condition throughout, new January last, and only run 1,100 miles; cost over £65, price £35, no offers.—K., c/o Drays Garage, Hythe, Kent.

1907 Minerva, 3½ h.p., accumulator ignition, spring forks, Peter-Union tyres, new Shamrock-Gloria belt, lamp, horn, tools, spares, and sidecar to fit, all in excellent condition; £15 the lot, no offers.—W. Bower, 53, Hallam St., Gt. Portland St., W.

VINDEC Special, 5 h.p., two-speed gear, free engine, latest Brown and Barlow handle-bar control, Palmer cord, Whittle belt, Mills-Fulford castor wheel sidecar, all accessories; 40 guineas, or sell separate.—Box No. 3,145, The Motor Cycle Offices, Coventry.

7 h.p. Twin Motor Cycle, with sidecar, Buchet free engine, Bozier two-speed gear, all in splendid condition; £30, or would arrange an exchange for 4½ or 5 h.p. water-cooled motor cycle, magneto and free engine preferred.—72, Dacre Rd., Plaistow, Essex.

3½ h.p. Minerva (1907), Chater-Lea, B. and B. handle-bar control carburetter (1909), Palmer and Clincher tyres, Dermatine belt, just re-enamelled and overhauled; sell £15, or exchange sidecar machine, cash adjustment.—41, St. Stephen's Rd., Hounslow.

1909 3½ h.p. Triumph, scarcely ridden, Mabon clutch, spare tube and belt, in carrier, lamp, and all accessories, £40; also 2½ h.p. Lurquin and Coudert, new Chater frame, R.O.M. studded tyres, low machine, lamp, all accessories, £13 10s.—Copus, 26, Halstead St., Brixton, S.W.

4½ h.p. Twin Minerva, B. and B. handle-bar control, 26 by 2½ N.S. Michelin and Continental tyres, two butted tubes, Advance pulley, spring forks, three accumulators, horn, head lamp, and numerous spares; £20; trial, appointment.—Payne, 86, Oxford Gardens, North Kensington, W.

1909 8 h.p. Matchless-J.A.P., M.O.V., Nala two-speed gear, J.A.P. auto. carburetter and lubricator, Cowey indicator, also Contracta sidecar fitted can be passed through ordinary side entrance doorway, all as new; finest passenger outfit procurable; £60.—F. Ritchie, 36, King Edward's Gardens, Acton Hill, W.

4½ h.p. Twin Minerva, low built, pan seat, excellent condition, cash bargain, £15 10s.; 2½ h.p. J.A.P., vertical, light, fast, £10 10s.; 3½ h.p. Peugeot, magneto, spring forks, Palmer tyres, £20; 2½ h.p. Phoenix, magneto, two speeds, grand machine, £15; 2½ h.p. Brown, vertical engine, excellent condition, £10 10s.; 3½ h.p. Excelsior, M.M.C. engine, excellent condition, £9 10s.; several machines, in perfect order, £5. We do exchanges.—128, High Rd., South Tottenham.

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OUR STOCK IS LIKE THE WEATHER—ALWAYS CHANGING.

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| £52 | 1909 MINERVA, 8 h.p., Roc two-speed gear and free engine, all improvements, finished French grey, not done twenty miles | £52 |
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| £15 | REX, 1906, 3½ h.p., 26in. wheels, low built, spring forks, enamelling and plating perfect, practically new tyres to both wheels | £15 |
| £14 | ROVER, 2½ h.p., low built, handle-bar control, 26in. wheels, good tyres, cream finish, splendid condition | £14 |
| £17 | ALCYON, 5 h.p., 26in. wheels, Minerva spring forks, plated tank, first-class condition | £17 |
| £15 | MINERVA, 3½ h.p., vertical engine, 26in. wheels, A Won condition | £15 |
| £17 | TWIN REX, 5 h.p., spring forks, low built, aluminium finish, footboards, a beauty | £17 |
| £31 | N.S.U., 3½ h.p., 1908 model, magneto, low built, brand new, all latest improvements, Peter-Union tyres, etc. | £31 |
| £22 | MINERVA, 4½ h.p., 1907, twin, Minerva spring forks, low, 24in. tyres | £22 |
| £12 | CENTAUR, 3½ h.p., low built, belt drive, in good condition | £12 |
| £9 | BARTER, 2½ h.p., spray carburetter, geared pulley, a bargain | £9 |

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| £40 | REXETTE, 8-10 h.p., two speeds and reverse, water-cooled, open frame, in splendid condition | £40 |
| £18 | PHOENIX TRIMO Coach-built Forecar, two-speed and free engine, good tyres to all wheels, a bargain | £18 |

50/- DOWN and 5/- weekly secures the following:

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| J.A.P., 2½ h.p., good tyres, Stanley Dermatine belt | £8 |
| HUMBER, 3½ h.p., trembler coil, spray carburetter, in good condition | £9 |
| MINERVA, 1½ h.p., in fair condition | £6 |
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Brand New MILLS-FULFORD Sidecar, 1909, nine-guinea model, to clear

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| £7 | 15 |
| ACCESSORY BARGAINS. | |
| Genuine 26x2½in. CLINCHER Rubber-studded tyres, list price 31/6; our price .. | 23/- |
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| F.R.S. Lamp, brand new, a bargain | 19/6 |
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| HELLA Searchlight, best plated, divided glasses, complete with generator | 14/11 |
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| Treble Twist Horns, will shift a tram! | 6/6 |
| Double Twist Horns, heavily plated | 4/6 |
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| A.M.A.C. Carburetters, latest pattern | 29/- |

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MOTOR BICYCLES FOR SALE.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

3½ h.p. N.S.U., in first-class condition, magneto, forks, with over £4 extras; £20.—R. Broadway, Dorset.

FOR Sale, 3½ h.p. Ariel, in perfect running condition, tyres in good condition, new belt; £12, or offer.—120a, Middle St., Yeovil, Som.

F.N., 3½ h.p., 4-cyl., magneto, perfect condition, piston rings, gudgeon pins, all bearings adjusted, magneto recently overhauled, recent non-skids both wheels, reliable two-speed gear, engine, spring forks and saddle-pillar, all spares, ing butt-ended tube; garaged in Bath; £24, or Motorist, 1, St. Michael's Terrace, Helston.

SECTION X.

Scotland.

3½ h.p. Rex, good running order; £11, offers; £14 going abroad.—Ingleside, Douglas Drive buslang.

3½ h.p. Rex Motor Cycle, overhauled, fast machine, capital condition; £13 10s.—Jeff and Son, St., Coatbridge.

3½ h.p. Minerva-Chater-Lea, very low, fast, up-to-date, overhauled; £16.—Drysdale, S. Place, Edinburgh.

6-7 h.p. N.S.U., excellent condition, just thoroughly overhauled; what offers?—J. Stanford C. Concrete House, Tarbert, Loch Fyne.

1906 Rex, 3½ h.p., spring forks, Longuemare, lin detachable back tube, studded back tyre, accumulators, climb anything; £11.—Russell Auchentoshan Terrace, Springburn, Glasgow.

PEUGEOT, 7-9 h.p., fitted to Minerva frame, with two-speed gear, free engine, handle starting den control, X'fall spring forks, two pulleys, lin. V belt, fine machine for sidecar, in splendid order; £35, cost £60.—No. 5,138, The Motor Cycle Office entry.

THE Largest Stock, largest variety, and the makes!—Alexander's Motor Exchange, Rex Moto-Reve, Norton, Roc, Excelsior, Zenith, D. Minerva. We can supply you with these or any make; some special bargains presently in second-hands.—Alexander's, 110, Lothian Rd., Edinburgh.

5-6 h.p. Twin-cyl. Rex, accumulator, with Mont sidecar, flexible joints, tyres new, one a C rubber studded, inner tubes new, Continental butt spares—two steel studded tyres, two Rich deta inner tubes (new), two ordinary inner tubes, three skin bands, large horn (just bought a few days ago), large lamps, one new, with separate generator, spring, accumulator charging adapter, nuts and bolts all sorts, all tools and bag, Cantilever seat; appointment; price £20 the lot.—J. S. Muir, Gow Newmilns, Ayrshire.

SECTION XI.

Ireland and Isle of Man.

FIRST Offer nearest £17—1907 Rex, 3½ h.p., m spring forks, only done 700, new Shamrock and tyre, Clyno adjustable pulley, Bosch magneto only month ago, Price's stand and Brooks B100 L115, The Motor Cycle Offices, 20, Tudor St., E.

TRICARS FOR SALE.

4 h.p. Aster, Chater, two-speed, light, low, foot £18, or cycle and cash.—Jarvis, Hertford.

6 h.p. Rex Triette, very fast, splendid machine, sacrifice £22.—852, Garratt Lane, Tooting.

3½ h.p. Humber Tricar, free engine, two speed tyres; 10 guineas.—7, Slynne Rd., Lancas.

TRICAR, must be sold, 7 h.p., coach-built; no table offer refused.—139, Balaam St., Pla.

6 h.p. Rexette, coach-built, splendid condition, car; bargain, £20.—161, South St., Walwor.

4 h.p. M.M.C. Tricar, two-speed, free, overhauled Laystall; £20, or nearest.—Fallick, Alding.

8-10 h.p. Rexette, 3 seats, two speeds, twin wheel order; £32.—255, Earlsfield Rd., Wand.

4½ h.p. Rover, water-cooled, free engine, perfect ton. offers cash or bike.—87, Mildmay Grove,

8-10 h.p. Rexette, 3-seater, 2 cyls., spring frame speeds; £37 10s.—14, Zennatt St., Chap.

4½ h.p. Water-cooled Humber, just re-bushed, as new, all spares; £27 10s.—39, Cold Lane, S.E.

6 h.p. Twin Antoine, Chater frame, three-speed bucket seat; bargain, £19 10s.—73, Chnr Camberwell.

5½ h.p. Garrard Tricar, three speeds, worm drive control, water-cooled; £27 10s.—20, Potter Lane, Leeds.

3½ h.p. Minerva, splendid condition, good tyres, fast; any trial; £12 10s.—Westwood, Grays, Essex.

REXETTE, 8-10 h.p., twin, water-cooled, spares, extra tyres; £37 10s.—61, Claren King's Heath.

TRICARS FOR SALE.

over, water-cooled, sprung frame, two speeds, tyres, thorough repair; £18.—31, Landor well.

VA Tricar, 3½h.p., good order, Chater-Lea; £10, bargain.—128, Fielding Rd., Bedford Wick.

TE, 6h.p., late model, new studded tyre, dark red cushions, would pass for new; £22 10s.—Vealdstone.

adrant Tricar, perfect; £22; exchange good bike (Minerva preferred).—Harris, School-don, Essex.

Runabout, free engine, chain drive, bucket wheel steering; bargain, £11.—128, High Tottenham.

Rover Tricar, water-cooled, two speeds, chain drive, excellent condition; sacrifice 15 guineas. Newmarket.

Tricar, seats three; £37 10s.; would take on, F.N., Humber, magneto part exchange.—k Rd., Croydon.

ley, three speeds and reverse, non-skid, sprung wheels, perfect order; £35.—Maudes', 136, Gt. St., London, W.

ER, 3½h.p., handle starting, two-speed, excellent condition; cheap, £16, or offers.—80, Sycamore agton, Birmingham.

S wanted.—Excelsior tricar, just overhauled; forecar separately; exchange considered; full —Jndge, chemist, Derby.

ard Water-cooled Tricar, three speeds, worm perfect going order, all accessories; £20, bar-147, High St., East Ham.

, Riley, 4h.p., water-cooled, free engine, two eds, perfect condition, climb anything.—13, ne, Cheetham Hill, Manchester.

Chassis, including wheels, tyres, band s, steering wheel, tank, etc.; £5 10s.; ap-6, Aspley Villa, Clapham Rd., S.W.

ater-cooled Quadrant Tricar, free engine, two s, wheel steering, coach-built; any trial; £25; small car.—2, Upper Kennington Lane.

TE, latest spring frame: cost £110; 6h.p., speeds, coach-built, etc., lamps, tools, perfect; £26 10s.—E., 79, Camberwell Grove, Cam-

X Trimo, 4½h.p., very little used, coach-built, speeds, free engine; cost nearly £100; magnifi-20 guineas.—Glenmaye, Hampton Rd.,

R-LEA Wide Tricar Frame, 29s.; Chater-Lea box, damaged, 10s.; Chater-Lea sound tank, ft. 3in. Renold chain, 4s.—Davis, ironmonger, k.

Rexette Tricar, bucket seats, new Dunlop on ar, water-cooled, wheel steering, just over-od hill-climber; £31. — Moore, Regent St., gh.

, coach-built, Chater-Lea, open frame, Riley e and two-speed, Riley driving wheel, splen-; price £45. — Fishwick, Knutsford Rd., dge.

rry, open frame, wheel steering, coach-built, speeds, free, handle starting, fan-cooled, splen-; tyres excellent; £30; photo.—Welwyn, k, Kent.

, Chater-Lea, coach-built, 6h.p. J.A.P. en- clutch and carburetter, two speeds, car tyres; re, perfect order; £45.—Chalmers, St. Mary-orquay.

t, two speeds, free engine clutch, 3½h.p. Hum-good tyres, Mills-Fulford forecarriage; any thorough good condition; £13 10s.—546, High mayes, Ilford.

TES.—To be cleared immediately, two 8h.p. n-cyl. 3-seater Rexettes, one 5h.p. single-cyl. ash, or exchange; what offers?—The Rex Motor Ltd., Coventry.

TS.—Two for sale, 4½h.p., water-cooled, two- chain drive, perfect order; trial; leaving D, or offer.—Howes, Glanaber, Livingstone Rd., eath, Birmingham.

TANT Tricar, 6h.p., two speeds, just thoroughly auled and guaranteed in thorough working h full kit of accessories; £30, or offer.—Rose nley Rd., Twickenham.

h.p. Rex Litette, twin, water-cooled, magneto, ch front, twin tyres, lamps, mirror, horn, good rial; £45, or near offer; buying car.—Fowler, ge, Clyde Rd., Tottenham.

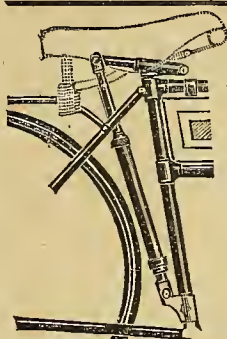
iley, three speeds, reverse, splendid climber, ition and tyres; worth £65, take 50 guineas ood magneto cycle (Triumph) preferred, differ-).—1a, Lyall Mews, Eaton Sq., S.W.

ricar, extra large size, seats three, wheel steer- carriage built front car; will clear at £40, or value in clothes from tailor; seen at Enfield -Box L102, The Motor Cycle Offices, 20, Tudor

twin-cyl. Stevens Tricar, water-cooled, accumu- tor ignition, three speeds, free engine, chain heel steering, coach-built bucket seat; in good , just wants slight overhaul; £30.—Tweedie, unan.

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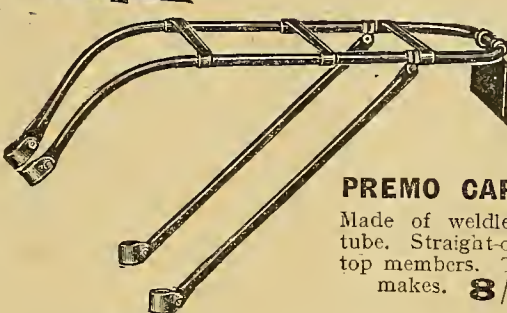


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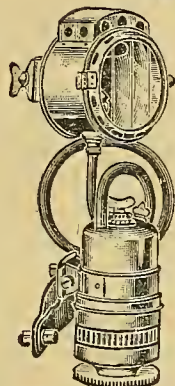
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Made of weldless steel tube. Straight or curved top members. To fit all makes. 8/6.



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Workmanship, material, and finish beyond reproach. Sent on four days' trial.

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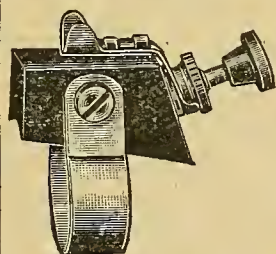
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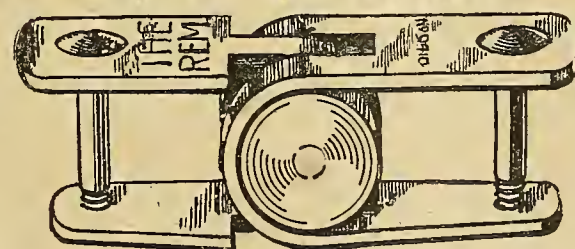
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A vast improvement on the crude switches used for same purpose. No magneto machine is safe without a PREMO CUT-OUT. 2/6.

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Instantly detachable. Central roller removed by a touch of the fingers. BRITISH, and the best PATENT applied for.

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TRICARS FOR SALE.

LATEST 1907 10h.p. Lagonda Tricar, absolutely the finest machine produced, guaranteed perfect; 50 mile trial given; sacrifice £50; cost £142; take magneto cycle part.—Fullest particulars, apply, R. Else, Leawood, Matlock.

6½h.p. Water-cooled Rexette, fast, good climber, thorough order, many spares, extras, accelerator pedal, chain case, electric tail lamp, pedal clutch, new Michelin; bargain, £35, or close offer; buying large car.—Clare, Basingbourn.

4½h.p. Stevens Water-cooled Tricar, coach-built car Oppermann three-speed, chain drive, Hermetic car tyre on back, Clincher studded fronts, in excellent order; £35; would consider exchange for good motor cycle.—Bent, 99, King Richard's Rd., Leicester.

MUST be Sold.—Phoenix tricar, 3½h.p., fan-cooled chain drive, two speeds, beautifully coach-built bodies, new tyres, Palmer cord rear, spare covers, tubes, gears, lamps, tools, etc.; sacrifice at £18 for quick sale.—Apply, Pryor's Nurseries, Ashby Rd., Brockley, S.E.

SIDECARS AND FORECARS.

CHATER Sidecar, rigid, new, 26in. wheel; bargain, £4 10s.—6, Arundel Sq., Barnsbury, N.

MILLFORD, Palmers, cane basket, band brakes, etc.; £3 10s., or exchange.—83, Rye Lane, Peckham.

ARIEL Forecar, cane chair, in good order, less tyres; £4.—H. Monk, 291, Portobello Rd., Notting Hill, W.

SIDECAR, light, strong, Michelin tyre, good as new; gift, £2 10s.—Fairweather, 32, Green St., Forest Gate, E.

SIDECAR, left or right, brand new, not driven 20 miles, upholstered; £4 4s.—St. Arvans, Aldenham, Watford.

SIDECAR, left, upholstered red, apron, rubber mat, lamp, horn, box underneath; £4.—8, Sandmere Rd., Clapham.

£4 15s.—Easy detachable rigid sidecars, complete with mudguard, good make tyres.—Horner's, Store St., W.C.

MONTGOMERY (left) Flexible Sidecar, complete, with apron; £4 10s., or near cash offer.—13, Somerville Rd., New Cross.

FARRAR'S Halifax Sidecars are sent on approval guaranteed 12 months; immediate delivery; to fit any motor cycle.

RIGID Sidecar, left, 26in., perfect order, £3 5s.; coach-built ditto, new, £5 10s.—Lewis, 23, Arden Rd., Handsworth.

FORECAR, 26in. wheels, fit any machine, green upholstery, less tyres; £3.—Glennie, 197, Rosemount Place, Aberdeen.

CORONET Sidecars from stock, suit N.S.U.'s, Rexes, Minervas, Triumphs, and other makes; £4 17s. 6d.—Booth's Motories, Halifax.

CORONET Sidecars, £4 17s. 6d., supplied from stock to suit any make of motor cycle.—Booth's Motories, Halifax.

CORONET Sidecars; £4 17s. 6d., comfortable as a motor car; converts motor cycle into an ideal winter machine; superior to some £8 8s. makes.—Booth's Motories, Halifax.

SIDECAR, good condition, fit any frame, left side; lowest £3 12s. 6d.—Markham, 91, James Rd., Liverpool Rd., London, N.

HALIFAX Sidecars are superb value; £4 17s. 6d. each; equalling others costing double.—Farrar's Motories, Square Rd., Halifax.

MONTGOMERY Flexible Sidecar, condition as new, 26 by 2½ tyre; £4 10s.; seen by appointment.—Dunn, Avalon, Sutton-Coldfield.

STAMFORD HILL.—Our famous sidecars at £4 17s. 6d. are giving great satisfaction.—128, High Rd., Tottenham. Deliveries from stock.

FITEASY Sidecar, for narrow doors, wholesale and retail.—Middleton and Co., Manufacturers, Wat-son St., Newington Green, London, N.

RIGID Sidecar, 26in. wheel, fit any machine, unscratched, scarcely used; £3 10s., bargain.—Roberts, chemist, Hemel Hempstead, Herts.

SIMPSON'S Sidecars are reliable, comfortable, elegant; entirely different to other makes; write us; our prices are right.—Orchard Mills, Belinua St., Hunslet, Leeds.

MONTGOMERY Flexible Sidecar, in splendid order, adaptable to either side, art cane chair, upholstered green, waterproof apron to match; £6.—A. M. Barton, Braintree.

SIDECARS.—Best value in England; fitting free; inspection invited; prices, £4 15s. and £5 10s.; also second-hand price, £4.—C. A. Edgar, 123, Holloway Rd., London, N.

HUMBER Olympia Forecar, 3h.p., coil and accumu- lator ignition, free engine and two-speed gear, excellent condition; what offers?—Dudley Lodge, War- wick Rd., Coventry.

HALIFAX.—Rigid de Luxe Sidecars, enamelled and plated, luxuriously sprung, everything of the best, fit any machine, 26 by 2½ tyres, £6; art can bodies, 15s. extra; cheaper quality, £4 17s. 6d.; second-hand side- cars taken in exchange.—Halifax Motor Exchange, West- gate, Halifax.

SIDECARS AND FORECARS.

ARIEL Forecar, cane body, side stays, hand brakes, Palmers, splendid condition, fit any machine; £5, or exchange for right hand sidecar.—E. Coleman, 58, Hassett Rd., Homerton, London.

12 Guinea Sidecar, this year's model, made throughout with genuine Chater-Lea fittings, 26 by 2½ Clincher tyre, only used twice; £6 8s.; wanted, Sunbeam, or similar cycle.—F.W., 137, Broomwood Rd., Clapham Common, S.W.

THE Silly Season is about to start, when nearly all motorists put their machines away for the winter, on account of side-slip, but only those who have bought one of the world famous Oakleigh sidecars are free from side-slip. The only sidecar with a £20 guarantee against side-slip. Can we make your machine free from side-slip? If so, send along your orders. Delivery in three days. All orders taken in strict rotation: price £5, with genuine Chater-Lea fittings, and five years' guarantee.—Oakleigh Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

MOTOR TRICYCLES.

DE DION Motor Tricycle, complete, needs enamelling, spring saddle pillar, tools; £10 10s.—Elkin, Weston Rd., Stafford.

4 h.p. De Dion Motor Tricycle, water-cooled, two-speed, chain driven, perfect condition; £35.—Kemp, Bungalow, Mountfield, Sussex.

QUADCARS.

PHENIX Quad, 8h.p., 2-cyl., magneto, two speeds, five spare tubes, two covers, and many other spares, everything like new; guaranteed great bargain, £60, or near offer.—R. Cripps and Co., Nottingham.

CARS FOR SALE.

PALMER.—6h.p. Regal, tonneau, seats five, three speeds; reverse, 700 by 65 tyres, wood wheels; £35.

PALMER.—12h.p. Duryea 2-seater car, 3-cyl., epicyclic gearing, wood wheels, tyres all good; £20.

PALMER.—5h.p. Velox car, two speeds, wire wheels, light little car, in running order; £12.

PALMER.—9h.p. Rexette, 3-seater car, 2-cyl., twin back tyre, perfect working order; £35.

8 h.p. Argyll, detachable tonneau, in very good condition; £35.—Sully, 10, Old Town, Clapham.

6 h.p. Clyde, Aster engine, whole car recently made better than new; £45.—10, Old Town, Clapham.

PALMER.—12h.p. M.M.C., tonneau, seats five, 2-cyl., 810 by 90 tyres, wonderful condition at the price, £40.

PALMER.—8h.p. De Dion, genuine, seats five, engine under bonnet, solid tyres; £35.

PALMER.—12-16h.p. Panhard delivery van, 4-cyl., carry about 25cwt., magnificent condition; £60.

PALMER.—10-12h.p. Daimler delivery van, carry nearly two tons, convertible lorry; £60.

PALMER.—16-22h.p. Gladiator, side entrance, 4-cyl., five lamps; great bargain, £45.

PALMER.—10h.p. Panhard, limousine, Centaure Krebs carburetter; offered at clearance price £85.

PALMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen; bargain, £100.

PALMER.—12-14h.p. Humber, tonneau, 4-cyl., nearly new Moseley tyres, raked steering; £85.

PALMER.—18-24h.p. Prunel landaulet, side entrance, 4-cyl., M.O.V., grand hire car; great value, £125.

PALMER.—17-21h.p. Mors limousine, 4-cyl., magneto, side entrance, pressed steel frame, silent, reliable carriage; £150.

PALMER.—40-50h.p. Lorraine-Dietrich, 1907, 4-cyl., magnificent vehicle; cost over £1,000, sacrifice for £325.

PALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Garage one minute Merton Rd. tram terminus, Tooting. Cars seen here any day, Thursdays and Sundays before 2. Photos, details per return; easy terms arranged; exchanges.

DARRACQ. 6h.p., good condition, three and reverse; £30.—Baker, Kellington, Yorks.

6½ h.p. Siddeley 2-seater Car, good condition, splendid hill-climber; £45.—Usher, Borough Farnham, Surrey.

£ 35, or exchange 5-seater tonneau car, 14-16h.p. Humber engine, good condition.—83, Rye Lane, Peckham.

8-10 h.p. Beeston Humber, 2 cyls., Dunlops, lamps, etc., 2-seater; £59; motor cycle part.—6, Chalsey Rd., Brockley.

10 h.p. Mors, 4-cyl., magneto, four and reverse, seats five, equal 870 by 90 wheels, splendid condition; £50.

8 h.p. M.M.C., 4-seater, single-cyl., artillery wheels, three speeds and reverse, fine condition; £25, bargain.

9-11 h.p. Peugeot, 2-cyl., three speeds, reverse, magneto, 2-seater, extremely good condition; £50.

12-16 h.p. Darracq, three speeds, reverse, 2-cyl., 5-seater, very fast, powerful, grand order; £50; exchanges entertained on above.—128, High Rd., Tottenham.

ALL MODELS

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TO CLEAR AT LOW PRICES.

A SAMPLE—4 h.p. MODEL DE LUXE, handle-bar control, etc. **£38**

£31 and upwards, 1909 N.S.U.'s.
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£25, ROC, 1907, magneto; H.B. control.
£21, N.S.U., 1907, 3½, two-speed.
£20, N.S.U., 3½ magneto, spring forks.
£15½, ARIEL, M.O.V., 26in. wheels.
£15, REX, 3½, 1906, spring forks, M.O.V.
£15, ANTOINE, M.O.V., spray, vertical.
£12½, M.M.C., very low Chater.
£12½, REX, 3½, light low model, M.O.V.
£10½, REX, 3½, John-o'-Groat's model.
£10½, KERRY, 2½, spray, 26in. wheels.
£9½, BUCHET, 2½, long low mount.
£9½, REX, 3½, spray, vertical.
£9½, TRIUMPH, 2 h.p. Minerva engine.
£8½, QUADRANT, 2 h.p., low, 26in. wheels.
£7½, REX, 3 h.p., long bars.
£7, REX, 3 h.p., good value.

Extended Payments.

£3 deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

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1909 Twin ROC, two speeds	£57 15
1909 Twin VINDEC	£64 0
Four-cylinder F.N., 1908 model	£27 10
1908 Twin REX DE LUXE	£32 10
Twin REX DE LUXE, two speed	£32 10
6 h.p. Twin ANTOINE, ROM	£16 0
5½ h.p. Twin REX, spring forks	£17 17

BROWN AND BARLOW and **AMAC** Carburetters, with handle-bar control. B. and B., 30/-; Amac, from 29/-. **BIG EXCHANGE ALLOWANCES.**

£6 **TOP-CLASS SIDECARS** to suit any make. Beautifully plated, enamelled, and upholstered; to suit right or left side; three-bolt fastening, 2½" best make tyre.

MISCELLANEOUS.

Three-note Horns, shift a "Loco"	7/-
The Latest in Headlights	16/6
The Latest in Magneto Cut-outs	2/-
Lever Belt Punches	2/3
Screw Belt Punches	1/6
Ignition Plugs from	3/6 to 9d.
Second-hand XL'ALL Spring forks	11/6
Duck-voiced Horns, double twist	5/3
MINERVA Spring forks, as new	£1 17/6
COWEY SPEEDOMETER	£4 4 0
New XL'ALL Spring Forks	17/6
Swan-neck Seat-pillars	4/-
Separate Generator Headlights	8/6
Rex Pattern Handle-bars, heavy gauge ..	6/6
Enamelled Mudguards, complete with stays: 3in. 2/11, 3½in. 3/6 per pair.	

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ALL NEW AND PERFECT.

All except 26 x 2½, 19/6.
24 x 2½ and 26 x 2½, 20/6.

ALL BEST MAKES. Send for Lists (free).
CONTINENTAL TYRES BY RETURN.
Send for list giving allowances.

GERALD COLLIER,
37, Park Cross Street,
(Facing Town Hall.) **LEEDS.**

CARS FOR SALE.

ECLIPSE.—20-32h.p. Darracq, two ignitions, body, canopy, two screens, perfect; £16

ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., frame, splendid order; £95.

ECLIPSE.—6h.p. Siddeley, 2-seater, pressed frame, splendid order; £52.

ECLIPSE.—10-12h.p. J.P., 2-cyl., side entrance chassis, hood, perfect order; £80.

ECLIPSE.—14h.p. Broke, tonneau, 3-cyl., three in excellent order; £30.

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., excellent condition; £65.

ECLIPSE.—14h.p. Ferman, 4-cyl., side pressed steel frame; bargain, £105.

ECLIPSE.—9h.p. Rex, tonneau, in good order; £25.

ECLIPSE.—10-12h.p. Sorex Cab, 4 seats, in order; £87 10s.

ECLIPSE.—5h.p. Beeston Humberette, two climbs anything; £28 10s.

ECLIPSE.—7h.p. Pope-Tribune, 2-seater, £32. Engineering and Motor Co., 255, Earlsford, Wandsworth. Phone, 1135 Putney.

RENAULT Car, 4h.p. Dion engine, 2-seater, turnout; £30.—Wood, 16, High St., Swansea.

9 h.p. Modern Type Oldsmobile, detachable handsome car, simple control; £35.—V. Bedford Rd., Clapham.

16 h.p. 4-cyl. Germain, four speeds, 2-seater back; £40, or exchange modern motor car. Horner, 28, Butey Rd., Leeds.

9 h.p. Darracq, 2-seater, hood, screen, three speeds, sound, reliable car, suit doctor; £50.—13, Peckham Rd., Camberwell, S.E.

CLEMENT. 9-11h.p., twin-cyl., detachable first-class order, including tyres; £45; Triumph.—Parker, Melbourne, Derby.

6 h.p. De Dion, sound throughout, two speeds, reverse, tyres never punctured; £36 cash.—187, St. Ann's Rd., South Tottenham.

6 h.p. Decauville, three speeds, hood, extra valuable spares, 3-seater, pretty car; sacrifice offers.—Artist, 72, Station Rd., Redhill.

7 h.p. Car, two speeds, reverse, belt drive, engine new equal tyres, first-class running order, pearance; £20.—Bathe, 295, Goldhawk Rd., London.

LATEST Type Ford, 10-12h.p., side entrance hood and screen, car and tyres little inferior mechanism exceptional; £40.—334, Clapham Rd.

PIEPER. 2-seater, Rochet body, two speeds, bonnet, Dunlops, new water-cooled cylinder fitting, good condition; £10.—30, London Rd., Burn.

8 h.p. Peugeot 2-seater Car, three speeds and excellent running order, complete, all accept £35, or motor cycle in part exchange.—Newmarket.

18-24 h.p. Belsize, fine side entrance body, green, upholstered red, double hood, double five lamps, horn, etc.; bargain, £120.—Bousfield, gate, York.

6 h.p. Wolseley, 2-seater, Stepney, new spare tyre, excellent condition, revamished etc.; £49, or exchange higher power.—26, Harbottle, Birmingham.

ARGYLL. 8h.p., 4-seater, with detachable making excellent 2-seater, perfect order; exchange larger car with cash.—Bailey, Goldhawk Shepherd's Bush.

WOLSELEY. 6h.p., two bucket seats, good condition, fast, good hill-climber; would take cycle or tri-car in part payment; price £45.—Davis, 3, New St., Birmingham.

12 h.p. Darracq Car, 2-cyl., seats five, three speeds, reverse, pneumatic tyres, artillery wheels, horn, tools, and registered; sell for £45, big dingley, Haslingden. Tel.: 2Y.

WOLSELEY. 12h.p., 2-cyl., 4-seater, four speeds, reverse, Dunlop tyres, perfect condition, hill-climber; price £60; would take tri-car or motor cycle in part payment.—Louis B. Davis, 3, New St., Birmingham.

9 h.p. Darracq, 2-seater, three speeds and reverse, good order; price £55, or exchange for decent bike and cash; would exchange Darracq, with 4-cyl., with side entrance body.—24, Woodfield Forest Gate, London, E.

6½ h.p. Conqueror Car, two bucket seats, slapsable seat at back, cardan driven, chain levers at side, three speeds and reverse, vertical under bonnet at front, artillery wheels, pneumatic in running order; sell for 20 guineas.—Cording Haslingden. Tel.: 2Y. A gift.

MOTOR Cars at absolutely ridiculous prices. Clement, 2-seater, live axle, perfect running; £21; 10h.p. Ariel, 2-cyl., seats four, handsome car, £47 10s.; 16h.p. Argyll, side entrance, tip-top condition, £120; 12h.p. Prunel, limousine, five, really good, £70; ditto, tonneau car, 4-seater carburetter, £68; 5h.p. Rexette water-cooled two speeds, absolutely as new, £27 10s.—9, Park Road, Dalston, London.

THE MOTOR CYCLE

Vol. 7. No. 339.

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An Inexpensive Form of Amusement.

It can now be truly said that the police do not do their duty in protecting the public from danger. We believe we are correct in saying that daylight burglaries are extraordinarily prevalent, as a casual glance at the newspapers will show. Accidents on the roads are far more frequent than they would be were the public properly safeguarded, and why? Simply because the police are hiding behind hedges which line the *straightest* and safest portions of our thoroughfares timing motorists who commit the purely technical offence of breaking the law. Very often this happens within a few yards of an appallingly dangerous cross-road, at which it is absolutely imperative that a constable should be on point duty. Those unfortunate motorists who are caught tripping are fined out of all proportion to the severity of the offence they commit, and anything between £5 and £20 may be expected from some of the Southern police courts. There are, however, cheaper forms of amusement than motor cycling. Cruelty to one's wife, brutality to dumb animals, and other wanton acts are held lightly by the gentlemen on the bench, and the newspapers are full of examples of the truth of this.

Only last week a striking incident was brought to our notice. Fines of 30s. each were imposed by the sitting magistrates on Saturday upon Herbert Remnant and Henry Townsend, farm labourers, for obstructing the highway at Ripley. Wire cable had been stretched across the road by the defendants at the height of three feet from the ground. To avoid an accident Charles Tice, a motor cyclist, had to fling himself from his

machine, which turned a somersault over the wire. Sergeant Arney said this sort of obstruction had occurred before at Ripley. The defendants were severely admonished and fined 30s.

It is past all comprehension that these men were fined at all. Imprisonment with hard labour is what anyone with any sense of justice would imagine would have been imposed, while to find a really adequate punishment is well nigh impossible. Had not Mr. Tice seen the wire the results of the accident cannot be contemplated, as it is well within the bounds of possibility that he would have been decapitated. A similar incident occurred in Sussex to a personal friend of the writer, but unfortunately too far from a village to allow of the police being warned in time. The severity of the offence and the smallness of the fine tell their own tale, and we may well ask where were the police?

The Autocar League.

A LARGE number of our readers have sent in their names and addresses for *The Autocar* referendum register, and the forms are still steadily coming in. A rather interesting point has been raised by several who are not only owners of motor cycles, but also of motor cars. These fortunate motorists want to know under which heading they will be classified. The reply is that they will be classified under both headings, so that they will be approached for their vote on every question brought up before the League, whether it interests the motor cyclist only, the motor car owner only, or both classes of motorists.



(Continued from page 695)

At 5.15 I arrived at a pretty little town, which I found to be Avallon on consulting the map. Seeing a motor cycle (the fifth only so far) outside a cycle shop, I enquired of the man in charge if he had an inner tube, as I had lost both air and confidence in mine. "What size?" That was a puzzler. I knew no more than the man in the moon the size in millimetres, so, taking him outside, he spent a quarter of an hour in admiring little things on my machine, including the silencer (which his machine lacked) and cut-out, etc. After a while he brought me a champion inner tube—a Michelin, red rubber, voiturette size, very thick—for which he charged 18 fcs., including fitting. While the tube was being fitted I proceeded to the "Hotel de la Poste et Voyageurs," where I was delighted to find the book-keeper spoke very good English.

My run of about 100 miles was quite satisfactory, considering the long time I was delayed by tyre troubles. The day had been glorious, the surface of the road even better, and the scenery had varied from very flat to mountainous. At the early part of the day I had noticed oxen drawing ploughs, and the number of magpies I saw was extraordinary.

Avallon to Autun.

Rising early next morning, I found it had been raining heavily. At breakfast I was surprised to have my coffee brought to me in a bowl with no handle at all and with a soup spoon to drink it with.

Calling at the cycle shop, I was still more surprised to see my muddy machine transformed into a new one, brightly polished and cleaned beautifully. The outer cover had also been patched inside and the old inner tube repaired. I now set off for Autun, but after a few miles my machine was as dirty as ever again, as the roads were in a wretched condition. The rain turned to sleet, and then at times to snow, the road getting worse and worse. On tackling a gradual slope my belt would race horribly,

and then on just giving a gentle kick on the ground the machine would glide away and get into a deep rut, which meant a sudden pull up, and often a wobble to the top, as it was impossible to restart by running alongside. Once at the top, the only method to start was to let the machine run on the stand for a while to dry the belt rim and belt. Naturally I did not make good progress, so on reaching Saulieu I rested. I had ridden fifteen miles, and it had taken me just 2h. 20m. Consulting my map, I decided to take train to Chalon, and at the hotel had my first taste of snails, which I had often seen but never tasted. They tasted something like butter does when it comes into contact with a steel knife (which is nasty). Next day (Thursday) the elements were almost as bad, and I was told that the snow was all over the country, and even at Rome and Nice. So I decided finally to take train to Marseilles. Entering the carriage, I tried in my poor French to ask a gentleman to remove his feet from the seat I wanted, and was very much surprised and pleased to hear him say

"Certainly, with pleasure. Good heavens! I had been trying my awful French on an Englishman. He proved a delightful travelling companion, and there was not a dull moment till we arrived at Marseilles about midnight, where we bade each other good-bye. He was going to San Remo."

130 Miles from Nice

Friday was glorious with blue sky and sunshine. I was only about 130 miles from Nice, so after a wait in Marseilles I set off for what I thought was a nice easy ride. I had extreme difficulty in finding the road out of the town. The road was vile and covered with two inches of grey mud, which quite filled all deep ruts and holes. Crawling along at walking pace, I had a beautiful skid, which made my number plate look remarkably silly. What a blessing handle-bar control! It was positively dangerous to take my hands off the



Route de Pontaubert, Avallon.

arrogate to the Riviera and Back by Motor Cycle.—

ars. Passing a workman on the road, he actually asked me the time, as though I could take my hands off the machine and start fiddling with my buttons, etc., to get at my watch! I gave him a look which could have frozen a polar bear and passed bumpily long. Misfiring here made itself apparent, so I cleaned the plug, and set off again, this time on the footpath. Soon, however, I reached delightful country, making for Aubagne. After Aubagne I lost my way. I had a beautiful French map of the

Riviera in my tool bag, but thought that I could easily find my way with my small scale map. I was always climbing higher and higher, and several times the houses below seemed like orange pips. Once a lovely view of Toulon with its harbour, forts, and battleships appeared. Absolutely lost, I always took the best road at any junction. Almost reaching Brignoles, I turned again, and soon began to climb in real earnest. Up and up, hardly ever easing, with hairpin corners, and with a sheer drop on the outside without wall or protection whatever. After two miles of this I halted and ate some large raisins and milk chocolate. Climbing again into the saddle, I was soon going slowly uphill and round the corners once more. This continued for some time, and then came the descent—a most welcome change. A clanking noise somewhere behind caused me to stop hurriedly; it was my pedalling chain, which had come off and got slightly twisted, so I put it in my pocket.

Looking at the petrol gauge, I was surprised to see only sufficient to last me for about twenty to twenty-five miles. I had absolutely no idea as to my whereabouts, except that I was not far from the sea, as that could be easily seen every now and again after a long climb. As for oil, I carried a gallon of Prince's A with me. It was getting dusk, so I quickened my pace, and soon got to Cuers, and, noticing a larger town, I decided to press forward, and there spend the night. A signpost for Hyères showed me my position, and, nearing that city, I passed numerous golfers (mostly English) and French blue-jackets. I was feeling quite at ease, gazing admiringly at a large hotel up on the mountain, when the next thing I knew was that the machine and I had started company, and I was rubbing my shoulder vigorously. Quite forgetting I was on a machine at all, I had ridden into the gutter.

After dinner I had a quiet smoke and thought over the events of the day, always to be remembered as the most exciting and eventful of my experience. The lonely feeling of seeing hardly a soul or hamlet of any description, the winding roads, some with their tremendous sheer drops down and no railing or guard, and, on top of it all, night coming on was most impressive. But, oh! the compensations. The first view one gets of the tideless Mediterranean; the gorgeous blue that makes the English sea appear a mere puddle. The tall and lovely trees and palms, and every now and again sweeping past a lovely hedge or clump of sweet smelling mimosa growing as wild

as the grass, and the medley of flowers and blossoms that make the air as sweet as a florist's shop. One must keep a sharp look-out on the road, as there is every possibility of being thrown into a clump of cactus plants or aloes of a remarkable growth and variety. Oranges and lemons were plentiful in the gardens, and if one felt thirsty one could stop at some cottage and buy a branch of lovely oranges or sometimes tangerines.

On Saturday I was on the move in good time, and after breakfast had the pedalling chain refitted. Starting at 10.15 (this time with my proper map), I



The Public Gardens, Nice.

made very good time to Cogolin, and, just missing St. Tropez, rode along the coast of the gulf of that name, soon finding myself at St. Maxime, with its pretty little luggers with dark brown patched sails. Striking inland, I steered for Frejus, and further inland I had a long steady pull of about six miles. I was again on a similar road to the one I was lost on the day before, twisting like a snake, a sheer drop down on the outside, and for ever climbing. Continually on the alert for vehicles (chiefly cars) on the corners got rather trying, so I halted for a cool smoke in the shade once or twice, a magnificent view always presenting itself. Consulting my map, I found the road from Frejus to the Col de l'Esterel (which I was now climbing) in a distance of about six miles rose from 21 metres above sea level to 676 metres.

- An Animated Picture.

Once at the top of the Col, there was a long serpentine road to descend (a free engine would be splendid here), which soon brought me to Cannes. Stopping for a few hours at Cannes, I had a look round the busy harbour, with its beautiful English and Continental yachts, with motor launches and dinghies passing to and fro.

Reluctantly leaving Cannes, I travelled along the coast road, passing a car which was neatly jammed between a lamp standard and a tramcar. All along the coast through Antibes and Cagnes a large number of powerful cars were met with, which frequently meant a friendly "dust up" at thirty-five or forty on a good stretch of road, consequently the journey to Nice seemed very short. Turning to the right brought me on to the world-renowned Promenade

Harrogate to the Riviera and Back by Motor Cycle.—

des Anglais, with its beautiful palms and gorgeous hotels. Turning to the left and through the Place Massena, I arrived at the Avenue de la Gare, and again to the left down the Rue d'Amérique, and I was at my hotel, the Hôtel St. Gotthard and Beau Séjour.

I then saw that my faithful mount was safely stowed away, and turned indoors.

I spent an enjoyable week at Nice, visiting Mentone, Cannes, etc., not forgetting Monaco and Monte Carlo, where after five hours' continuous playing I was only 40s. "out," and this amount a woman had coolly picked off a number on which I had successfully staked. Sometimes I had been £8 or £9 in pocket.

Nice is a charming place, and larger than I had imagined. I was sorry I could only spend a week there, instead of my anticipated fortnight, owing to the delay at Rouen.

I was astonished at the small number of motor cycles I had met with so far. I had only seen about a

ever-pleasing background of the Maritime Alps, with their snow-capped summits.

On the occasion of a run to Cannes one day I had the front hub again dismantled, greased, and replaced. This actually took the man two hours, so I was agreeably surprised at the low charge—about eighteen pence. I had the footrest removed and the rod which threads through it straightened.

It was now a difficult matter to successfully pump my box. I had started with three spare Bosch Triumph plugs in neat little boxes, but the latter had been rattled to almost pulp. The spare belt and fastener were in very good condition.

On Friday, March 19th, I awoke with the idea of starting on the return journey, but it was raining, and kept on raining intermittently until Saturday night. On Sunday morning I arose with the sun shining brightly into my bedroom and a beautiful blue sky overhead, so I packed and labelled my luggage, and wrote a note to Thos. Cook and Sons to call and forward it to Harrogate by Grande Vitesse.

I started on the homeward journey with a grand spurt down the Promenade des Anglais. There were few people astir, and the road was broad. My trusty Triumph was to carry me thousands of miles back to Harrogate, and with no speed limits existing, can anyone wonder that I "let her out"? On gaining the main road I turned for one farewell look at Nice, and then headed for Marseilles. Passing through Cannes again, keeping to the waterside, I rode heavily over a sunk sewer grating in the roadway, which twisted one of the brake blocks into the spokes, fortunately without damage.

Outside Cannes I noticed some large timbered buildings in course of construction, with some tremendous lettering, of which I caught sight of the word "Avi-

ateur," or something similar, so I took it to be an aeroplane garage in the making. This set my thoughts wandering. Should I one day put up here on my Triumph 3½ aeroplane? I soon awoke from my reverie, as I came to a fork in the road, and it was so sudden that I nearly climbed a bit of 1 in 1 (the signpost in the centre). The turning to the right was the one leading to the Col de l'Esterel. Continuing doubling back on the road I had just traversed, I overtook and passed a car after much fun at the corner. I had got a nice lead, when, attempting to pick up after slowing for one of the hairpin bends, the engine began to tackle the rise in the "hammer and tong" fashion. Hastily retarding the ignition a couple of notches did not stop it, so I ran alongside for a few yards to give it a chance to pick up, which it soon did. I immediately hopped into the saddle again, and breastst the top without any further falter.

(To be continued.)

In the Surrey M.C.C. twelve hours' reliability trial F. A. McNab, riding a Trump-J.A.P. with Helles dry battery ignition, won the gold medal.



Public Gardens at Mentone. The snow-capped mountains make a lovely background.

dozen, and practically all of them were being ridden in towns or on the outskirts. Motosacoches were most in evidence; also a four-cylinder F.N. and two or three extremely neat twin-cylinders with electroplated tanks. I should have enjoyed a hill-climb immensely to compare the machines' capabilities.

The early part of the morning after breakfast was often spent in the open air flower and fruit markets—quite a rendezvous. Here the country people bring their produce and flowers to sell. The ladies predominate in their extravagant "creations"—white kid boots with red heels and beehive hats. (N.B.—This is chiefly for the benefit of lady readers.) The colours were varied, some of which I am sure could never be copied. The ladies, of course, looked charming with their arms full of sweet-scented carnations or the splendid roses and narcissi, which were then in full bloom, or with a maid "at heel," carrying the vegetables and probably some "outlandish" fish.

There always seemed to be something going on—horse races, battles of flowers, carnivals, and motor meets, all made the more beautiful by the dazzling sunshine, and the lovely surroundings, along with the

OCCASIONAL COMMENTS

BY "IXION"



Sydney Jones

An Innovation.

I hear a prominent firm of motor cycle manufacturers are thinking of offering their 1910 customers a novel extra in the shape of machines fitted with car sized of tyres. They made an experimental machine fitted with very large rims and tyres, and found that this plan doubled the comfort and made punctures an extremely rare occurrence. There was, of course, a slight loss in speed and climbing powers, but the makers' opinion is that, from a steady-going rider's point of view, the disadvantages are more than compensated for by the advantages. Some of my readers will remember that A. G. Reynolds used to run a $\frac{3}{4}$ h.p. Bat in reliability trials, to which he had fitted a 3 in. car cover on the rear wheel, and that he was very enthusiastic about it, although he had so little horse-power, and the machine scaled nearly 200 lbs. fancy, if the firm adhere to their intention, they will receive a good number of orders for the big tyre model during 1910, even though the cost will naturally be high. The only objection seems to be the increased liability to side-slip with large-sized tyres.

Semi-racers for Road Work.

My experience of the ultra-light T.T. or special racing models is that they are usually most uncomfortable, because weight is usually pared off in just those points which make for comfort. I am at present riding one of these racing or semi-racing models, and though I do not appreciably exceed average physical dimensions, it is a misery to attempt a long ride upon it, for neither frame, saddle position, nor handle-bars are suited to my measurements. It has rigid front forks, short rigid handle-bars, and a road-racing saddle. Further, its engine has such an excessively high compression that it is neither flexible on hills or in traffic, nor yet easy to start; it has simply to be pushed down the road to obtain an initial explosion, and as it has no pedals and the piston gums up very easily, I cannot warm the engine by running it on the stand. I fancy a few sporting amateurs are inclined to buy similar models in the hope of securing superior pace and hill-climbing, without understanding that they must sacrifice in return a good deal of comfort and convenience. These racing models are all very well for their special purposes, but the average rider will continue to be better suited by the standard roadster models of most makes.

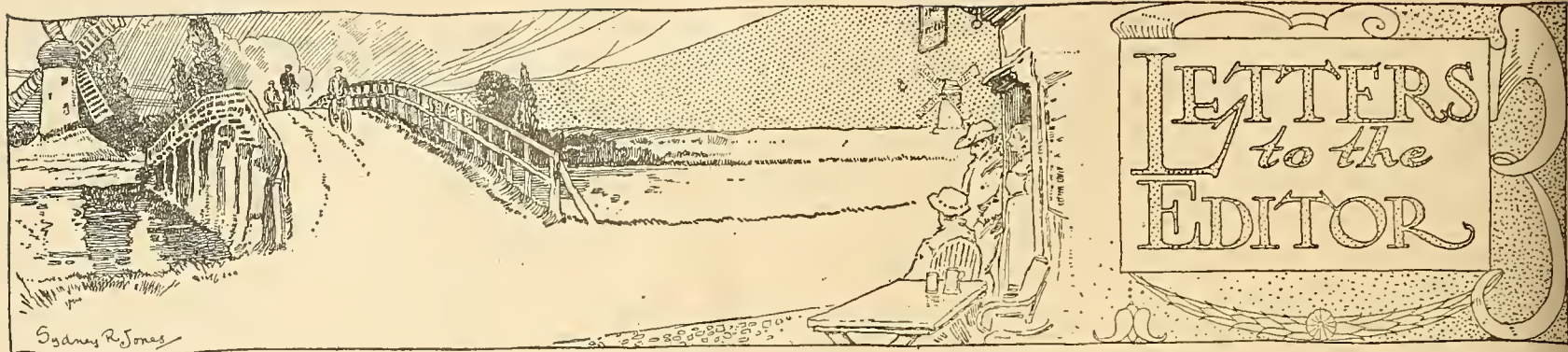
Hand-made Tyre Repairs.

I see a correspondent has fallen foul of Mr. Davies for recommending vulcanised tyre repairs, and if he meant that satisfactory hand repairs were not permanently satisfactory nowadays I think he is certainly wrong. But there is a very big "if" attached to this proposition, for they are abominably unsatisfactory unless they are thoroughly well done. A year or two back the best solution was not heatproof, and I don't care who applied a patch by hand, or what solution he used, it was certain to give trouble before very many miles had been covered. I think my personal record in the old days stood at about 500 miles before leaking.

Solution has improved out of all knowledge lately, both in rapidity and permanence of adhesion. I always use Patchquick patches, and I find these, when solutioned by hand with Patchquick solution, dry quickly, and stand up well. None the less I agree with Mr. Davies's advice in practice, especially for competition work. A hand-applied patch is all right if it is well and carefully affixed—the rock on which most failures split is applying the patch before the solution is dry enough, and I have often expressed my contempt of that popular word "tacky." But probably ninety out of every hundred amateurs are too careless or stupid to make safe hand repairs with certainty, and therefore a butt-ended tube is the immediate remedy for them, followed by a visit to a vulcaniser. Everyone ought to use detachable jointed tubes in competition, as changing is always quicker than patching. The very best patches are not perfect, because a sensible competition rider will see that he starts on new covers and tubes in any competition of length and importance. I may perhaps again remind riders that when tyre firms say the solution should be "tacky" before patches are applied, they mean that brightness should have disappeared and moisture should have evaporated.

The Tourist Trophy Race.

A reader has suggested to me that the huge entry secured for this year's Tourist Trophy Race has made the event much more open, because with so many competitors a good number of riders are sure to go round without any trouble, and so we may see a surprise—some comparatively unknown rider may cover the course without any loss of power or any stoppage and defeat all the cracks. This is exceedingly unlikely. To ride such a distance without trouble and without losing power is a task that demands expert tuning and expert nursing, and I fear on this account alone a vast proportion of the entry may already be written down as sportsmen who "also ran." But in previous events several riders have invariably finished without any trouble worth mentioning, and success really depends upon corner work. Beyond doubt it was Marshall's corner work which greatly helped to return him a winner last year. The course bristles with corners, and the man who can negotiate them without losing a possible second is the man who, other things being equal, will win. The only newcomer in whose favour I shall venture to make a reservation is Giuppone. None of our men can teach him anything at the racing game, whether in tuning or steering or nursing; and I have heard a very good account of the new 84 mm. x 86 mm. Peugeot engine. Of course some of our trade cracks are getting on in years, and as years increase a man necessarily parts with some of the reckless aplomb which leads him to take sporting risks fifty times in an afternoon. But Marshall, Collier, and Co. are as young-hearted as ever they were, and if some amateur in his teens does display a bit more daredevilry, I think superior experience will beat him. My tip is to keep an eye on the old stagers.



LETTERS to the EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Are Blinkers Necessary?

[4266.]—Will some of your readers who are horse owners and understand horses better than the writer, explain the reason for the use of blinkers? Is it not a fact that most horses would cease to shy as soon as they could see what was overtaking them on the road? Many drivers on being overtaken transmit their nervousness to the horse by suddenly tightening the reins, and then when the animal hears even a very quiet engine coming from behind he naturally becomes uneasy too. Could he but see the cause he might act differently than otherwise is the case. But let us have expert advice upon this subject.

HORSE SENSE.

Taxation by Horse-power.

[4267.]—I am glad to see that the question of the taxation of motor cycles by horse-power is again put forward. Now that cars are to be taxed according to power, because it is more equitable than the existing system, it is but fair to apply it to cycles as well. I am afraid it is not a matter that the majority of motor cyclists would be keen over, as medium-powered machines of $3\frac{1}{2}$ h.p. predominate. But I think all will agree that it is radically unfair for the $1\frac{1}{4}$ h.p. low-g geared lightweight to be taxed at the same rate as the most powerful machines on the road, and to graduate the tax is but a matter of simple justice. The trailer also is another subject of unjust taxation.

F. ROLPH.

Sunday Competitions.

[4268.]—In defence of Mr. Vowler's letter [4234], I would like to point out that this popular captain upholds Sunday competitions as he is anxious to see as large a gathering as possible, and in doing so I feel sure he is putting the interest of his club before his own personal feelings.

If the Western District hill-climb on Saturday, the 28th ult., was a record turn out, there would have been (given fine weather) an even greater record had it been held on the following day (Sunday), when those who could not attend on the Saturday would probably have been there.

Mr. Mullett appears to be writing on behalf of a favoured few, as it is not possible to get a day off for this event, and, indeed, impossible, in some cases, to arrive at Dashiwood Hill by four o'clock.

Mr. Vowler, in my opinion, was quite correct in his condemnation of armlets, for surely it is more harmful to race about on a week-day bearing armlets than quietly running without armlets on a Sunday. If Mr. Mullett favours competitions, as he says, in some cases, on a Sunday, why not always? There can be no conscientious objection about this.

Does Mr. Mullett really know of "several" members who object to Sunday competitions? If so, why not settle the matter as far as his club is concerned by having a ballot of every member's opinion?

EDWIN W. MACBAY.

[4269.]—Anent the controversy on Sunday competitions, it will perhaps be interesting to readers to know that the Harrogate and District M.C.C. has always endeavoured to run its competitions on week-days. However, some little time ago a certain section of the members stated to me that as Harrogate was a "season town" it was as much as their situations were worth to ask permission for Saturday afternoons off. Also it was very unfair to receive them as members and make no provision for them. The committee, therefore, instituted a few small evening competi-

tions, and these proved very successful, but it was found necessary to give these members something more than evening events, so a big all-day competition was organised for a Sunday.

This event proved, as far as enthusiasm and entries, the most successful the club has held, and what is more, every entrant was prepared to start directly his time was called. This naturally was highly pleasing to the committee, whose actions have been vindicated. This letter is written with the intention of showing that at least in this district such events are in request, and that the action of the A.C.U. in recommending that Sunday events be not held is not received with acclamation.

H. W. FORTUNE.

Hon. Sec. Harrogate and District M.C.C.

Lubrication.

[4270.]—The lubrication of motor cycle engines has been (and is) the subject of much controversy and discussion, and the ideas put forward from time to time to bring about a satisfactory solution have been numerous and varied, some showing cleverness and ingenuity.

If one could keep the oil in the crankcase at something like a steady level, I am convinced that it would tend more to the welfare of the engine and proper running than most riders are aware of. Such things as heavy deposits in cylinder and on piston caused by carbonised oil and dust from the road (which might be largely lessened by enclosing carburetter in a small tank or box, after the style of the old pattern Rex, 1906, I think) would be much less heard of.

Anything in the way of unnecessary complication, such as pumps and pipe systems, as described in *The Motor Cycle*, December 16th, 1908, which, in winter with temperature below 30° , would have a resistance to air-cooled oil something like the secondary winding of an induction coil, these things are not called for, and would be very undesirable.

Why not be able to actually see the oil level at any particular time. It has always seemed the simplest and most reliable way to me, to fit at base of crankcase, a sight glass, something like a petrol gauge. It could be fairly large in diameter, with cock top and bottom if required, so that a petrol squirt would remove any discolour immediately, and placed near a metal surface it would keep warm, and oil would not thicken in cold weather; it could also be protected from breakage.

The present system, hit or miss sort of thing, is very inadequate, and the above simple remedy, with oil level marked plainly on the gauge by the manufacturer in the first place, could be very easily kept constant (approximately) by the inexperienced rider. One would soon notice the number of miles that could be covered without replenishing, and an occasional glance would be sufficient to keep engine perfectly lubricated.

Oil a little under or over the mark would be of little consequence, as I would venture to say that any number of engines are running with the oil at anything from 1in. in depth (or less) to the other extreme. Personally, I took down a twin engine and found the oil was almost level with the main shaft.

As things are at present, even the most experienced rider is more or less in doubt about lubricating with road and gradient constantly changing. Perhaps we shall see something of the sort in the 1910 models.

FRANK JAMIESON.

Two-stroke Engines.

271.]—I see that the difficulty of crankcase explosions the Scott engine may be overcome to a certain extent, I should think the gauzes would need fairly frequent cleaning if the piston gets sufficient oil. My second argument may be time-worn, but I think it is perfectly obvious that the displaced type of motor will get more mixture in the working cylinder than the other types, and when the mixture is once in it is less likely to escape, thanks to the seal of the top of the cylinder head.

At high speeds the larger exhaust area and the position of the sparking plug in a pocket of mixture, free from exhaust gases, should show up the displaced motor to advantage. I do not see why my experience with the Scott motor should be of any particular interest to anyone, except those of the Scott Co. Anyhow, I have not had a chance to try yet, as there are none in our neighbourhood.

H. E. RENDALL.

The End-to-end Record.

272.]—Referring to letter No. 4255 by "Own Bat," appearing in last week's issue, I would like to mention that my End-to-end sidecar ride (since beaten by the Messrs. Bentley) the only assistance I received was from Mr. Alexander, of Edinburgh. He mended a puncture for me, very ably piloted me, mostly in the dark, over the tricky roads from Dunblane to Lanark. The feeding and sleeping arrangements which had been made by letter were of no use, owing to my not keeping to my schedule.

With regard to "Own Bat's" belittling of Mr. Hart Davies's record, I am sure that all motor cyclists who have experience of fast long-distance riding will agree with me that the keeping up of such an average speed over nine hundred miles of by no means good roads was a fine feat of endurance by both Mr. Hart Davies and his machine. There is to have been plenty of helpers in readiness, but I imagine they were not required to any extent, otherwise the ride would have been longer.

VIVIAN OLSSON.

S.S.—I hope next year someone will have a go at Mr. Hart Davies's record with a good twin-cylinder machine.

273.]—I read a letter in *The Motor Cycle* last week headed by "Own Bat," which I should like to answer. It refers to a performance which I, for one, consider one of the finest ever put up on a motor cycle. I refer to Mr. Hart Davies's End-to-end record.

Firstly, dealing with his remarks about the machine. For an engine of this sort you must leave nothing to chance, and it is only natural for the rider to choose as up-to-date a machine as possible; this, not because the old one will not do the job, but because the newer one naturally is more fitted for the task. Anybody with any knowledge of this record at all must appreciate this.

Then as regards the arrangements. This run is not a pleasure tour by any means. I look at it as one of the most arduous tests of man and machine possible. Let "Own Bat" do it himself before he sees fit to rather minimise the performance of one who has done so well as Mr. Hart Davies. He talks wildly and foolishly about a high-powered car to follow the record breaker, small tent garages, flagmen, and such further twaddle, all too utterly foolish, and displaying such an entire ignorance of this particular record as to be unworthy of comment.

If "Own Bat" would like to put up a record on his own without assistance, let him do so, but of what service is this as a test of the motor cycle he rides I am at a loss to know.

Firstly, the road is exceedingly difficult to find, and he would lose hours in this way. Also I should like to ask him how he would obtain petrol and oil at night? It is not a one man job at all.

Also why should the rider not have friends to follow him if they are good enough sportsmen to do so? And there are men who will do this, and a better sporting action than this I find it hard to imagine.

As regards hiring Brooklands, this is not possible. Had it been possible I should have done so before now myself. No, honour to whom honour is due, and as one who has been over this course more than once I should like to again congratulate Mr. Hart Davies on a really excellent performance.

I neither appreciate a man who has not the courage to sign his own name to a letter of this sort, nor do I like a man to endeavour to belittle another man's genuine effort.

ARTHUR W. BENTLEY.

Hill Climbing.

[4274.]—In answer to Mr. Nanson's letter [No. 4245], on June 16th last, Mr. Oakey and myself climbed to the top of the pass mentioned, both mounted on 5 h.p. Vincennes with two-speed gears.

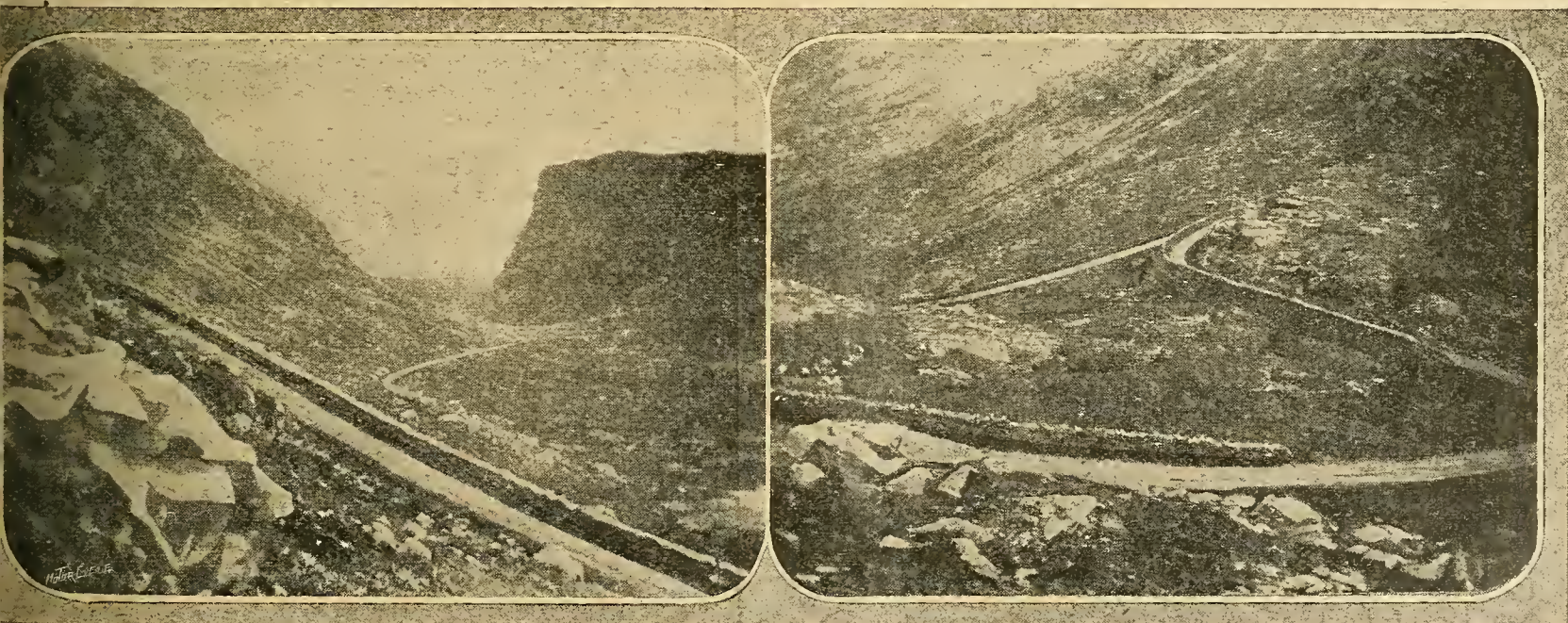
By the way, it would be interesting to know if Mr. Nanson got up without a stop.

Can anyone claim an ascent of the Honister Pass from the Buttermere side without pushing? Mr. Oakey and I got over about three weeks ago with full kit of luggage and overalls, etc., but had to run by the machines in places. This is far the worst hill I have ever tackled.

I have climbed nearly all the bad hills in the country, and among the worst in order of merit I should place: Honister Pass, Lynwood (between Beggar's Roost and Lynton, starting from Cottage Inn), Amulree (Kenmore side), Cock Bridge to Tomintoul, Porlock, Beggar's Roost, Bealloch-nam-bo-Diabaig, Lynton (summit), Lynmouth, Dinas Mawddwy, Bala, etc.

Any stout non-skid tyre is quite satisfactory on rough mountain roads.

M. E. D. DICKSON.



Views of Bealloch-nam-bo-Diabaig (the Pass of the Cattle), Scotland, referred to in letter No. 4245 on the 8th inst., and also letter No. 4274 which appears above.

Surface Evaporation.

[4275.]—Replying to letters 4250 and 4259, it may interest readers to know that I have been driving a 1904 $3\frac{1}{2}$ h.p. Rex with surface carburetter for over four years, and had at first the same trouble with the regulation of the supply of petrol. This I overcame perfectly by fitting a small indicating finger on the top of the needle valve, which enabled me to regulate the supply of petrol in a similar manner to that employed in gas-lamp generators. I always drive with the extra air opening on the top of the tank quite closed, and if a rich mixture is required for a hill a quarter turn of the needle valve is enough. I never have an excess of petrol in the carburetter, but am always getting fresh, which is instantly vaporised as it drips, and is carried into the cylinder. I can also use a heavier spirit with this method, whereas with my previous $2\frac{3}{4}$ h.p. Rex nothing would do but Carless petrol.

I quite agree with "Cygnus" that the present day carburetter is not worth the price asked for it, and often wish my $4\frac{1}{2}$ h.p. tricar was fitted with a

SURFACE CARBURETTER.

Motor Cycle Design.

[4276.]—"Nearly every other motor bicycle one meets is a copy of the Triumph." So runs letter No. 4243. Upon what grounds does the writer base this assertion? Admitting that one or two firms with a limited output have more or less copied the Triumph, I should like to know in what respects the following makes resemble it. Take the Rex with its sensible riding position, Roc with live axle, etc., Bat, V.S., F.N., Zenith, N.S.U., Indian, Minerva, P. and M., Humber, and the lightweights. Is there any resemblance? Not a bit. But stay, they are all fitted with wheels, also an engine; most machines run better with this last minor fitting. But did the Triumph Co. bring out these items? I don't wish to attempt to belittle an excellent machine, but I certainly think it absurd to say that "nearly every other motor bicycle one meets is a copy of the Triumph." With regard to magneto position, I have yet to learn that the Triumph Co. were responsible for fitting the first magneto in front of the crankcase. A friend of mine had a $2\frac{3}{4}$ h.p. De Dion so fitted in 1904, and I personally rode a De Dion tricycle with magneto fitted in almost the same position in 1903. In the latter case the magneto was low tension with reciprocating armature. But then the real pioneers of magneto ignition were most certainly the Singer Co. and Wait, of Leicester, makers of the Clyde machines. These firms were regularly fitting magneto ignition before the Triumph Co. made motor bicycles.

If the usual magneto position worries "J.N. 375," why does he use a machine so fitted? There are heaps to choose from with the magneto in a different position. Douglas, P. and M., Chater Lea, Roc, N.S.U. (twins), Bat, etc. Where does the copying come in? No, no, "J.N. 375," don't look upon all manufacturers as sleepy idiots who require a Blériot to wake them, but give them credit for the improvements they have introduced, and which are not copied.

HUBERT J. M. HUGHES.

Continental Touring.

[4277.]—With regard to the article in *The Motor Cycle* on Continental touring, my experiences in taking a motor bicycle to France this summer might perhaps interest some intending tourists. In view of a trip abroad I became a member of the Motor Union and also the Touring Club de France (7s. 6d.). From enquiries I went prepared to expend anything between £2 and £3 on landing in France for licence to drive, registration, number plates, etc. My actual bicycle expenses were: Ireland to Southampton (bicycle in crate), 11s.; Southampton to Le Havre, 5s. At Le Havre I met with every consideration and civility. While I was getting my heavy luggage through the *douane* and taking it to the station to forward by rail the foreman of the company (a most obliging official) landed my bicycle, uncased it, and stored the crate; charge, *nil*. I then presented my Customs ticket (obtained through the M.U. without charge or deposit as the motor was only a bicycle), and obtained a *permis de circulation*, price 6d. I was then interviewed by a motor vehicle official, who examined my Customs ticket and *permis de circulation*, and asked me how long I would be in France. Conversation with him elicited the fact that payments for licence to drive, etc.,

though legally chargeable, were not enforced (as a matter of courtesy, I presume) on visitors for short periods. Wh I mentioned six weeks as my probable stay he seemed doubtful as to whether the licence duties should be enforced or not, but I looked so guileless that I was permitted to proceed without further payments *et me voilà en route*.

On one occasion only during my tour was I asked for a licence. I had left my bicycle in the open garage at M. St. Michel for about three hours while I was seeing sights, and on my coming out again I noticed two gentlemen taking a great interest in my motor. When I went forward they accosted me rather sharply, asking where my *plaque* (licence plate) was. I explained as best I could showing my *permis*, Customs ticket, and English licence and they became quite affable, and even servile.

During my stay in France I motored at least 2,000 miles chiefly in the districts west of the Seine and north of the Loire. If I can give further information to any motor cyclist I shall be happy to do so.

IA 50

SUMMARY OF CORRESPONDENCE.

Will the enquirer who wrote to Bowden's Patents Synchro-Cate, Ltd., from "Gordon Street, Workington," forward name and full address to the above firm at 29, Baldwins Gardens, Gray's Inn Road, E.C., to enable his enquiry to be answered? His letter of the 14th inst. was unsigned, and gave no number in Gordon Street.

Mr. J. Robertson-Brown gives the following brief particulars of a tour which he thinks is likely to interest readers. "The machine was a 5-6 h.p. four-cylinder F.N., with pedals, fitted with a rigid sidecar. Two 12 st. passenger seats, spare two gallon can of petrol, one quart lubricating oil, and a respectable sized bag of luggage was the load carried. The first day we rode from London to Bettws-y-Coed—100 miles. We made this a centre for a week, camping out, and from there visited all the surrounding country as far as Llandudno, Bangor, Carnarvon, Festiniog, Beddgelert, Penrhyn, etc. We then shifted our quarters to Llandudno for a few days, and while there climbed the Great Orme Head by the road that passes St. Tudno's Church. Leaving Llandudno we made for Harlech, Barmouth, Dolgelly, Aberdovey, Machynlleth, Aberystwyth, and Rhayader, where our tour ended. We covered about 700 miles, averaging seventy miles per gallon of petrol, and used one and a quarter quarts of Price's water-cooled lubricating oil. The plugs were not even cleaned, and the consistent running of the engine with such a load was most astonishing. We had no difficulty whatever in surmounting every hill."

Mr. W. Edwards writes: "My brother and I recently returned from a 1,000 miles tour through England and Wales, and as our combined troubles throughout the tour were two punctures and two sooted plugs, we should like to express our approval of the excellence of our machine. Both mounts were 1909 L.M.C.'s fitted with Lloyd's Automatic pulleys, automatically reducing from $4\frac{1}{2}$ to 1 to $6\frac{1}{2}$ t.p.h. and the manner in which they adapted themselves to various gradients was most gratifying. My brother's weight with luggage was 11 sts. 12 lbs. He averaged 110 m.p.h. to the gallon, and, with the exception of shortening the chain twice, did not make a single adjustment of any description. I weighed with luggage 14 sts. 10 lbs., and averaged 100 m.p.h. to the gallon."

EXPERIENCES WANTED.

"Nemo" would be glad if the owner of the machine bearing the registration P1BK would say whether it has a speed gear only, a free engine, or both.

"T. E. W." would like readers' experiences with motor driven tandem tricycles with double driving rear axles and single steering wheels.

[A number of interesting letters are held over, and will be published as space permits.—Ed.]

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

IMPROVEMENTS IN DETAIL.

By "ROTATOR."



ONE hears so many expressions of good opinion of the leading makes of motor cycles that I fancy fair criticism of one of our best makes will be an interesting change, and very likely helpful to designers of motor bicycles in general. I had better preface my remarks by stating that I rode motor cycles before the 1903 Motor came into force, and have covered 11,000 or 12,000 miles on Triumph 1906-7-8-9 patterns. I may add that I was induced to buy the first of this make by the most comfortable riding position enabled by the footrests, long handle-bars, and very low frame. My 1909 model has undoubtedly given me the most satisfaction—probably because of the extra pleasure derived from the use of the hub plate clutch—but in a few details the machine fails to come up to my ideal. Whilst realising that riders' personal tastes differ considerably, I know I shall not be alone in wishing that the Triumph for 1910 possesses some or some of the following alterations in detail.

Some Suggested Improvements.

The oil pump, it must be admitted, is not fitted in the most convenient position. A novice told me the other day that he had to slow down to a crawl before he dared attempt to inject a charge of oil owing to the position of the pump. Now, so far as I can see, there is nothing to prevent either the pump being placed nearer to the saddle so that a vertical push is obtained, or, better still, to incline the pump towards the rider. An oil gauge would also be a blessing. Several times this year I have stopped for petrol, and the garage has not possessed a funnel with a small enough spout to fit the tank filler. There is plenty of room for a filler twice the size. Further, the flanged edge of the cap cannot be tightly gripped with a gloved hand or on a very cold day. Why not shape the top of the cap like the stoppers fitted to chemists' glass phials?

The handle-bars are very graceful, but they would be improved, in my opinion, if the handles were tapered still more at the ends, so that the rider's hands assumed a more natural position. And I fancy that larger grips would often be appreciated, especially if made of soft comfortable material. One's coat sleeves have a nasty habit of catching in the inverted lever mechanism. I have made several nasty swerves owing to this. The brake and exhaust levers themselves might also be rounded off more to ease the strain on the fingers.

Handle-bar Lever for the Magneto.

I am one of those who would like to see the magneto advance controlled by a lever on the handle-bars, say the left one. It is usually most necessary to slightly retard the ignition at an awkward moment on a rough road or corner, when one cannot very well remove a hand from the bars.

It would also be a splendid idea to fit the rear brake independent of the footrest. Three times in three

years I have side-slipped, and in each case I have bent the footrest and put the best brake out of action.

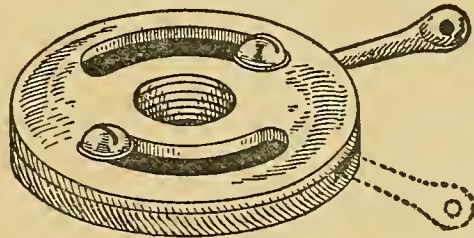
The adjustable pulley is a most useful article, but it would be so much handier if it could be altered without opening the toolbag and disfiguring the pulley spanner by hammering the end of it with the wrench.

The stand fastening is also open to improvement. Unless a spanner be used, the stand frequently shakes loose on a bumpy road. I much prefer a kick operated stand, like the Lake and Elliot; it saves soiling the fingers or gloves on a muddy day.

To open the cut-out, one has to soil and spoil after a time a pair of brown boots. A double lever, one to open and one to close the cut-out, is wanted.

Adjustable Main Air Intake.

With reference to the carburetter, I think it is generally known that a carburetter when adjusted perfectly for slow speeds is imperfect for high speeds, and *vice versa*. I have fitted an adjustable main air intake—somewhat crude—to my machine, with excellent results. I can now get the utmost out of my engine, and easy starting is not impaired when the air levers are closed. A similar arrangement carried out in the Triumph Co.'s excellent style to replace the air



An adjustable main air inlet, recommended by "Rotator," which would improve many existing carburettors. For easy starting and slow running, the air supply is partly cut off, thus enriching the quality of the mixture drawn into the cylinder.

adapter at the base of the carburetter would, I am sure, be welcomed, and render starting much easier.

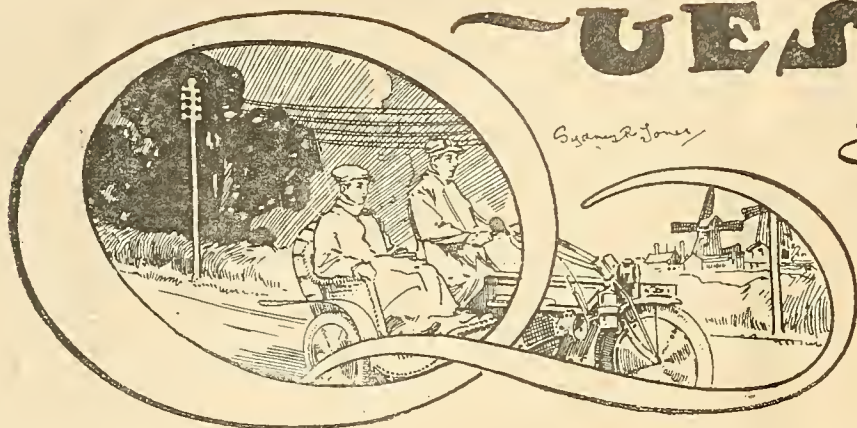
Since all motor cycles have to be fitted with a horn and lamp, why should not these be included in the standard specification—of course at an extra charge? Some riders want something different, but it would at any rate put an end to the numerous complaints regarding the attachment of these articles and lamp brackets breaking, as a proper lug could be permanently attached to the bar on which to fix the horn in a rigid manner, and lamp and generator would be also attached to brackets purposely made to suit them.

As regards finish, black enamel and plated parts look very nice on a show stand, but after five miles on the road there is little of the glitter to be seen. French grey enamel is better, but is said to chip badly.

Belt fasteners have caused me some delay and worry, and there is room for improvement, principally in material and size of wearing surface.

My riding experience this year has taught me that (1) the weight of the average touring machine is still a hindrance to beginners; (2) tyres which wear out in a thousand miles are still fitted as standard; (3) high compression engines require the piston and cylinder scraping very frequently to prevent knocking and overheating; (4) exhaust valve troubles have still to be conquered; (5) a clutch or two-speed gear (or both) are essential for machines exceeding 140 lbs. weight; and (6) with the increasing speed of motor bicycles vibration on rough roads is more pronounced, and spring frames are badly needed.

QUESTIONS AND REPLIES



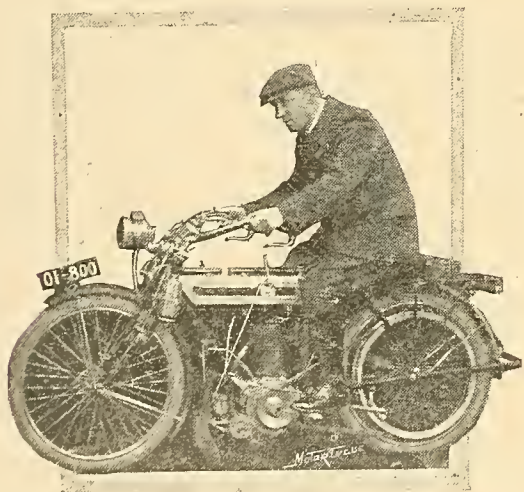
Fitting a Speedometer.

?

I intend fitting a speed indicator to my twin Rex. As I sometimes use a forecar, would it be advisable to fix flexible shaft to the back instead of the front wheel to save changing the position of the speedometer when the forecar is used?—F. J., Glasgow.

We do not see why a speed indicator should not operate just as well when driven by the back as the front wheel, except that some slipping takes place at the back wheel, and therefore the indication of speed would not be quite so accurate. A longer flexible shaft would be required to allow the indicator dial to be attached to the handlebar.

ENTRANTS FOR THE T.T. RACE.



Jas. Stewart (Belfast), 3½ h.p. Triumph, 85×88 mm., Bosch magneto.

Weights of Machines.

?

How is it that the weights of some lightweight machines in "The Motor Cycle" Buyers' Guide are so much less than the official weights given when the same machines are entered for open competitions, consumption and reliability trials?—INQUISITIVE.

The weights of the machines in the Buyers' Guide are supplied by the manufacturers, and you will find there is a footnote to the effect that they are approximate. In consumption and similar tests the weight of the machine is taken loaded with petrol, oil, and sometimes spares, lamp, horn, and luggage, whereas when weighed for the Buyers' Guide the tanks are empty, and spares and often tools and toolbags are not included.

Taking a Motor Cycle to South Africa.

?

I am going to South Africa in October, and I should esteem it a great favour if you could furnish replies to following queries: (1.) What would be about the cost of taking a motor cycle to Cape Town and on to Pretoria? (2.) Is there any customs duty to pay on same on arrival? (3.) Are roads around Pretoria fairly good for the pastime?—COLONIAL.

(1.) The information you want can best be obtained from a firm of shippers. Try Neall and Wilkinson, St. Mary Axe, E.C. (2.) There is a five per cent. *ad valorem* duty on cars entering the Cape Colony, Natal, Orange River Colony, Transvaal, and Southern Rhodesia. A rebate of one-fourth is allowed on cars of British manufacture if a certificate to this effect is produced. We expect the duty and rebate on motor cycles will be the same. (3.) As motor cycling is indulged in around Pretoria, the roads must be fairly good.

Overheating and the Effect of Weak Valve Springs.

Q

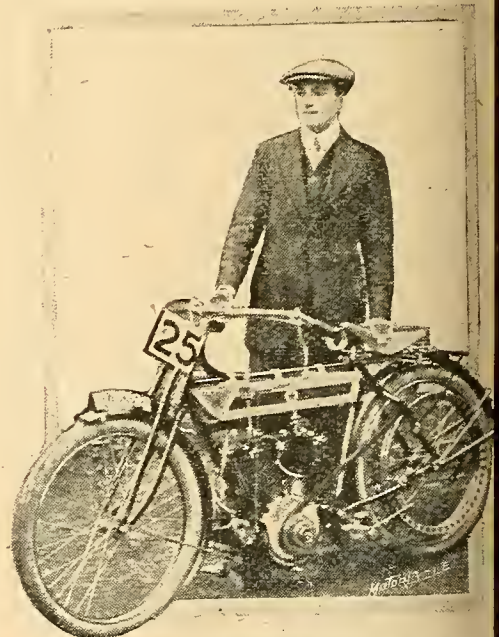
I am the possessor of a 3½ h.p. motor cycle (early 1908) which I acquired four months ago second-hand, the machine having run then about 800 miles, and 500 since I bought it. It overheats, especially on hills, and it is most apparent when I have newly ground in the exhaust valve. I lubricate every ten miles, though I don't think it is due to burnt oil on cylinder head, because I had it done up after purchasing, and the overheating was just the same then as now. What effect does a weak exhaust valve spring have on the running of an engine? Is it necessary for the exhaust valve to be bigger than inlet valve, for I notice more than one firm fits interchangeable valves. What is the correct angle for belt pulleys? The pulleys on my machine appear to be worn.—T. W. S.

The effect of a weak exhaust valve spring is that it makes the valve close late, and the engine consequently loses power and sometimes overheats. It is not necessary for the exhaust valve to be bigger than the inlet valve. Both valves on modern machines are interchangeable. The overheating may be due to too rich a mixture. Have you tried fitting a larger choke tube and a perfectly fitting throttle? The correct section for a belt pulley is 28°.

Handle Starting.

?

My Phoenix Trimo has recently taken a turn of being very difficult to start. I think it is a fault of carburation, the carburetter, even with all the extra air shut off, getting too much air. The spark is all right. Once the machine starts the engine fires and runs well. Shall I fit a smaller choke tube or increase the jet, or plug up one of the air holes below the jet? The Nala gear which I have gets very hot after a few miles running, even in high gear. Can you say why this should be? It is well lubricated. Is it due to the clutch slipping, and, so, how am I to remedy it?—B.S.



A. J. Sproston (Tunbridge Wells), 5 h.p. Twin Rex, 76×80 mm., Bosch magneto, Continental tyres.

As the engine is hand started from counter-shaft and you do not obtain very rapid revolution on this account we should advise you to fit a slide at the bottom of the carburetter, which was recently mentioned in the pages and is fully described in "Motor Cycles and How to Manage Them." The slide covers a more or less number of the air holes, and enables engine to be started with facility. We can say if the gear gets hot owing to clutch slipping, but you ought to be able to tell this for yourself, as the engine will race on a hill instead of slowing down as speed of machine falls off. If gear gets very hot it is due to too much internal friction, and can only be remedied by taking it to pieces and finding the fault.



The "INDIAN" Motorcycle is manufactured in Springfield, New England, recognised by mechanics as being the chief centre in the world for the production of the finest machine tools, large and small.

The President of the Hendee Manufacturing Company, Mr. Geo. M. Hendee, is well-known by all the old high-wheel riders as one of the early Champions, both in this country and America, and he has been associated with the cycle and motorcycle industry since its earliest inception. Realising the possibilities of the motorcycle, Mr. Hendee began, in 1902, to produce the "INDIAN" Motorcycle, in conjunction with Mr. Oscar Hedstrom, one of the pioneer designers of motorcycles in America. The result was immediate and far-reaching, for the behaviour of the "INDIAN" under every condition was so satisfactory that it at once distinguished itself from all other motorcycles before the public, its superiority in appearance, power, and reliability making it a favourite everywhere. The reputation thus early established has been scrupulously maintained, and each succeeding year has seen added refinements and improvements to meet the requirements suggested by the ripened experience of builder and rider; the standard of quality, too, has been steadily advanced wherever an opportunity offered, no expense being spared to make the "INDIAN" the most efficient and up-to-date motorcycle procurable.

The "INDIAN" is built in the largest factory in the world devoted exclusively to the manufacture of motorcycles, having an output of upwards of 5,000 machines per annum, which, during the season of 1910, will be increased to 7,000.

What the "INDIAN" has done.—In America during the past eight years the "INDIAN" has won more competitions than any other machine in the world, and now holds all World's Records from $\frac{1}{4}$ mile to 100 miles, as well as the World's Hour Record in competition. Not only has it excelled on the track, but in long-distance reliability trials the "INDIAN" has always proved that it is sturdy and reliable under the most severe conditions.

Before attempting to introduce the "INDIAN" into England, it has been deemed best to first demonstrate its capabilities before the English public, although in the 1907 and 1908 Six Days' Trials of the A.C.U. the "INDIAN," ridden by Mr. Hastings, won Two Gold Medals for Reliability and the Special Prize for Best Appearance at conclusion of the Trial. It is now history that the two "INDIAN" motorcycles which have been in constant use, both in track and road competitions, have secured more awards this season than any other two individual machines of other makes, although almost invariably having competed against machines of much larger cylinder capacity.

We have pleasure in announcing that our London Depot will be opened at 184, Great Portland Street, W., on Monday, OCTOBER 4th, where a full line of the 1910 models will be on exhibition.

HENDEE MANUFACTURING COMPANY.

W. H. WELLS, London Manager.

At the Journey's end

there is no item of Touring Equipment which will be more keenly appreciated than the

BROOKS CARRIER BAG.

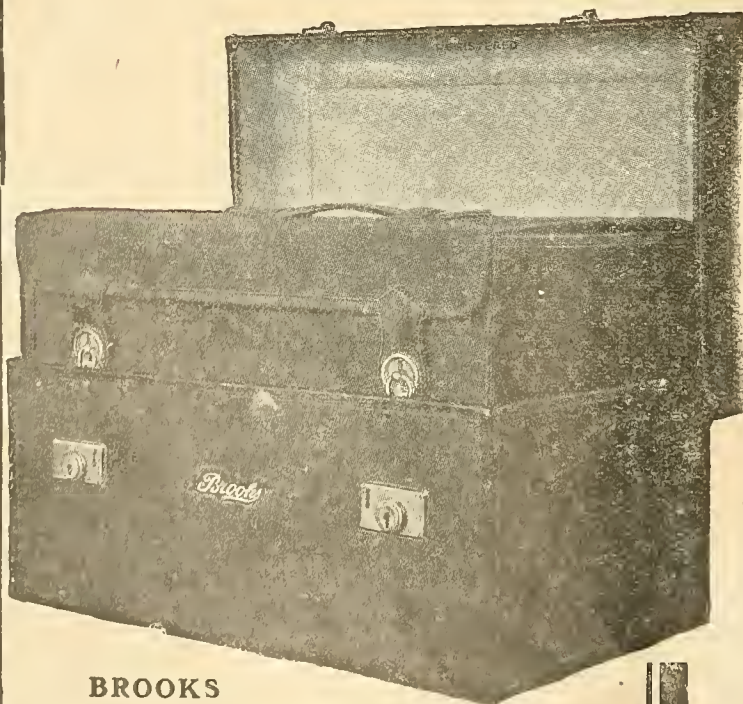
This has been designed for general all-round service—it is made of the finest waterproof canvas on special fibre board—is roomy, strong and light, and fitted with a special dust-excluding arrangement.

A unique feature is the removable inside case which, "at the journey's end," can be lifted from its outer covering with the absolute certainty that both the Bag, and its contents, are perfectly clean and dustless.

It is attached to the Carrier by means of adjustable and detachable clips, and to the rider who studies comfort and convenience, it will prove of the greatest value.

Write us now for particulars. Dept. B45.

**J. B. BROOKS & Co., Ltd.,
BIRMINGHAM.**



BROOKS

Motor Cycle Carrier Bag
with removable inside case.

27/6.



BROOKS — BEST.

No other saddle is made to that high standard of quality in material and workmanship which, for a quarter of a century, has characterised the productions that bear the name of BROOKS.

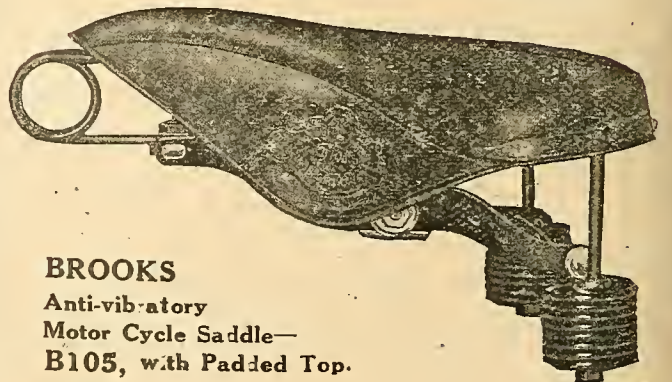
No other saddle will yield that perfect comfort which alone will enable the auto-cyclist to undertake the longest rides without fatigue.

No other saddle embodies in its construction the **BROOKS Anti-vibratory Compensating Springs**, which, in conjunction with the specially designed padded top, produce that comfort.

In short—**BROOKS — BEST**—and if you would have the best, you should first write to us for Saddle Manual, which is bound to interest you, and say **BROOKS** when you specify the saddle on your next new bicycle.

Dept. B.45.

**J. B. BROOKS & Co.
Ltd., Birmingham.**



BROOKS

Anti-vibratory
Motor Cycle Saddle—
B105, with Padded Top.





Butler (Manchester), 5 h.p. Dot-Peugeot, 75 mm., Amac carburetter, magneto ignition.

Valve Grinding.

I should take it as a favour if you could enlighten me on the following point. When grinding in exhaust valve, rings appear all round seating and valve head. I use flour emery, and am careful to lift valve often when grinding. I have used both screwdriver and brace, but the one is better than the other. I have tried using crocus, but it seems to have no cutting power.—C. W.

What we should advise you to use is valve grinding powder for grinding in valves, which may be obtained from Messrs. Richford and Co., 52, High Holborn, W.C. It is a good plan to insert an old automatic inlet valve spring under the valve head; then the valve will lift as soon as the pressure is relaxed. There should be no rings with careful manipulation and a liberal use of thin or thin oil. Perhaps it would best pay you to get a mechanic to show you how to effect this properly.

Charging from Primary Batteries.

Will you be good enough to inform me what are the correct proportions to use of chromic acid, sulphuric acid, and water respectively, to obtain the best results from a Fuller primary battery?—K. C., Teddington.

Makers of the Fuller mercury-omate charging battery inform us the correct proportion of acid is as follows: One part strong commercial sulphuric acid (oil of vitriol) to two parts of water in a separate vessel, stir carefully all the time. Add three pints of this solution will be required for each cell (the specific gravity when made up will be 1.180). We do not recommend the use of chromic acid for their cells, but supply omate paste in 3 lbs. and 4 lbs. Their address is J. C. Fuller & Sons, Wick Lane, Bow, E.

Magneto Switches.

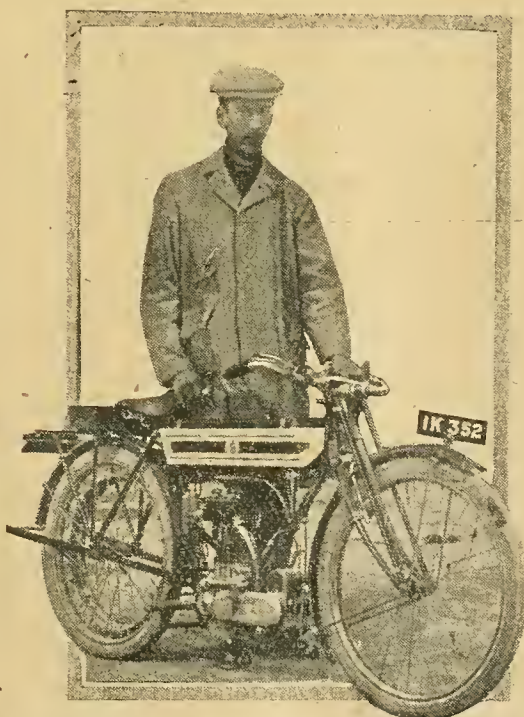
Does a switch do any harm when fitted to a magneto if it is only used for a moment or two at a time? I propose fitting a switch, in which case do I connect insulating wire to the screw (Bosch) just over the contact breaker immediately over the spring holding "cover"? Should high or low tension wire be used?—C. F. J., Crouch End.

A switch fitted to your magneto will do no harm whatever; in fact, the Bosch magneto is provided with a screw terminal for attaching the switch wire. The connections mentioned in your letter are correct. Low-tension wire should be used, and make sure that the switch terminal is perfectly insulated from the metal of the handlebar when in "off" position.

Speed and Economy.

I am told by a motor cyclist that the wear and tear on a motor cycle engine are greater in proportion at low speeds, say eight miles per hour, than at higher speeds, say twenty-five miles per hour, for the reason that the engine is designed to work at a high speed, and, consequently, does not work economically at low speeds. I did not agree with him, and decided to ask your opinion on the subject.—TECHNICAL, Gosport.

We are of the opinion that your informant is correct. A motor cycle running at eight miles an hour might be economical on the level, but up hill with a fixed gear ratio, if it had to be kept down to that speed, it would certainly be most uneconomical. Taking everything into consideration, you would find an engine speed of about 1,500 to 1,800 r.p.m. would be the most economical. Every petrol engine gives the best results when the speed can be kept constant by varying the gear ratio. Every make of engine also has a critical speed at which the best and most economical results are obtained.



C. B. Franklin (Dublin), 3½ h.p. Triumph, 85×88 mm., magneto, Dunlop tyres



J. C. Smyth (Coventry), 3½ h.p. Rex, 84×89 mm., Bosch magneto, Dunlop tyres.

Belt Dressing. Driving. Consumption.

(1.) Please instruct as to method of keeping Whittle belt in order, nature of dressing, etc.? (2.) I drive my Triumph motor cycle with the spark right forward almost the whole time I am riding, and adjust pace by throttle, giving as much air as it will take. Is this right? (3.) What is a fair average petrol consumption in fairly level country but on poor roads?—T. PATRICK, Limerick.

(1.) Beyond the ordinary application of Collan or castor oil to the leather we do not think there is any special method employed for keeping the Whittle belt in order, but the makers, T. Whittle and Sons, Rose and Crown Street, Warrington, would tell you of anything special. (2.) Your method of driving the Triumph is quite correct except that on hills the moment engine shows the slightest sign of knocking the additional air lever should be gradually closed. (3.) An average consumption would be eighty to ninety miles to a gallon. A good light rider would average 100 miles on the same amount with a standard sized jet. A consumption equivalent to 220 miles to the gallon is supposed to be record, but this performance was attained with the aid of special carburetter adjustments unsuitable for ordinary riding, and at a speed of about sixteen to seventeen miles an hour.

READERS' REPLIES.

Belt Fasteners Pulling Through.

If "H 3226" will fit a new pattern D-All fastener which has indentations on the inner sides of V links, he will have no further trouble. The pull is taken by the V links, not by the pins as in most cases.—JAMES ALLAN FORREST.

Will "W. J. S.," Leicester, send his full name and postal address, also a stamped envelope for a reply to his query, in accordance with the regulations printed at the head of the preceding page?

CURRENT CHAT

Time to Light Lamps

SPECIAL FEATURES

T.T. RACE: LATEST DETAILS.
PISTON SPEED AND EFFICIENCY.
IMPROVEMENTS IN DETAIL.
HARROGATE TO THE RIVIERA.

Sep. 22..7.0 p.m.

,, 25..6.52 ,,

,, 29..6.42 ,,

Next Week's Issue.

Next week's issue will contain a detailed description, with numerous illustrations, of to-morrow's great race for the Tourist Trophy.

Military Motor Cycling.

A military correspondent complains of a muddle in connection with the employment of motor cyclists at the military manœuvres. On July 10th his adjutant handed him a notice calling for officers, N.C.O.'s, and privates who own motor cycles to send in their

the Associate Members' rooms at the R.A.C., the A.C.U. has no recognised clubrooms of its own, so that the Wheel Club is the only social club in London for motor cyclists. The subscription for town members (residing within a radius of one mile) is £1 1s., country members 10s. 6d. Entrance fee £1. That the new club has the good wishes of the Auto Cycle Union is apparent from the fact that the secretary, F. Straight, has been elected a member of the committee. Application forms for membership and further particulars can be obtained from the secretary, F. G. Billett, 65a, Cannon Street, E.C.

Seventy-two Miles in One Hour.

On the 6th inst., at the new Stadium track, Springfield, U.S.A., the Hendee Mfg. Co. advise us that "F. Huyck rode 71 miles 1835 yards in one hour on a 7 h.p. Indian motor cycle."

The End-to-end Sidecar Record.

Two motor cyclists started from John-o'-Groat's one day last week to improve on the sidecar figures put up by the brothers Bentley. Owing to a mishap they were compelled to return to London, but contemplate another attack before the end of this week.

A Manx Paradox.

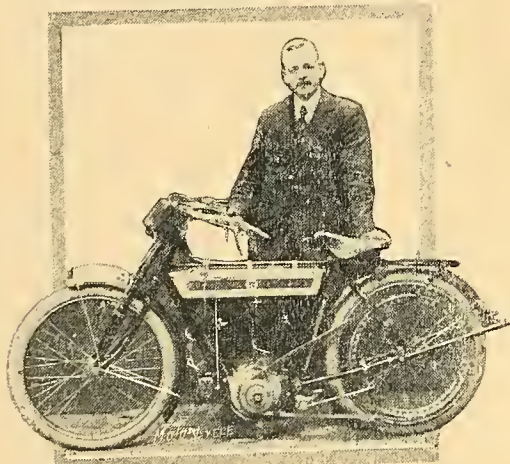
The merest beginner in the study of anthropology knows that man is a biped and a calf is a quadruped. What, then, is the Isle of Man? From the Manx Arms which appear on page 687 in the last issue it would appear that, contrary to all anthropological laws, man was a tripod. The attendant quadruped is not shown in the map. Bravo, sporting little island. Long may you preserve your independence and make your own sensible laws!

FUTURE EVENTS.

- Sept. 23—THE TOURIST TROPHY RACE IN THE ISLE OF MAN.
.. 24—Hill-climb on Kewagie Hill, Isle of Man. Five classes. Start 10 a.m.
.. 24—Hill-climb up Snaefell. Start 2.30 p.m.
.. 29—British M.C.R.C. Sixth Members' Meeting at Brooklands.
Oct 6—Race meeting at Brooklands (two events for motor cycles).
.. 9—Two Hours' Record Race at Brooklands, organised by the British M.C.R.C.
.. 9—Edinburgh Motor Cycling Club Open Hill-climb on Amulree.
.. 16—A.C.U. Fourth Quarterly Trial of 1909, Uxbridge to Banbury and back.
.. 16—Motor Cycling Club Private Race Meeting and Gymkhana on Brooklands track.
.. 23—M.C.C. closing run to Brighton.
Nov. 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, N.

Tourist Trophy Trifles.

The proprietors of Farrar's Motor Exchange, Halifax, have prepared a race card of the T.T. Race with columns for insertion of the times of each round. Motor cyclists can obtain these cards free in the Isle of Man to-day, Wednesday, the 22nd inst., at Hotel Sefton, Douglas; Henry's, 15, Lock Promenade, Douglas; Ballacraigne Hotel, Ballacraigne; and the hotel at St. John's.



Wm. Grimstead (Leeds), 5 h.p. Twin Rex, 749 cubic centimetres capacity, B. and B. carburetter, Bosch magneto.

names. The notice stated that the motor cyclists would receive infantry rates of pay and allowances, and a special allowance of 6s. 6d. a day. They were to report on September 18th and to leave on the 23rd. He handed in his name to the adjutant the same day. Soon after he sold his motor bicycle and purchased a new one especially for the manœuvres. On August 1st the adjutant was informed that motor cyclists would not be required. Yet we read in a daily newspaper that the authorities are still endeavouring to obtain the assistance of motor cyclists, and that in response to their first appeal only seventeen names had been given in, and twelve of these came from one battalion. As our correspondent points out, could anything be more hopeless? What has happened to the Auto Cycle Legion?

The Wheel Club.

A new social club has been established in London called "The Wheel Club," open to anyone associated with cycles, motor cycles, or cars. Rooms have been taken at the Inns of Court Hotel, Lincoln's Inn Fields, and there is every prospect of the club being a success. Although members of the Auto Cycle Union are allowed to use



Clifford Wilson (Harrogate), 3½ h.p. Rex, 498½ cubic centimetres capacity, B. and B. carburetter, Bosch magneto.

It is worthy of notice that up to the present single-cylinder engines have proved to be faster than twin or other multi-cylinder engines, both in the Voiturette Races of 1908 and 1909 and in the T.T. Motor Cycle Race of 1907 and 1908. Will the single cylinder motor cycle prove to be faster in the Isle of Man to-morrow?

Most of the Rex T.T. racers are equipped with the J.A.P. automatic lubricator, which should relieve the riders of all anxiety as to lubrication. Besides, it is not an easy or safe operation to inject a charge of oil while travelling at full speed.

The two twin Indian machines in the T.T. are larger in bore and stroke than those used in English competition during the last few months. The only one arrived from the States this month, and on their trials were credited with exceptionally fast speed.

While some of the competitors have been practising over the course ever since the roads were thrown open for the purpose, others did not proceed to the Island until last week-end.

We omitted the bore and stroke of two engines from the list on page 686 last week, the deficiencies being J. Lan 85 by 76 mm. twin J.A.P., 738 cubic

ist Trophy Trifles (continued).

acity; and H. H. Bowen, twin P., 76 by 82 mm., 744 cubical acity.

AMERICA'S HOPE IN THE T.T.



W. H. Wells (London), 5 h.p. Twin Indian, 5.5 x 89 mm., chain drive, Bosch magneto, and J. tyres.

The two-stroke Scott is the only o-speed-geared machine entered for e race.

One or two competitors have wisely de use of speedometers in practising er the T.T. course. Some very fast es have been recorded, notwith- anding the numerous corners which cessitate slowing down. It is con- ently expected that the winner will erage forty-five miles an hour to- rrow. One of last year's competi- s thinks fifty miles per hour more obable if the roads are dry.

There are a great many visitors in e island, this year's event having eated far more interest than previous es for the Auto Cycle Tourist ophy.

James Baxter, one of the entrants, ade fastest time in the Edinburgh .C.C. hill-climb last Saturday, and mediately proceeded with his twin- nder Rex to the Isle of Man.

Seventy-five entries have been re- ived for the hill-climbing contests e Kewagie and Richmond Hills and ae fell on Friday. See the two follow- g pages.

The T.T. Race Fund has now reached total of £99 9s., not including the er of *The Motor Cycle*, viz., 1s. for ery £ up to £100 sent in.

H. A. Collier's T.T. machine is ted at 5 h.p., not 6 h.p. as stated in e list of entries published last week. e bore and stroke are 85 by 65 mm., e same as his brother's Matchless- .A.P.

A. G. Fenn was to ride in the T.T. ace, but is still in the London ospital recovering from a fall last onth which resulted in water on the ead. W. Creyton will ride in place Fenn.

On Monday morning last fifty com- petitors had officially reported them- selves at the A.C.U. headquarters at Douglas, and others were expected that day.

It is to be hoped that Giuppone will arrive in time to compete in the T.T. Race, as many have been looking for- ward to seeing this famous rider in competition with our best British riders. He was not in the island on Monday morning.

Users of Simms magnetos in the Tourist Trophy Race can obtain assist- ance from the Simms Magneto Co.'s sales manager, G. E. Roberts, who can be found at the Sefton Hotel, Douglas.

Another First Aid Tricar.

The Cleathorpes Fire Brigade has purchased an A.C. tricar for first aid purposes at fires.

Motor Cyclists' Wants.

"W.J.B." would like readers to send him the name of any town or dis- trict where motor cyclists' wants are not well catered for, as he is thinking of opening a garage.

The End-to-end Sidecar Record.

It has been pointed out to us in connection with the making of the first record ride by a passenger motor cycle over the classic End-to-end route that Vivian Olsson, who set the record on his 7 h.p. V.S. with sidecar, drove throughout the whole distance. Since this ride was accomplished two other attempts have been made to cut the time, and one of these has been so far successful. This was the ride of the Bros. Bentley, who, however, took

turn-and-turn-about in driving, and, our correspondent urges, this, it may be allowed, made a considerable differ- ence in the severity of the task; in fact, it is doubtful whether a com- parison fair to both is possible be- tween the two rides. As a matter of fact, we have no proof that Mr. Olsson did drive throughout.

Amulree Hill-climb.

The rules and regulations for the Edinburgh M.C.C. open hill-climbing competition on Amulree on Saturday, October 9th, are now ready. Ten classes have been included in the event, embracing all types of motor cycles. Further particulars regard- ing the contest will be found on page 719. Entry forms can be obtained from P. E. Tolfree, 47, Falcon Avenue, Edin- burgh.

Excursions to the Isle of Man.

Special excursions to the Isle of Man are being run from Liverpool by the Isle of Man Steam Packet Co., Ltd., for the Tourist Trophy Race and hill-climbing contests as follows: Special day excursion, Liverpool and Douglas. From Liverpool, a, Wednes- day, September 22nd, at 12.50 night; b, Thursday, September 23rd, at 11.30 a.m. Returning from Douglas, a, Thursday, September 23rd, at 6.45 p.m. a, s.s. *Tynwald*; b, turbine steamer, *Viking*. Day fares: Steerage, 4s.; saloon, 6s. Four days' excursion tickets will be issued on Wednesday, September 22nd, by steamers leaving Liverpool at 11.30 a.m. and 12.50 night, available until following Satur- day. Fares, Steerage, 5s. 6d.; saloon, 8s. 6d.



Practising on the T.T. course. W. F. Newsome (3½ h.p. Triumph) and H. V. Colver (3½ h.p. Matchless) approaching Ballacrairie corner. Both these riders competed last year, and may be expected to be among the leaders to-morrow.

THE TOURIST TROPHY RACE.

LATEST DETAILS.

ENTRIES FOR THE HILL-CLIMBS.

THE RACE FUND.

THIS morning (Wednesday) at ten o'clock competing machines in the Tourist Trophy Race must be presented for weighing (for statistical purposes only) at the A.C.U. enclosure at St. John's. There is no weight limit. The riders will be weighed at the same time. Immediately after these operations have been concluded, the brakes and silencers will be tested. All competitors will be compelled to wear ear guards during the race, to enable them to hear clearly other riders who are trying to pass them. The race proper is to-morrow (Thursday), when at 10 a.m. competitors will be started from St. John's two at a time at half-minute intervals. Numbers will be painted on each side of the tank, and the riders will also carry numbers on their backs. Competitors will be timed over each circuit. Between the start and finish of the race the driver only shall be permitted in any way to assist his machine, and no spare parts other than those actually on the machine at the start shall be taken on during the race. There will be two depots along the route at which spare tyres, petrol, water, and lubricating oil may be taken in during running time. After completing ten circuits, making a total distance of 158 miles 220 yards, the machines must be taken to the enclosure under supervision to be examined.

Latest from the Course.

Last week-end all the competitors had signed at the Manx headquarters with the exception of the following: J. F. Jones, H. Gibson, Carter, Baxter, Clark, Giuppone, Lang, Leno, and West.

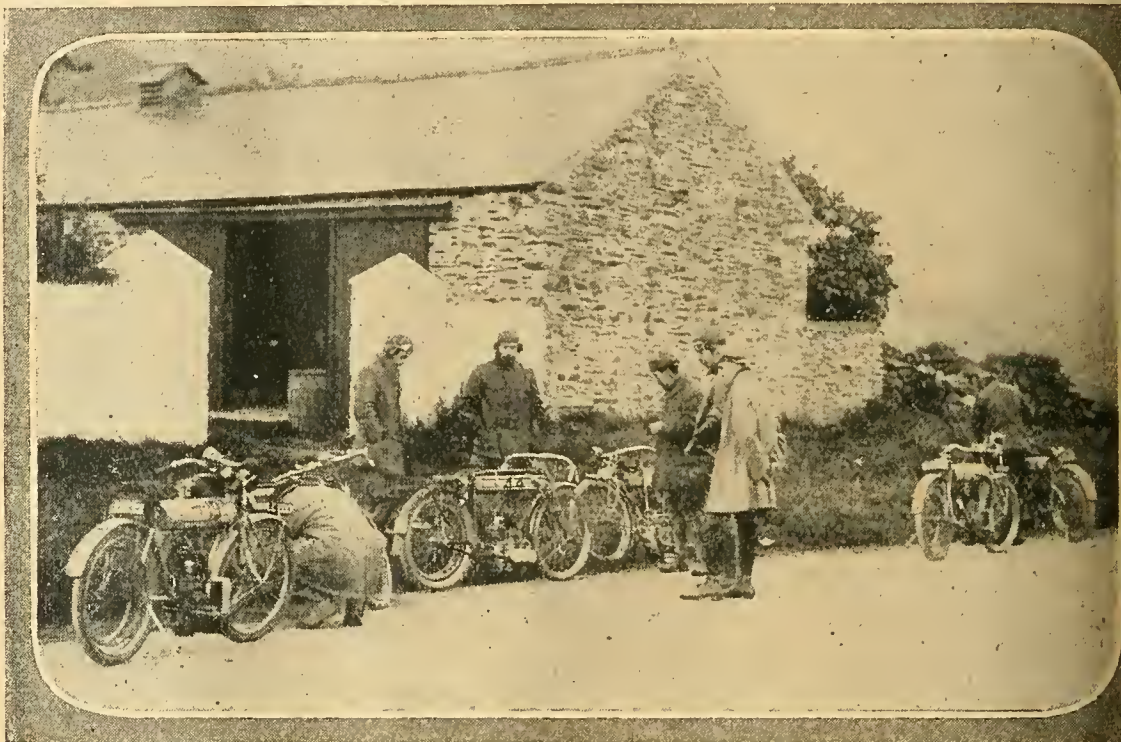
Rain fell in parts on Sunday night and in the early hours of Monday, rendering practising difficult owing to the greasy state of the roads. The east side of the island was dry, and the west wet. W. O. Bentley has suffered a slight accident whilst practising, owing to grease at one of the corners. In falling his chest was bruised. On Monday morning, in consequence of the treacherous surface, a number elected not to practise, including the brothers Collier, who are expected to put up a good fight. At Ballacraine, among those who took the corner best were Newsome, Marshall, Evans, and Wells. Competitors report that the course is rougher than it was last year, especially at Peel and the Ballacraine corner. There are many rumours regarding speed, but the general idea is that 21m. for the whole course is about fastest.

Entries for the Hill-climbs.

For the hill-climbs on Kewague and Richmond Hill, and Snaefell on Friday next, the following entries have been received. The first competition starts at 10 a.m., and the second at 2.30 p.m. from Ramsey.

CLASS 1A.—For genuine standard touring machines, with engines having a cylinder capacity not exceeding 750 cc.

No.	Driver.	Machine.	No. of cylinders.	Bore.	Stroke.	
1.	F. W. Applebee	(5 Rex)	...	2	76	80
2.	E. S. Myers	(3½ Scott, 2 stroke)	2	2⅝	2½	
3.	J. Eastwood	(3½ Bradbury)	...	1	87	87



A halt during practice on the T.T. course last week. Competitors discussing their chances in to-morrow's great race.

4.	P. Pratt	(3½ Bradbury)	...	1	87	87
5.	J. W. Robertson	(3½ Triumph)	...	1	84	86
6.	R. T. Exshaw	(3½ Zenith Gradua)	...	1	85	85
7.	W. W. Douglas	(2¾ Douglas)	...	2	60	60
8.	F. W. Dayrell	(5 Bat)	...	2	65	65
9.	J. Morris	(3½ Bradbury)	...	1	87	87

CLASS 1B.—For genuine standard touring machines, with engines having a cylinder capacity not exceeding 760 cc. Private owners only.

10.	W. H. Bashall	(3½ Zenith Gradua)	...	1	85	85
11.	Hugh Gibson	(3½ Triumph)	...	1	84	86
12.	W. O. Bentley	(3½ Rex)	...	1	84	89
13.	F. A. Hardy	(3½ Norton)	...	1	82	90
14.	J. W. Robertson	(3½ Triumph)	...	1	84	86
15.	R. T. Exshaw	(3½ Zenith Gradua)	...	1	85	85
16.	F. C. Bagshaw	(5 Rex)	...	2	76	80
17.	Quintin Smith	(3½ Triumph)	...	1	84	86

CLASS 2A.—For single-cylinder machines which competed the Tourist Trophy Race, September 23rd, 1909.

18.	J. T. Bashall	(3½ Bat)	...	1	85	85
19.	G. E. Stanley	(3½ Premier)	...	1	85	85
20.	J. L. Norton	(3½ Norton)	...	1	82.25	85
22.	H. V. Colver	(3½ Matchless)	...	1	85	93
23.	J. Adamson	(3½ Triumph)	...	1	85	85
24.	J. Marshall	(3½ Triumph)	...	1	85	88
25.	F. W. Newsome	(3½ Triumph)	...	1	85	88
26.	W. Creyton	(3½ Triumph)	...	1	85	88
27.	O. C. Godfrey	(3½ Rex)	...	1	84.5	88
28.	G. L. Fletcher	(4 Indian)	...	1	82.5	89
29.	James Stewart	(3½ Triumph)	...	1	85	92
30.	R. Lord	(3½ Rex)	...	1	84	88
31.	J. C. Smyth	(3½ Rex)	...	1	84	89
32.	W. G. McMinnies	(3½ Triumph)	...	1	85	88
33.	R. M. Brice	(3½ Brown)	...	1	85	85
34.	R. M. White	(3½ Brown)	...	1	85	85

The Tourist Trophy Race.—

CLASS 2B.—For single-cylinder machines which competed in the Tourist Trophy Race, September 23rd, 1909. Private owners only.

No.	Driver.	Machine.	No. of cylinders.	Bore.	Stroke.
35.	Robert Ellis	(3½ Rex)	1	84.5	89
36.	H. H. Bowen	(3½ Bat)	1	85	85
37.	J. T. Bashall	(3½ Bat)	1	85	85
38.	Hugh Gibson	(3½ Triumph)	1	85	88
39.	Wm. Heaton	(3½ Rex)	1	84	89
40.	H. Lister Cooper	(3½ Triumph)	1	84	86
41.	J. Adamson	(3½ Triumph)	1	85	88

CLASS 3A.—For multi-cylinder machines which competed in the Tourist Trophy Race, September 23rd, 1909.

No.	Driver.	Machine.	No. of cylinders.	Bore.	Stroke.
42.	Eric S. Myers	(3½ Scott)	2	2 5/8"	2 1/2"
43.	W. H. Bashall	(5 Bat)	2	85	65
44.	B. Jones	(3¾ Premier)	2	66	80
45.	H. A. Collier	(5 Matchless)	2	85	65
46.	C. R. Collier	(5 Matchless)	2	85	65
47.	Leslie C. Munro	(5½ N.S.U.)	2	75	84
48.	R. O. Clark	(4-cyl. F.N.)	4	55	57
49.	F. C. Wood	(3½ N.S.U.)	2	63	80
50.	G. Lee Evans	(5 Indian)	2	71.5	89
51.	W. H. Wells	(5 Indian)	2	71.5	89
52.	F. W. Dayrell	(5 Bat)	2	85	65
53.	J. Baxter	(5 Rex)	2	76	80
54.	H. Martin	(5 Martin)	2	76	82
55.	A. J. Sproston	(5 Rex)	2	77.5	79.375

CLASS 3B.—For multi-cylinder machines which competed in the Tourist Trophy Race, September 23rd, 1909. Private owners only.

No.	Driver.	Machine.	No. of cylinders.	Bore.	Stroke.
56.	W. H. Bashall	(5 Bat)	2	85	65
57.	T. Greer	(5 Rex)	2	77.5	79.375
58.	A. J. Moorhouse	(5 Rex)	2	77.5	79.375
59.	F. A. Applebee	(5 Rex)	2	77.5	79.375

No.	Driver.	Machine.	No. of cylinders.	Bore.	Stroke.
60.	F. C. Bagshaw	(5 Rex)	2	77.5	79.375
61.	J. Baxter	(5 Rex)	2	76	80

CLASS 4.—All comers' class. For any type of machine, not exceeding 1,000 cc.

No.	Driver.	Machine.	No. of cylinders.	Bore.	Stroke.
62.	J. T. Bashall	(7-8 Bat)	2	85	85
63.	W. H. Bashall	(3½ Zenith Gradua)	1	85	85
64.	G. E. Stanley	(3½ Premier)	1	85	85
65.	T. Greer	(5 Rex)	2	77.5	79.375
66.	B. Jones	(3¾ Premier)	2	66	80
67.	H. A. Collier	(5 Matchless)	2	85	65
68.	J. Scriven	(5 Rex)	2	76	80
69.	F. A. Applebee	(5 Rex)	2	77.5	79.375
70.	O. C. Godfrey	(3½ Rex)	1	84.5	89
71.	F. C. Bagshaw	(5 Rex)	2	77.5	79.375
72.	W. H. Bashall	(5 Bat)	2	85	65
73.	T. H. Tessier	(7 Bat)	2	85	85
74.	A. J. Sproston	(5 Rex)	2	77.5	79.375
75.	J. Morris	(3½ Bradbury)	1	87	87

The T.T. Race Fund..

	£	s.	d.
Amount previously acknowledged in <i>The Motor Cycle</i>	67	16	0
Bosch Magneto Co.	2	2	0
Stanley Show, Ltd.	26	5	0
S. W. Fowler Dixon	1	1	0
Norman Hughes (making 5s. in all)		2	0
C. K.		2	0
Eastern Garage Co.	1	1	0
South Manchester M.C.C.	1	0	0
	£99	9	0



Competitors in the Hull and East Riding A.C.C. Speed Judging Contest last Saturday. (See next page.)

OPEN HILL-CLIMB ON AMULREE.

THE Edinburgh Motor Cycling Club will hold an open hill-climbing contest on Saturday, 9th October, 1909, on Amulree Hill, Glenquaich.

Competitors must assemble at the foot of the hill at 1 p.m., and the competition will start at 2 p.m. Machines entered for the handicap classes will be weighed from 12 a.m. to 1 p.m. at the foot of the hill.

There will be the following classes:

- I.—Single cylinder, touring, handicap (pedalling allowed).
- II.—Multi-cylinder, touring, handicap (pedalling allowed).
- III.—Lightweight, touring, handicap, weight not exceeding 125 lbs., exclude stripped machines (pedalling allowed).
- IV.—Variable speed gear motor bicycles, touring handicap (pedalling barred).
- V.—Single-cylinder, touring, scratch (pedalling barred).
- VI.—Multi-cylinder, touring, scratch (pedalling barred).
- VII.—Single-cylinder, unlimited, scratch (pedalling barred).
- VIII.—Multi-cylinder, unlimited, scratch (pedalling barred).

IX.—Unlimited scratch (pedalling barred).

X.—Passenger class for three-wheeled vehicles and machines with trailers, handicap (pedalling barred).

W

In Classes I., II., and III. the formula $C \times T \times G$

will be used in deciding the winner. Competitors having machines with variable speed gears must only use one gear. Machines with automatically variable pulleys must have pulleys fixed in one position in the above mentioned classes (these pulleys need not be fixed in any of the other classes). The gear ratio of each competitor's machine will be measured after he has ascended the hill. In Classes IV. and X. the

W

formula $D^2 N^3 \sqrt{S} \times T$ will be used in deciding the winner.

CLUB NEWS

Halifax and District M.C.C.

This club will hold a reliability trial on the 26th inst. to Kirkby Lonsdale and back. The course chosen is a stiff one, starting from the tramshed at eight o'clock prompt, on to the junction, back *via* Sowerby Bridge, then on to Keighley, Skipton, Settle, Buckhaw Brow, first stop at the top, at 11.30; restart 12 o'clock, arrive Kirkby Lonsdale 12.45 for dinner; returning 2 o'clock for St. Jude's, Halifax, due to arrive 5 o'clock.

First prize, £1 and special silver cup; second, 10s.; third, 5s., or value in each case.

Any non-members who would like to join in the run will be cordially welcomed.

Essex M.C.

The third annual gynkhana was held on Saturday last, and was in all respects the most successful of the series. Ideal weather prevailed, and there was a record attendance of members and friends. There were eight events on the programme, but there was such a large number of entries that three events had to be abandoned in order to finish before dark. There were altogether twenty-nine entrants, and most of these were entered for all of the events. Event 1 was a plug-changing competition. Competitors had to ride one lap, dismount, and remove a plug from the engine, and exchange it for another one, which had to be put in the engine, then ride one lap to the finish. Burnt fingers were the order of the day. Event 2 comprised (a) tilting at the rings, (b) lemon cutting and Turk's head cutting. Each competitor had two runs, one for each section. Six rings had to be lanced, and three lemons and the Turk's head cut. Miss Muriel Hind was one of the competitors in this event on her 5 h.p. twin Rex. Event 3 was an artists' race, open to any type of motor. Competitors had to ride half a lap, and dismount and obtain an envelope from an official, then remount, and finish the lap. The envelope was then opened, and the competitor had to draw upon the blackboard the article written upon the slip in the envelope. When he had finished his drawing, a lady previously chosen by him had to guess what he had drawn, and write the name under the picture. Upon the lady guessing correctly, the competitor had to ride a lap to the finish, the fastest time being the winner. This was a very funny competition, and some of the "pictures" were masterpieces—airships which looked like windmills, and sparking plugs which looked like shovels. Events 4, 5, and 6 were abandoned. Event 7 was musical chairs for motor cycles, and needs no explanation, but was one of the most popular items on the programme.

The following are the results, subject to the figures being passed by the committee: Event 1.—1 F. W. Applebee, 2 — Cooke, 3 — Low. Event 2.—1 F. G. Smith, 2 — Lee, 3 F. W. Applebee and B. Siffken tied. Event 3.—1 F. G. Smith, 2 G. Gray, 3 A. Curtis. Event 7.—1 F. G. Smith, 2 W. Pratt, 3 — Lee. Event 8.—1 J. Van Hooydonk, 2 A. G. Reynolds, 3 Miss Hind and — Fry tied.

By the time Event 8 had been run, it was almost dark, and an adjournment was made for tea. Everybody agreed that the fixture had been a distinct success, and the thanks of the club are due to Mr. F. J. Jenkins (who acted as judge) and Mr. A. Leroni (who officiated as starter).

Hull and East Riding A.C.C.

A speed judging competition to Patrington, held on Saturday last, proved one of the most enjoyable events promoted by the club. The weather being fine, a good entry was secured, and on arrival at Bleak House, Patrington, the residence of the club's popular president, Dr. W. H. Coates, M.B., A.M.R., a most hearty reception and a sumptuous tea were enjoyed by the visitors. After a game or two on the lawn and a look round Dr. Coates's aviary, a start home was made about seven o'clock. The thanks of the entire club are due to Dr. Coates for his kindness. The results of the competition are: 1st, E. W. Forward; 2nd, F. Boxhall.

Brighton and District M.C.C.

The above club held a speed-judging competition on Saturday, the 11th inst., which proved quite a success, some of the competitors running the correct timing quite close. Results: 1, S. Hale, 5s.; 2, W. B. Smith, 7s.; 3, J. Harwood, 10s.; J. R. Brown, 16s.; C. M. Brown, 1m. 46s.; F. T. Turpin, 2m. 3s.; R. Wilkins, 2m. 48s.; H. C. Saunders, 3m. 36s.; and J. Best, 4m. 20s.

Members' attention is drawn to the challenge issued for teams of three, which will take place on the 26th inst.

Edinburgh M.C.C.

The E.M.C.C., on the 18th inst., held an open hill-climbing competition on the Manor Hill, Peebles. There was an entry of twenty-six, divided up into four classes. In the fast scratch James Baxter and A. H. Alexander tied for first place, but, on running this over again, the former, riding a twin Rex, was declared the winner, making the fastest ascent of the day. In the tortoise scratch several riders failed to



Essex M.C. Gymkhana last Saturday. Tilting at the rings.

keep their machines going, only three out of seven managing to crawl up the hill. The formula $\frac{W}{C \times T \times G}$ was used in deciding the winner in the handicap classes, i.e., weight over capacity, time, and gear. X represents fastest time in each class, and the number of seconds represents how much others were behind fastest time:

SINGLE-CYLINDER HANDICAP.

Rider and machine.	Gear used.	Fig. of merit.	Time secs.
Campbell McGregor (3½ h.p. Matchless)	4.22	377	X
A. H. Alexander (3½ h.p. Rex)	4.85	303	33
R. H. Salvesen (3½ h.p. Triumph)	4.83	268	114
R. Mouat (3½ h.p. Griffon)	4.98	229	154
J. B. Low (3½ h.p. Triumph)	5.02	211	18
M. Pratt (3½ h.p. Brown)	5.91	183	234

TWIN-CYLINDER HANDICAP.

Jas. Baxter (5 h.p. T.T. Rex)	3.42	325	X
W. D. Cairns (6 h.p. J.A.P.)	4.25	251	31
J. R. Alexander (5 h.p. Alex)	4.45	243	31
P. E. Tolfree (5 h.p. Roc)	5.02	207	18

FAST SCRATCH.

Jas. Baxter (5 h.p. T.T. Rex)	...	...	X
A. H. Alexander (5 h.p. Alex)	...	...	12s.
Campbell McGregor (3½ h.p. Matchless)	...	...	32s.
W. D. Cairns (6 h.p. J.A.P.)	...	...	8½s.
R. H. Salvesen (3½ h.p. Triumph)	...	...	17½s.
R. Mouat (3½ h.p. Griffon)	...	...	19½s.

TORTOISE SCRATCH.

P. E. Tolfree (5 h.p. Roc)	...	2m. 55½s.
W. D. Cairns (6 h.p. Jap.)	...	2m. 41½s.
A. H. Alexander (3½ h.p. Rex)	...	1m. 56½s.

Any N.S.U. model is a winner ::::

For instance, in the Newcastle and District M.C. Hill-climb, on the 5th inst., N.S.U. machines were conspicuous by their successes and the variety of the competing models.

Passenger class:

N.S.U. 6 h.p. & Sidecar FASTEST TIME.

Winner of GOLD MEDAL.

Twin-cylinder class:

N.S.U. 6 h.p. .. FASTEST TIME.

Winner of GOLD MEDAL.

Multi-cylinder class:

N.S.U. 2½ h.p. Twin .. WINNER

on formula for greatest efficiency,
defeating twin-cylinder machines
of much higher power.

Single-cylinder class.

N.S.U. 4 h.p. WINNER

on formula, defeating many well-
known makes.

• • •

In the Richmond and District M.C. Reliability Trial, on the 5th inst., the most conspicuous feature was the **WINNING OF THE CARP-MAEL CHALLENGE CUP FOR THE THIRD TIME BY MR. F. C. WOOD, WHO RODE A 3½ h.p. N.S.U.**

• • •

You can find in the N.S.U. range (the most comprehensive ever offered) just the model at just the price you want to pay—models from the 1¼ h.p. Lightweight to the 6 h.p. Twin—every one a winner.

• • •

THE N.S.U. MOTOR CO., LIMITED,

Offices & Showrooms: 186, Gt. Portland St., London, W.

Goods and Repairs: 83-85, Bolsover St., London, W.

A.J.W.

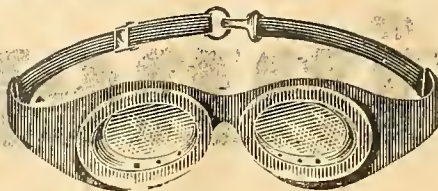
In answering this advertisement it is desirable to mention "The Motor Cycle."

GAMAGES

SOME REALLY DEPENDABLE TOUR ACCESSORIES.

BOSCH

MAGNETO REPAIR PARTS.
A FULL ASSORTMENT ALWAYS IN STOCK.

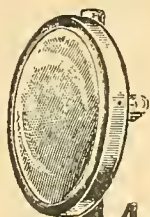


Famous All Rubber Goggle.

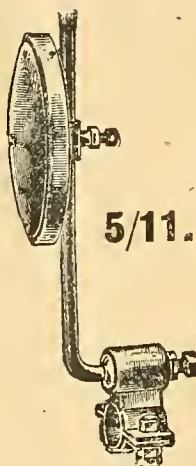
With unbreakable glasses, complete with spare set.
With plain and smoked detachable glasses.
Original make.

Game's price 1/9.

MOTOR CYCLE HANDLE-BAR REFLECTING MIRRORS.



4/11.



5/11.

The "Scenic" Motor Cycle Reflecting Mirror

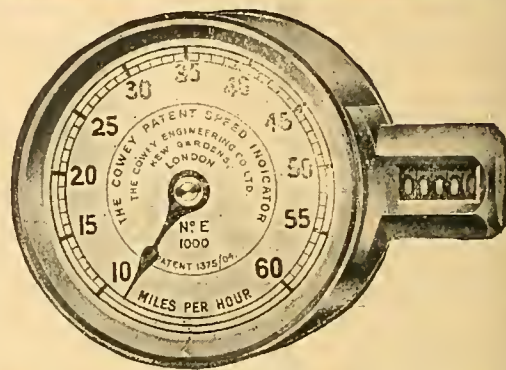
3-inch brilliant convex. Adjustable all ways. Fitted with locking nut. Price 4/11. Post 4d.

The "Kingston."

Has convex 4 in. brilliant mirror with ball socket adjustment, with security fixing belt. Very substantial. Price 5/11. Post 4d. See what is behind you.

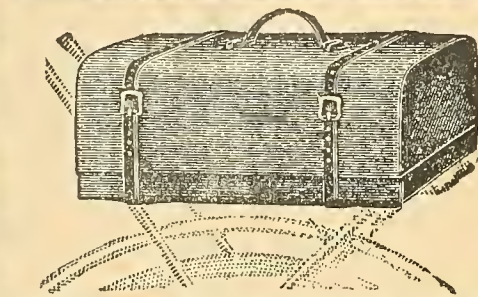
Belting

Every good make in stock, including Shamrock, Stanley, Dermatine, Whittle, Continental, etc.



THE COWEY MOTOR CYCLE SPEED INDICATOR

Can be fitted to any machine, either spring or rigid forks. Will fit on either right or left hand side. Will register up to 60 miles per hour. Fully guaranteed. Price, with Odometer, £4 4 0. When ordering, please give the following particulars. Name of machine, h.p. of machine, size of front wheel, whether spring or solid forks. If spring forks, name of make.



The "Elastes" Motor Cycle Expanding Luggage Carrier.

Price, in Leather, 10/6; in Fibre, 3/6.

"Matchless" Foot Brake.

Working on back belt rim, very powerful. Complete with pedal stud, which fixes in place of one of the crank case bolts. Price complete 16/6. Postage 6d.

"Matchless" Spring-Fork Attachment.

Converts an old pattern motor cycle into an up-to-date luxurious motor. Thousands in use, giving every satisfaction!!

15/6. Postage 6d.

THE "NULITE" LENS-MIRROR HEAD LAMP.

for Motor Cycles and Tricars.

The original, not to be confused with the many shoddy imitations now on the market. The "Nulite" is an exact copy in miniature of the car and army searchlights. It is of solid brass and copper rivetted. The divided front glass does not rattle, cannot crack through the heat, prevents glare, and diffuses the rays, which are thrown a hundred feet ahead. The powerful brilliant mirror lens is a work of art in itself and altogether is the ideal and scientifically perfect lamp.

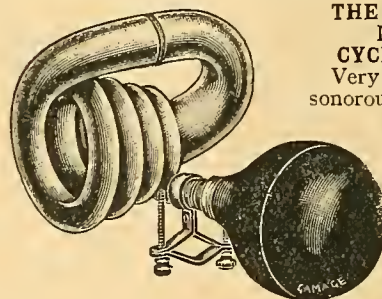
25/6

and does not tarnish. It weighs no more than an ordinary headlight and altogether is the ideal and scientifically perfect lamp. Price complete with separate generator, length of tubing, side or back bracket fixing, brass or plated

Cheaper Model

25/6

15/11



THE COMPACT MOTOR CYCLE HORN.

Very deep and sonorous note, well made, good finish, throughout, in nickel. Price 8/6 large size, and 5/9 small. Postage 4d

"ROM"

COMBINATION NON-SKID.

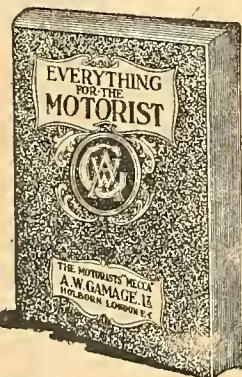
The tyre that gives absolute immunity from side-slip under any road conditions. Exceptionally durable, and very resilient. Equally serviceable for summer or winter use. No leather in its composition — which makes the tyre "dead" — yet practically unpuncturable.

OUR PRICES—

	Cover (Beaded.)	ROM Tube.
26 x 2	52/-	9/-
26 x 2 1/4	55/-	10/-
26 x 2 1/2	57/6	11/-
28 x 2	54/-	9/-
28 x 2 1/4	57/6	10/-
28 x 2 1/2	60/-	11/-

Wired-on Covers 1/- per cover less than above prices.

Butt Ended Tubes 2/- extra.



New Edition of our Motor List just out. Every motor cyclist should write for a copy. It will show you how you can make a direct save on the cost of upkeep. Everything the motor cyclist can want is listed. May we send on a copy? Gratis and post free anywhere.

A.W. GAMAGE & BENETPINK LTD.
MOLBORN. CHEAPSIDE.
LONDON E.C.

In answering this advertisement it is desirable to mention "The Motor Cycle."

Club News.—

Bolton and District M.C.C.

In the final of the above club's reliability trial, which took place on the 11th inst. over the same course to Skipton and back, the results were: 1st, P. Philipson ($3\frac{1}{2}$ h.p. Triumph); 2nd prize divided, A. Richards ($2\frac{3}{4}$ h.p. Minerva) and J. Fishwick ($3\frac{1}{2}$ h.p. Triumph).

Harrogate and District M.C.C.

The reliability trial run on the 12th inst. proved to be a surprise to most members. The course chosen was 149 miles in length, and ran through some exceedingly interesting and pretty country. The towns visited included Ripon, Richmond, Leyburn, Hawes, Sedburgh, Kirkby Lonsdale, Settle, and Skipton. The roads were in splendid condition except through Harrogate, Ripon, and Skipton, and one short stretch of exceedingly muddy road. This stretch brought no less than six off their machines. The contestants were: W. Fawcett ($3\frac{1}{2}$ h.p. T.T. Triumph), no trouble; W. Broadbank ($3\frac{1}{2}$ h.p. Triumph), no trouble; H. Addison (3 h.p. Triumph), three skids; T. Dearlove ($3\frac{1}{2}$ h.p. P. and M. and sidecar), broken valve and lost his way; W. Aldon ($3\frac{1}{2}$ h.p. Premier), no trouble; E. R. Davies ($3\frac{1}{2}$ h.p. Rip), no trouble; C. F. Smith ($3\frac{1}{2}$ h.p. Triumph), no trouble; R. Breare ($3\frac{1}{2}$ h.p. P. and M.), no trouble; F. F. Topham (5 h.p. V.S.), no trouble; J. Mackay ($3\frac{1}{2}$ h.p. Triumph), no trouble; E. Myers ($3\frac{1}{2}$ h.p. two-stroke Scott), no trouble; T. Atkinson (3 h.p. Triumph), no trouble; J. A. Tindall ($3\frac{1}{2}$ h.p. Triumph), no trouble; and J. Bramley ($3\frac{1}{2}$ h.p. Triumph), retired. It has been decided to again run the competition on the 26th inst. over the same course, but with very stringent conditions.

The fuel consumption test will be held during the month of October.

North-west London M.C.C. and St. Albans M.C.C. Inter-team Competition.

The above was held on Saturday, the 4th inst., consisting of a non-stop run of forty miles, followed by a one mile slow race. The result is as under. Number of marks possible, 110:

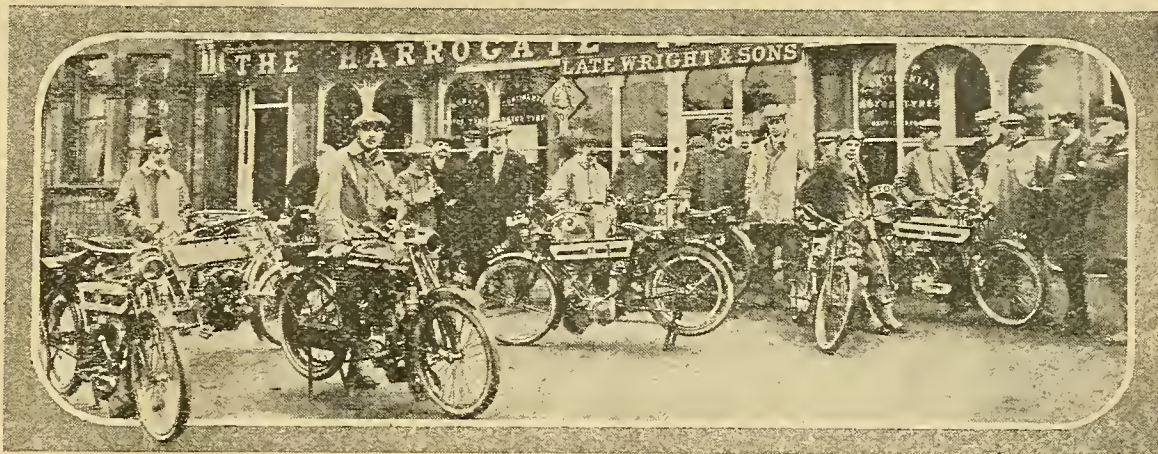
North-west London.—*Glynn Rowden (8 h.p. Bat), 107; Mrs. Cooke ($3\frac{1}{2}$ h.p. Triumph), 98; W. G. Barton ($3\frac{1}{2}$ h.p. Rex), 92; S. H. Hollis ($3\frac{1}{2}$ h.p. Triumph), 91; C. Williams ($3\frac{1}{2}$ h.p. Humber), 89; L. N. Tyssen (5 h.p. Vindec), 86; L. Joiner ($3\frac{1}{2}$ h.p. Brown), 79; H. V. Bate (5 h.p. Vindec and sidecar), 78; H. Bean ($3\frac{1}{2}$ h.p. Triumph), 70; total, 790.

St. Albans.—*W. Pratt ($3\frac{1}{2}$ h.p. P.M.), 108; R. H. Batchelor ($3\frac{1}{2}$ h.p. Triumph), 98; E. Lee ($3\frac{1}{2}$ h.p. Triumph), 97; C. C. Cooke ($3\frac{1}{2}$ h.p. Triumph), 93; B. C. Miller, 88; Cornwall (tricar), 87; W. Cooper, 76; M. Brunton (5 h.p. Rex), 66; A. Brunton (5 h.p. Rex), retired, 713.

*Qualify for special prize. The above figures have to be passed by the committee.

Bristol B. and M.C.

The reliability trial promoted by the above club was held on the 11th inst. The weather was very bad up to the time of starting, rain having fallen all the morning, and the roads were in a treacherous state. Under the circumstances it was creditable to have eight starters out of fourteen entries. The route was a circular one of about twenty miles and had to be covered three times, passenger machines at the rate of sixteen miles per hour, singles nineteen miles. Times were taken at the completion of each round, and there was also a secret check on each circuit, competitors being penalised one mark for each half minute over or under schedule time



At the start of the Harrogate and District M.C.C. 150 Miles Reliability Trial.

at all checks, and five points for each stop. The following was the result:

1, Eli Clark ($2\frac{3}{4}$ h.p. Douglas), seven marks lost, non-stop; 2, E. Kickham ($2\frac{3}{4}$ h.p. Douglas), S. J. Fair ($3\frac{1}{2}$ h.p. Fafnir and sidecar), and F. Bevan ($5\frac{1}{2}$ h.p. Rex and sidecar), each nine marks lost, non-stop; E. J. Prosser ($3\frac{1}{2}$ h.p. Phoenix-Trim), fifteen marks lost, non-stop; W. W. Douglas ($2\frac{3}{4}$ h.p. Douglas), fifteen marks lost, non-stop; P. Gront (4 h.p. N.S.U.), twenty marks lost, one stop, owing to side-slip; C. A. Forbes ($2\frac{3}{4}$ h.p. Douglas), 116 marks lost, ran out of petrol four miles from finish.

The three riders who tied for second place will divide second and third prizes. C. A. Forbes was unfortunate, as up to the time of his petrol giving out he had lost fewer marks than anyone.

Sutton Coldfield A.C.

The annual reliability trial, which takes place on Saturday, September 25th, is already attracting a goodly number of entries. The committee wish to remind members that valuable prizes are offered, including a silver challenge cup and gold medals, etc., and it is hoped that every member will make a special effort to enter in order to ensure the complete success of the competition. Entries must be sent in not later than Thursday, September 23rd (last post), to the trials hon. sec. Howard Smith, The Dingle, Four Oaks, who will be pleased to furnish intending members with full particulars of the club and competition.

Yarmouth and District M.C.C.

Another gymkhana was held last week, when a variety of interesting events were brought off:

Tortoise race, distance 250 yards.—Class A: 1, G. L. Fletcher; 2, H. R. Williams; 3, H. A. Lock. Class B: 1, C. Duberby; 2, F. Worts; 3, H. R. Williams.

Bending Race.—1, G. L. Fletcher; 2, N. Adcock; 3, G. Boswell.

Saturday to Monday race.—1, G. L. Fletcher; 2, N. Adcock; 3, V. H. Blake.

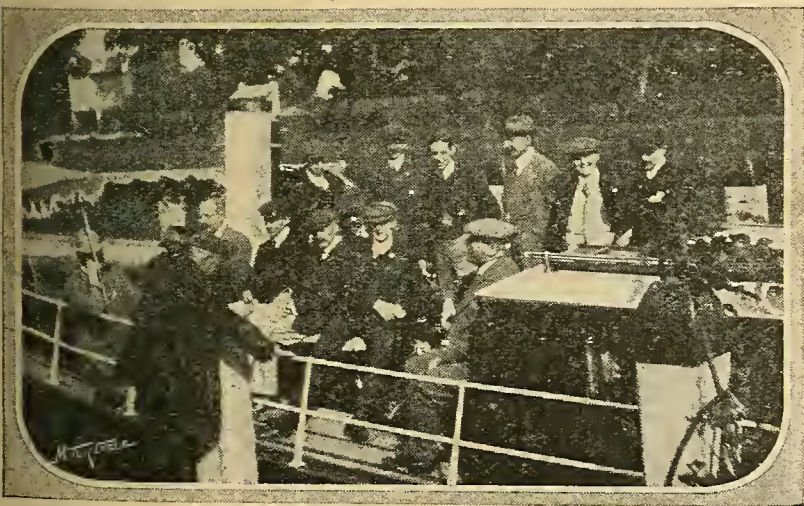
Musical chairs.—1, R. O. Clark; 2, H. Mayo; 3, A. W. Lincoln.

Academy race.—1, G. L. Fletcher; 2, H. Collins; 3, H. A. Lock.

Rings and balloons.—1, H. Mayo; 2, H. A. Lock; 3, L. Gowing.

Egg and spoon race.—1, G. L. Fletcher; 2, R. O. Clark; 3, G. Boswell.

Bobbing for apples.—1, G. L. Fletcher; 2, V. H. Blake; 3, G. Boswell.



Launch party on the occasion of the Coventry and Warwickshire M.C. run to the Thames Valley.

PISTON SPEED AND EFFICIENCY.

ON looking over the statistics of the recent Coventry and Warwickshire Motor Club's hill-climb at Newnham, it occurred to me to compare the performances of the single and twin-cylindere engines by noting the horse-power (by formula) per lb. of total weight, and to see if it had anything to do with the actual performances during the competition. Finding that it was difficult to get any general idea from setting the figures for each down on paper, I

averaged the $\frac{\text{h.p.}}{\text{weight}}$ for all which completed the course in from 29 to 29 $\frac{4}{5}$ s. inclusive.

On plotting these on a diagram it was astonishing to find that for a given speed up the hill the twins required and had about 50% more formula h.p. than the singles. It will be noted that there is a rapid rise in the curve as the time diminishes, which might be expected, and which is not wholly accounted for by wind resistance. Probably the road resistance, owing to the poor surface, increases rapidly with the speed.

It became apparent that either the twins must be very inefficient or the formula did not represent the actual h.p. developed.

The accompanying table was made from the formula:

Piston speed varies as $\frac{\text{gear}}{\text{time}} \times \text{stroke}$, a correction

being made for wheels which were not 26in. diameter. The highest piston speed is given as 100%, the others in proportion.

CLASS I.—Touring Machines.

4.9 h.p. Indian, 98%	3 $\frac{1}{2}$ h.p. Triumph, 87%
4.9 h.p. Indian, 95%	3 $\frac{1}{2}$ h.p. L.M.C., 86%
3 $\frac{1}{2}$ h.p. L.M.C., 91%	3 $\frac{1}{2}$ h.p. Triumph, 86%
3 $\frac{1}{2}$ h.p. Rex, 91%	3 $\frac{1}{2}$ h.p. Triumph, 84%
3 $\frac{1}{2}$ h.p. Premier, 88%	3 $\frac{1}{2}$ h.p. Triumph, 82%
3 $\frac{1}{2}$ h.p. Norton, 87%	

CLASS II.—T.T. and Racing Machines.

3 $\frac{1}{2}$ h.p. Rex Speed King, 100%	5 h.p. Rex, 92%
3 $\frac{1}{2}$ h.p. Rex Speed King, 100%	3 $\frac{1}{2}$ h.p. Norton, 91%
3 $\frac{1}{2}$ h.p. T.T. Triumph, 98%	3 $\frac{1}{2}$ h.p. T.T. Triumph, 89%
3 $\frac{1}{2}$ h.p. T.T. Triumph, 98%	7 h.p. Leader-Peugeot, 86%
3 $\frac{1}{2}$ h.p. Premier, 98%	7.9 h.p. King-J.A.P., 85%
3 $\frac{1}{2}$ h.p. Premier, 94%	

With the sole exception of the Indians, the twins have much lower piston speeds than the singles. Also the racing singles had much higher piston speeds than the touring singles.

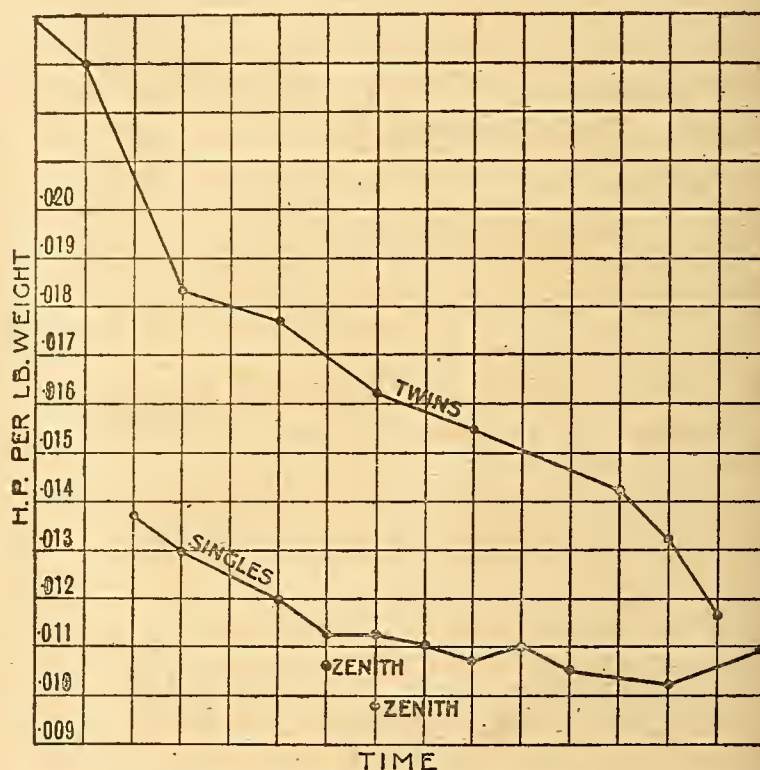
Now piston speed is limited chiefly by two factors—the ability of the carburetter to supply sufficient gas of the right quality and the limit of useful power, due to the increase of friction due to inertia forces. Judging by the enlargement of air intakes on carburetters, the former course seems to be the chief factor, since the fastest piston speed was not over 1,500 ft. per minute. The limit due to inertia forces was not approached, and with their better balance twins should be capable of higher piston speeds than singles. The above list does not, of course, include the variable geared machines, since their gear cannot be used in the formula, but it is worth mentioning that the only one of the six awards on formula which did not go to the Zenith was awarded to a Triumph with a free engine clutch of the disc type.

So much has been said concerning horse-power formula that it is interesting to note that the Coventry

$$D^2 \times \sqrt{S} \times N$$

Club's formula $\frac{D^2 \times \sqrt{S} \times N}{18,000}$ (while not handicap-

ping the long stroke engines to the same extent as the A.C.U. capacity rating, and not handicapping the short stroke ones as much as the R.A.C. piston area rating) gives results which do not differ materially from those given by either of the other ratings mentioned, there being almost no alteration of the first eight in either class whichever rating is used, and no alteration to the prize list would be made. This is all the more surprising when it is taken into account that the placings left no very wide margins between the figures.



A plotted diagram showing the horse-power required (by formula) per pound of total weight, for all machines which completed the course of the Coventry and Warwickshire M.C.'s Hill-climbing competition in from 29 to 29 $\frac{4}{5}$ s. inclusive.

Appended is a list of the gears used. There are several which have been mislaid, but in view of the condition of the competition—that competitors were to be asked to climb a hill without previous knowledge of it—the gears on some of the machines seem to have been chosen on no very sound practical or scientific principles.

CLASS I.—Gear table.

3 $\frac{1}{2}$ h.p. Zenith Gradua, variable	3 $\frac{1}{2}$ h.p. Rex, 4 $\frac{3}{4}$ to 1
3 $\frac{1}{2}$ h.p. Zenith Gradua, variable	3 $\frac{1}{2}$ h.p. Triumph, 4 $\frac{3}{4}$ to 1
3 $\frac{1}{2}$ h.p. Zenith Gradua, variable	3 $\frac{1}{2}$ h.p. Triumph, 4 $\frac{3}{4}$ to 1
3 $\frac{1}{2}$ h.p. Bat-J.A.P., two-speed	3 $\frac{1}{2}$ h.p. Rex, 4 $\frac{3}{4}$ to 1
2 $\frac{3}{4}$ h.p. Douglas, 6 $\frac{3}{8}$ to 1	3 $\frac{1}{2}$ h.p. Triumph, 4 $\frac{3}{4}$ to 1
3 $\frac{1}{4}$ h.p. Premier, 6 to 1	3 $\frac{1}{2}$ h.p. Premo two-stroke, 4 $\frac{3}{4}$ to 1
3 $\frac{1}{2}$ h.p. Brown, 5 $\frac{1}{4}$ to 1	4.9 h.p. Indian, 4 $\frac{2}{3}$ to 1
4.9 h.p. Indian, 5 to 1	3 $\frac{1}{2}$ h.p. Norton, 4 $\frac{1}{2}$ to 1
3 $\frac{1}{2}$ h.p. Triumph, 5 to 1	3 $\frac{1}{2}$ h.p. L.M.C., 4 $\frac{1}{2}$ to 1
5 h.p. Rex, 5 to 1	3 $\frac{1}{2}$ h.p. Premier, 4 $\frac{1}{2}$ to 1
3 $\frac{1}{2}$ h.p. Rex, 5 to 1	3 $\frac{1}{2}$ h.p. Premier, 4 $\frac{1}{2}$ to 1
3 $\frac{1}{2}$ h.p. Corah, 5 to 1	5 h.p. Rex, 4 $\frac{1}{2}$ to 1
	3 $\frac{1}{2}$ h.p. Triumph, 4 $\frac{1}{2}$ to 1
	3 $\frac{1}{2}$ h.p. L.M.C., 4 $\frac{1}{2}$ to 1

JUDGES ON 6 DAYS' TRIAL.

"The Judges are of opinion that the spread of motor cycling depends on silence, comfort, ease of starting, and ability to climb hills under all conditions"; vide report.

The ROC and only the ROC supplies these wants.

When you see a rider, or a rider and passenger, start on a gradient from rest and glide away without concern, you wonder there are left any who are content to go on using the old way.

You know that for starting, for stopping, for climbing, for traffic, the ROC live axle way is the best way of all. You know it is at least the most popular, and the other firms now using it by license is proof of its worth.

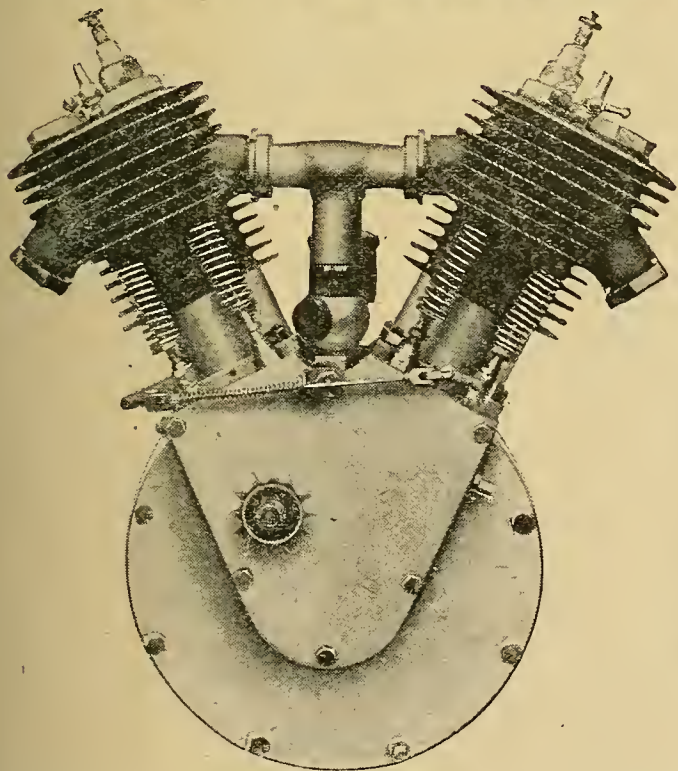
But you may not know how easily this invention can be added to YOUR machine. The ROC gear box is now improved by its mounting on ball bearings, giving remarkable smoothness in running and long life. The complete conversion occupies but three or four days. Deliveries of sets for well known machines from stock.

Send your machine NOW and get the benefit for autumn and winter use. The inclusive charge is twelve guineas. It doubles your pleasure.

Get particulars also of the famous ROC Military models. 4 h.p. single and 5/6 h.p. twin.

A. W. WALL, LTD., Roc Motor Cycle Works, Aston Road, and Dartmouth Street, **BIRMINGHAM.**

Stevens 5-6 h.p. Twin.

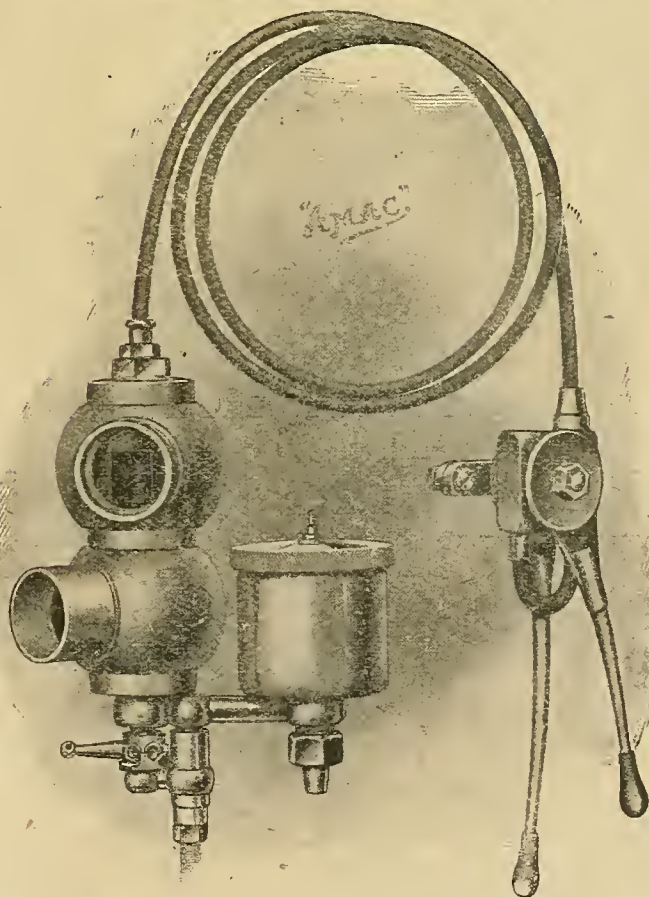


M.O.V. Ball Bearings. 76 x 82.

CYLINDERS INTERCHANGEABLE.
PERFECT LUBRICATING SYSTEM.

Stevens Motor Manufacturing Co., Ltd.,
Pelham Street, Wolverhampton.

1910 NEW AMAC.



Powerful. Flexible. Economic. Easy to Start. Adjustable nozzle removed and replaced in five seconds. One cable, two levers, handle-bar controlled, Bowden Licence.

AMAC Motor Accessories Co., Ltd.,
Telford Street, BIRMINGHAM.

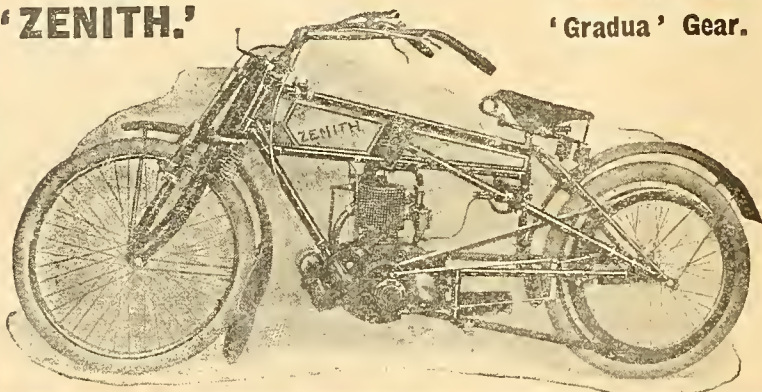
THE SPLENDID SUCCESSES WITH THE
'ZENITH-GRADUA'

Mark it as the
Leading Touring Machine

All machines tested on BROOKLANDS Track and Test Hill.

The
'ZENITH.'

Fitted with the
'Gradua' Gear.



The gear is operated by one control. It is the only gear which is infinitely variable, including free engine position.

The object of the gear is to obtain that uniform engine speed which is essential to obtain maximum efficiency.

The **GRADUA GEAR** enables the load to be picked up with the minimum strain on belt, tyres, and engine, owing to the gradual increase in gear ratios.

"TRIUMPH"
CONVERSIONS.
12 Gns. (fitted).

ZENITH MOTORS, LTD.,
WEYBRIDGE. ('Phone No. 4.)

P.S.—A "Zenith-Gradua" is on view at The Service Co., High Holborn; and at Sherwell's, 46, York St., Westminster.

LUCKY
PALMER
TYRE

EDINBURGH MOTOR CYCLE CLUB FIVE DAYS' TRIAL.

Rider of Palmer Tyres, **FIRST CLASS MEDAL** and **SPECIAL PRIZE PERFORMANCE** ON **BRITISH MADE TYRES.**

A.C.U. SIX DAYS' TRIALS.

Awards to riders of Palmer Tyres, **SIX GOLD MEDALS,**
TWO SILVER MEDALS, 1908 and 1909 (to date.)

Also winners of Murratti Trophy.

83 MEDALS and 10 CUPS WON ON
PALMERS.

Write for descriptive booklet—

THE PALMER TYRE, LTD., 119, 121, 123, Shaftesbury Avenue, London, W.C.

Depots—London, Paris, Glasgow, Birmingham, Coventry, Nottingham, and Amsterdam.

Piston Speed and Efficiency.—

CLASS II.—Gear table.

3½ h.p. Zenith Gradua, variable	3½ h.p. Quadrant, 4¼ to 1.
3½ h.p. Zenith Gradua, variable	3½ h.p. Rex Speed King, 4¼ to 1
2¾ h.p. Douglas, 6¾ to 1	3½ h.p. Rex Speed King, 4¼ to 1.
3¾ h.p. Premier, 5 to 1	3½ h.p. Rex Speed King, 4¼ to 1.
5 h.p. Rex, 4¾ to 1	3½ h.p. Triumph, 4¼ to 1.
2¾ h.p. Electric-Minerva, 4¾ to 1	5 h.p. T.T. Rex Speed King, 4¼ to 1.
4 h.p. N.S.U. (two-speed), 4¾ to 1	8 h.p. Minerva, 3½ to 1
3½ h.p. Norton, 4½ to 1	5 h.p. Rex, 3½ to 1
3½ h.p. Premier, 4½ to 1	7 h.p. Leader-Peugeot, 3½ to 1
3½ h.p. Rex Speed King, 4½ to 1	7-9 h.p. King-J.A.P., 3½ to 1
3½ h.p. T.T. Triumph, 4½ to 1	7-8 h.p. Bat-J.A.P., 3 to 1
3½ h.p. T.T. Triumph, 4½ to 1	6-7 h.p. Bat-J.A.P., 2¾ to 1

Of five machines which ran in both classes, two improved on the times they made in the first climb, and the rest were slower at the second attempt.

The results seem to show that, in spite of the many factors which intervene to slow machines on a hill, there is a very fair basis to go upon, and the formula

$\frac{\text{h.p.} \times \text{time}}{\text{weight}}$ has a rational basis from observed results, the most efficient machines being those with the highest piston speeds.

Club officials will also be most surprised to know that, whether they use the A.C.U. or R.A.C. formula, or the special one adopted by the Coventry Club, the results will be practically the same.

J. L. MILLIGAN, B.Sc.

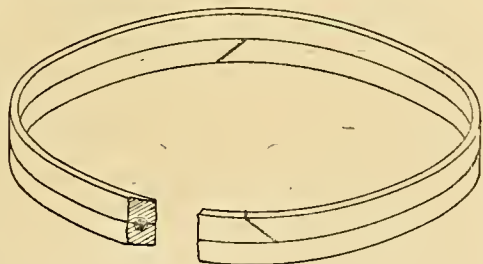
WHAT MAGNETOS HAVE DONE FOR MOTOR CYCLING.

THE enormous increase in the number of motor cycles during the last three years has doubtless struck our readers with something akin to astonishment. The reason for the increased popularity is, we think, fairly evident. Previous to the time when H.T. magnetos were fitted as a standard the fickle behaviour of some accumulator ignited machines led to many motor cyclists becoming disgusted, while the fact that when motor cyclists were seen repairing by the road side eight times out of ten it was due to faulty ignition did not encourage others

to go in for the pastime. Just at this critical period the Bosch motor cycle H.T. magneto made its appearance, and the firm responsible for its production, being capable of turning out an almost unlimited number of machines, quickly disseminated them throughout the country, and transformed the motor cycle into a far more reliable machine than it was previously. While we do not say the Bosch was even then the only magneto, it was the only one which really counted, since it saved the situation by accurate workmanship and early deliveries.

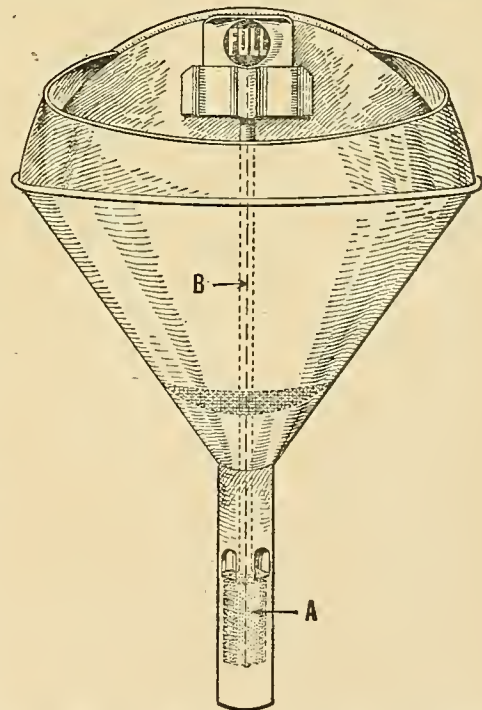
A COMPOUND PISTON RING.

A CORRESPONDENT named Anderson, of Melbourne, Australia, sends us a sketch and description of a compound piston ring which he says he has used with great success for 7,000 to 8,000 miles. After this long mileage, he tells us, and without touching the rings, the starting handle of the engine will bear his full weight against compression until he is tired. The top groove of the piston is widened, when it will permit of an increase in width without weakening the piston, and two rings are inserted instead of one. These rings are shallower than ordinary ones, and are placed one on top of the other, the diagonal slits being on opposite sides and cut in the case of the top ring from left to right and in the bottom ring from right to left. To prevent the rings moving round on one another and to permit the required spring each ring is drilled on one edge and a small steel ball inserted between them. Our correspondent contends that if gas escapes past the slit in the top ring it is met by the flush surface of the second one. This may be so, but he does not explain why a compound ring is superior to a single one, when wear in the groove and on the ring allows gas to escape between the back of the ring and the piston. That is the usual point on piston and rings where wear takes place to a sufficient extent to cause bad leakage, and is the reason why it is necessary to renew the rings and turn up the grooves in the piston to restore the compression.



AN INDICATOR FUNNEL.

Sendall's indicator funnel, illustrated herewith, has been introduced to obviate spilling and waste in filling up petrol tanks. In the spout of the funnel is a cork A connected by a rod B to a red signal marked "Full." When the tank is nearly filled, the floating cork raises the indicator from behind the screen in time to prevent waste through overflowing — a common practice in the case of shallow motor cycle tanks. The makers are Sendall's, Tower Street, Stockton-on-Tees.



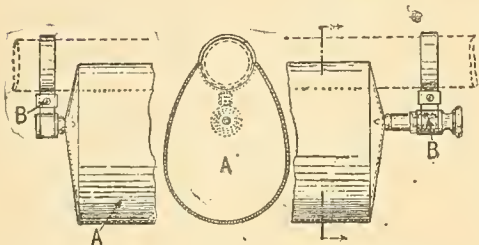
A most interesting treatise on carburation has lately been written by Mr. Walter Gillett, the inventor of the Gillett-Lehmann carburetter. It bears the title of "The Carburetter," and can be obtained for the sum of 6d. from Carburation, Ltd., 25, Mount Pleasant, Rosebery Avenue, E.C. Naturally, the action of the Gillett-Lehmann carburetter is chiefly considered, but the treatise is instructive, and motor cyclists can improve their knowledge of carburation by perusing it.

RECENT

PATENTS

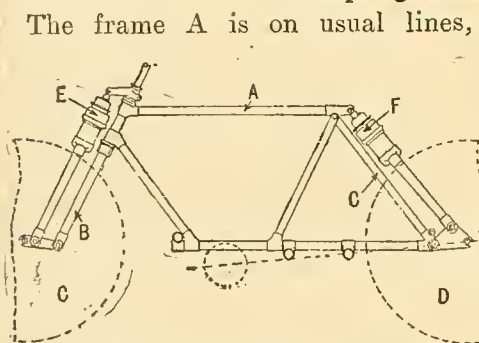
By ERIC W. WALFORD, F.C.I.P.A

A Rigid Wallet.



as are commonly used for holding inflators.—R. Marguerettaz, No. 1,343, 1909.

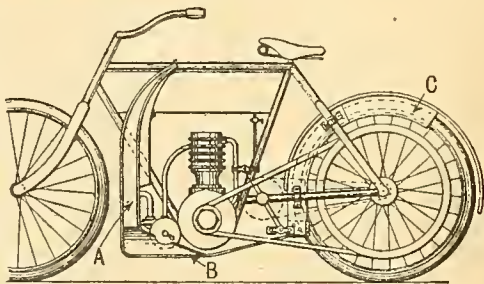
A Spring Frame.



or other shock-absorbing devices E F.—A. Sharp and C. Wilkins, No. 26,009, 1908.

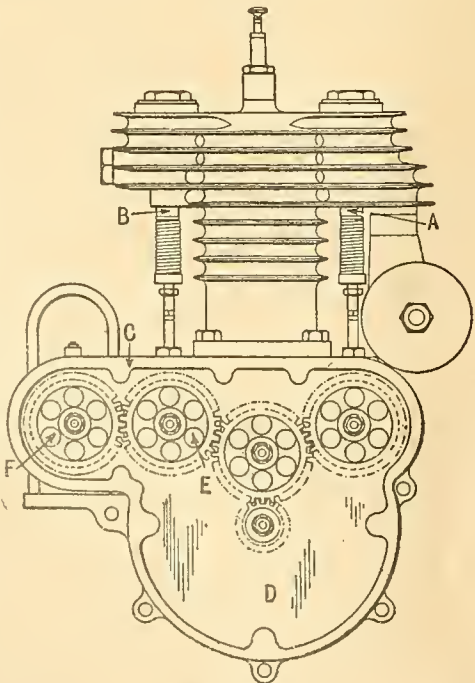
A Weather Guard.

This guard is of a complete character, and comprises upwardly extending shields A, which are continued beneath the feet of the rider, as shown at B. At their extreme ends the shields are connected to the wheel guard C, and a complete form of protection is thus obtained.—J. A. Miller, No. 19,772, 1908.



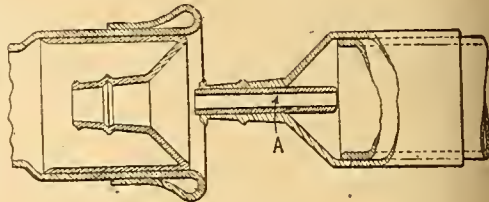
The Quadrant Engine.

The exhaust and inlet valves A and B are arranged respectively fore and aft of the engine. The crank case D is cast in one piece, and provided with a detachable side plate E, which carries the spindles of the half-time gear wheels. The half-time wheel E, which operates the inlet valve cam, also drives the magneto through a second gear wheel F. The complete mechanism is enclosed by a perfectly flush outer cover plate, not shown.—T. Silver and W. Priest, No. 16,860, 1908.



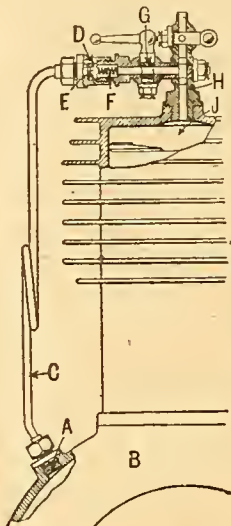
A Jointed Air Tube.

The construction of the joint is clearly illustrated in the drawing, and a free though somewhat restricted air passage A is provided through the joint.—J. Jelley, No. 19,203, 1908.



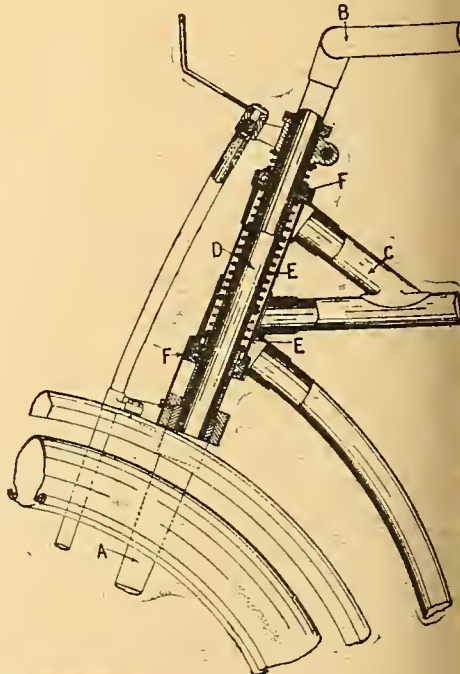
A Lubrication System.

A nipple A is screwed into the crank chamber B, and communicates by means of a pipe C with a valve D containing a ball E and spring F. This valve communicates by way of a tap G with the ordinary compression tap H in the cylinder head J. In operation, the oil in the crank chamber is churned up into a fine spray. On the suction stroke suction is set up through the ball valve D, allowing some of the oil spray to be taken along the pipe C into the cylinder head J. It is claimed that greater efficiency and reduced oil consumption are obtained.—F. Hill, No. 26,912, 1908.



A Spring Head.

The fork A is in rigid connection with the handle-bar B, thus permitting an ordinary front rim brake to be used, but the frame C is mounted around the head through the intermediary of springs E of graduated strengths, which absorb the vibration. Anti-friction bearings F are arranged at the top and bottom of the head to take the weight of the frame and keep the springs E in position.—E. S. Bond, No. 8,831, 1908.



With regard to the paragraph recently published respecting magneto switches, Mr. A. H. Haden, the maker of the New Comet motor cycles, Princip Street, Birmingham, informs us that he fits a switch to all his machines, operated by the front brake lever.

“Analyst” has sent us a copy of an analysis of cylinder deposit sent to him by a reader, and it is apparent from the large percentage of free oil in the deposit that the engine has been very much over-lubricated, or the piston rings have allowed the oil to get past. The analysis is as follows:

Mineral matter	...	...	...	...	19.80%
Free oil	...	...	...	...	15.18%
Other organic matter	...	...	...	...	65.02%
Total	...	...	...	...	100.00%

TOR BICYCLES FOR SALE.

N.S.U., Clincher studded, new cylinder, excellent for throughout; £12, exchange 3½h.p.—Thistle-Grassington.

Motor Cycle, reliable, easy starter; only £7 10s.; real bargain.—Particulars, Armitage, Clar-bridge, Hyde.

Twin Rex, fitted with forecar, splendid condition; £20: exchange good piano.—Lumb, End., Rochdale.

Genuine De Dion water cooled motor, silencer, carburetter, coil, etc., in splendid condition; £4 app, Carlisle St., Goole.

MPH, 3½h.p., 1909, clutch model, brand new, delivered; offers invited.—Priest, Stonegarth, Old Rd., Huddersfield.

Minerva, spring forks, B. and B. carburetter, complete with spares; £26: trial by appointment. Haigh, 34, Bolton Rd., Atherton.

Rex, 3½h.p., spring forks, lamp, stand, all accessories, Marconi coil, C.A.V. accumulator, good order.—Blankley, Sale, Manchester.

O.T.A.V., magneto, hood, electric lamps, pale green body, a handy, simple, economical 2-seater, Newstead, Buttonstone Lane, York.

Kerry Motor Cycle, handle-bar control, Clincher tyres, splendid condition, all spares, tools, etc., that offers.—Brown, 5, Walls St., Leeds.

2½h.p. Twin, magneto, 1909, new July, not run any miles, otherwise perfectly new; cash £30; up.—Holland, Market Place, Haslingden.

Eagle Runabout, De Dion engine, two speeds, water cooled, car tyres, winner Manchester 350 on-stop, 1908; £35.—Potter, Blenheim Sq., Leeds.

IFAX.—Illustrated list of second-hand Rex motors, and monster list of triars and motor application.—Motor Exchange, Westgate, Halifax.

IFAX.—Owing to unforeseen circumstances buyer of new 1909 4h.p. N.S.U. de Luxe, value £48, take delivery, and is prepared to consider any offer.—Apply, 16, Westgate, Halifax.

IFAX.—Bargains for spot cash in motor cycles. List free. A few at half price for quick reply.—Exchange, Westgate, Halifax.

D-REVE, late 1908, all 1909 improvements; £25, nearest offer, or give cash adjustment for 1908 or Douglas.—14, North Marine Rd., Scarborough.

F.N. Lightweight, 1908, magneto, stand, carter, new front tyre, Glare electric headlight; trial by appointment.—Forster, Highfield, Burnley, Lancs.

MPH Motor Cycle, J.A.P. engine, 2½h.p., low line, long handle-bars, spray, in good running condition, or nearest offer.—Apply, 377, Blackburn, Warrington.

p. Rex de Luxe, magneto, twin tyres, Cantiver seat, handle started, Roc clutch, splendid, hardly used; cheap, £25.—Wileman, 144, use Lane, Leeds.

GLAS, 2½h.p. (the little Daimler), a few months, best condition, spares, Continental non-skid, belt; £28 10s.—Whittaker, 63, Union Rd., Wistley, Lancashire.

4h.p. Roc, as new, heavy Palmer cord to back, detachable tubes to both, Whittle belt, Advance ole; £35, or reasonably close offer.—Carwin, 27, g Rd., Fulwood, Preston.

ERVA 3h.p. Motor Cycle, and sidecar, cheap, in good running order; will sell separate; owner 6h.p. Rover car, in good condition.—Joseph Jessop, Waterloo, Huddersfield.

Brown, £44 model, new May, 1909, magneto, spring forks, Brown adjustable pulley, lamp, and spares, fast and powerful, absolutely perfect, ed: any trial; nearest to £30.—Capes, 351, Hedon

3½h.p., 1908 model, magneto, spring forks, two speeds free engine, excellent condition, new Stan-tyre, tube, belt, etc.; trial; £25, or exchange Douglas.—Bradbury, 35, Cavendish Rd., Chorlton-ry.

MPH, 3½h.p., 1907, engine and magneto just n thoroughly overhauled and machine replated, er tubes, cover on back wheel, belt and footrests, spring pillar; £26 10s.—Bennett, 34, Diccon-Wigan.

80 Ormonde Motor Cycle, Anglian two-speed gear, free engine clutch, Druid spring forks, seat-pillar, spring handle-bars, 2½in. back tyre, sily, B. and B. latest carburetter; £33.—Walker, St., Hull.

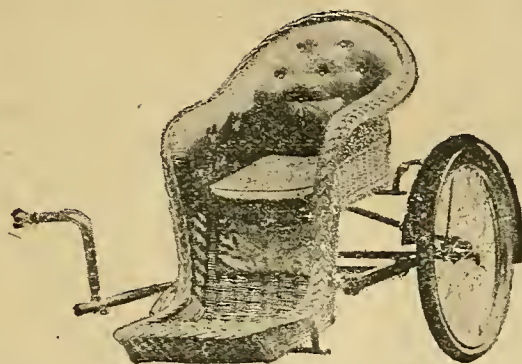
POOL.—Intending purchasers of Triumphs and Douglas motors should, to obtain the protection of ers' guarantees, buy only from the official agents, ings, Ltd., 74, Bold St. (the firm with over 30

highest reputation).

ATIONLESS Douglas, the best lightweight on e market and British made: send for list and als.—Hitchings, Ltd., 74, Bold St., Liverpool. ents for Douglas and Triumphs.

ale, 1906 Twin Rex, just overhauled, adjustable ver, lamp, horn, two belts, two accumulators, y perfect; expert trial requested; £25, or would exchange lower powered machine.—Harrison, Terrace, Bispham, Blackpool.

CORONET SIDECARS.



Before buying a Sidecar, send for illustrated circular, explaining the advantages of "CORONET" Sidecars over other makes. Delivery from stock to suit Minervas Rexes, N.S.U.'s, Triumphs, and any other make. Attached in three minutes.

PRICE £4 17s. 6d. each.

ALL OUR MACHINES ARE TESTED.

3½ h.p. 1909 HUMBER, two speeds	£37 10
3½ h.p. REX, 1908½, ball bearing, h.b. control ..	£29 10
3½ h.p. TRIUMPH, new	£45 0
3½ h.p. N.S.U., magneto, 2½in. tyres, long bars ..	£22 10
3 h.p. N.S.U., magneto, 1908, smart	£17 10
3 h.p. REX, 1908, magneto, h.b. control	£17 10
3 h.p. THOS. SILVER, magneto, variable pulley ..	£18 10
5 h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4 h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£13 10
3½ h.p. REX, spring forks, trembler coil	£10 10
3½ h.p. REX, 26in. wheels, M.O.V., h.b. control ..	£8 15

Best cash offer accepted for the following:

3	h.p. FAFNIR, 26in. wheels, h.b. control	£9 10	
2½	h.p. SPARK, 26in. wheels, magneto ignition ..	£8 10	
3½	h.p. EXCELSIOR £6 15	3½ h.p. REX	£6 15
3½	h.p. QUADRANT £6 15	2½ h.p. GARRARD ..	£6 15
2	h.p. STANDARD £5 5	2 h.p. LIBERTY ..	£5 5

Send for list of other bargains. Best, biggest, and cheapest stock. Cash buyers liberally treated.

Send for list of other bargains. Best, biggest, and cheapest stock. Cash buyers liberally treated.

TRICARS.

4 h.p. STEVENS, fan-cooled, powerful	£12 12
4 h.p. REX, fan-cooled, free engine	£13 13
5 h.p. REX, open frame, two speeds	£29 10
5 h.p. REX TRIETTE, fan-cooled, Osborne four speeds, and free engine, acc. ignition	£20 10
8 h.p. FAFNIR, 2-cyl., open frame	£35 0
Forecar Attachment, with tyres	£3 15
5 h.p. TWIN ROC, magneto, Roc clutch, handle starting, fitted with new sidecar	£27 10

ENGINES.

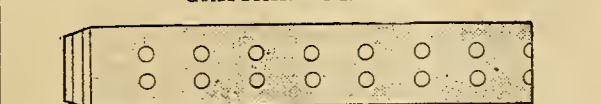
3½ h.p. REX, 1908, ball bearing model	£5 10
3½ h.p. AURORA, M.O.V. £3 5	2½ h.p. DE DION £2 5
1½ h.p. WERNER £1 10	1½ h.p. STANDARD .. £1 10

CORONET ADJUSTABLE PULLEY.



The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade. Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

"GRIPSKIN" BELTING.



Made from selected parts of hides, correct angle, perfect drive; the best leather belt on the market. Longer life than rubber.

¾in., 9d.; 1in., 10½d.; 1½in., 1/-; 2in., 1/1.
Special terms to the trade.

CARBURETTERS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,

CHARLES STREET, off Square Road,

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

NEW Excelsior, 1909, 3½h.p., ball bearing engine, only slightly shop-soiled, Druid spring forks, etc., splendid machine; descriptive list sent per return; unique opportunity to get a high-grade motor at trade price; £37, usual price £45 13s.—See below.

TRIUMPH, 1909, little ridden, perfect condition, Premier projector and numerous spares; £38.—See below.

MOTO Reve, 1908, guaranteed perfect, and unscratched; £27.—See below.

MOTO-REVE, 1908, excellent condition, not been ridden more than 500 miles; £20.—Ajax Co., 143, Berry St., Liverpool.

4 h.p. de Luxe 1909 Two-speed N.S.U., with Cowey, Lucas lamp and generator, Brooks saddle, with Millford castor wheel sidecar, new August 1st; sale, or exchange for 1909 lightweight motor cycle. — R. C. Farnsworth, Secretary Y.M.C.A., Wakefield.

TRIUMPH, late 1908, all tools and spares, Puleo lamp and generator, horn, Brooks saddle, and frame, bag, spare belt, excellent condition throughout; would ride 50 miles to probable purchaser; 30 guineas, a genuine bargain.—167, Wigan Lane, Wigan.

DOUGLAS Lightweight, British made, twin cyls., magneto, spring forks, a revelation in comfort, ease of starting, power, and reliability, absolutely vibrationless; write for lists.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

5-h.p. Twin Rex, low, long bars, two accumulators, aluminium finish, fast, tyres and condition faultless; first cheque £15; Osborne four-speed and free engine, only run 50 miles, 55s.; hydranamo, nearly new, cost 70s., take 40s.—31, Ellesmere St., Moss Side, Manchester.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week. —Cookson Bros., 511, Chester Rd., Old Trafford.

FOR Quick Sale, 1909 Triumphs, clutch and standard models; 1909 N.S.U., 2½h.p., twin, lightweight, also second-hand machines, large stock of accessories. Correspondence, inspection, and offers cordially invited. —Moldgreen Engineering Wks., Huddersfield. Motorists in Wakefield district should communicate and deal with Alfred Mellor and Sons, Kirkgate, Wakefield. Fair trading, moderate prices, good workmanship. Accessories, petrol, one gallon, upwards. Oils, etc. Send along your requirements.

SECTION III.

Canarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

1907, 4h.p. Roc free engine, Simms-Bosch magneto; £20.—Hughes, 8, Cambrian Terrace, Portmadoc.

2½h.p. Kerry, in good running condition, back tyre new; £8.—Amatt, 89, Ashbourne Rd., Derby.

BARGAIN, 3½h.p. Hobart, recently enamelled and plated, good climber, excellent condition; £14.—Haskard, Derby.

1909 3½h.p. Triumph Standard, unscratched, new condition, with tools; 38 guineas.—W. Priest, 29, Claremont St., Old Hill.

3½h.p. Kelecom, spring forks, adjustable pulley, new 32 Amac, fast, powerful, accessories; £15.—Bann, Pinfold St., Macclesfield.

5½h.p. N.S.U. Twin, nearly new, not done 1,000 miles, footboards, headlights, and all fittings; £34, no offers.—Richards, Engineers, Ruabon.

HITCHINGS, Ltd., specialise in Douglas lightweight motor cycles. Inquiries receive prompt and courteous attention.—74, Bold St., Liverpool.

5h.p. Rex, condition equals new, low, powerful, complete, perfect, guaranteed; any trial; bargain, £15 10s., or £13 10s. and good push cycle.—Ashworth, High St., Buxton.

1908 Triumph, excellent condition, £31; 3½h.p. Rex, low built, very powerful, footboards, perfect condition, a bargain, £9; easy payments arranged.—Lund and Sergeant, Stockport.

1908 3½h.p. Triumph, recently thoroughly overhauled with 1909 fittings, lamps, horn, pumps, all spares, overalls, complete set tools and accessories; £36, or near offer.—Apply, Wells, Talacre, Prestatyn, N. Wales.

TWIN Rex de Luxe, magneto, engine perfect condition (will guarantee two months), handle-bar control, cut-out, Advance pulley; an ideal winter mount; having twin tyres, it cannot skid; five to fifty-five miles per hour; £27 10s.—N. Colley, Hillingdon, Bilston.

5h.p. Twin V.S., special Tourist Trophy model, condition equal to new, price £25; twin, 5h.p. Rex, £14; 2½h.p. J.A.P., vertical, low and up to date, very fast and powerful, £15; Dragon, 5h.p., runabout, two speeds and free engine, in excellent condition, £20.—Thos. Wignall, Banks, near Southport.

TRIUMPH, late 1908, engine '09, with Roc clutch and two-speed gear, Millford castor wheel sidecar, Palmer cord back wheel, inch belt, Premier cycle lamp with two generators and Duocellier car lamp, cyclometer, etc., condition as new; sacrifice 60 guineas; buying car. —Legge, Queen's Pk., Chester.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1908, just overhauled by makers, unused, F.R.S. Colonial lamp, front wheel stand, spare Rich tube, new Palmer tyre; £30.—Hill, Ashleigh, Stapenhill, Burton-on-Trent.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

SINGER, 2h.p., chain drive, not ridden 100 miles, perfect, fast; £12.—Birch, Spon St., Coventry.

TRIUMPH, perfect, new condition; £32; any trial.—Dallaway, Fruit Merchant, Cape Hill, Smethwick.

1909 3½h.p. Premier, delivery August 4th, only run 250 miles; £36, offers.—Higgs, tobaccoist, Stamford.

4-CYL. F.N., 4h.p., magneto, splendid order, Palmer cords; trial; £23.—Lloyd, Victoria Terrace, Leamington.

L.M.C. Motor Cycle, new April, 1909, fully equipped, and perfect; £30, lowest.—120, Pershore St., Birmingham.

MOTOR Cycle, 3h.p., nearly new, vertical, low, Amac, spares; £11.—229, Court Oak Rd., Harborne, Birmingham.

BARGAIN—3½h.p. Excelsior, Longuemare, covers new, good throughout; £6 10s.—Grover, Penny Stratford.

TRIUMPH, 1909, June model, scarcely soiled, all accessories; £42, or near offer.—23, King Edward Rd., Coventry.

TRIUMPH, 3½h.p., 1907, 1909 engine, H.B. control, perfect condition; £26.—Brears, 25, Lamartine St., Nottingham.

QUADRANT, 1908, 3½h.p., magneto, H.B. control, nearly new; £26; genuine bargain.—187, Alum Rock Rd., Birmingham.

ROVER, 3½h.p., m.o.v., 26in. wheels, Clincher tyres, Brooke's saddle; bargain, £10 10s.—Brown's Stores, 12, Bull Ring, Birmingham.

5-6h.p. Twin-cyl. Rex, low built, 26in. wheels, spring forks and seat-pillar, excellent order; bargain, £14 10s.—49, Milner Rd., Selly Oak.

CLYDE 2h.p. Lady's Lightweight Motor Bicycle, magneto ignition, low built, spring forks, Dunlop tyres, shop-soiled; £27.—See below.

CLYDE, 2½h.p., magneto ignition, Michelin tyres; used for trials; £15 10s.—See below.

CLYDE, 2½h.p., magneto ignition, second-hand, excellent condition; £10 10s.—See below.

CLYDE, 5-6h.p., twin magneto ignition, spring forks, Dunlop tyres, built very low, used for trials; £37.—See below.

HUMBER, 2½h.p., new tyre on back wheel, in splendid condition; £7.—G. H. Wait and Co., Leicester.

REX, 2½h.p., 1908, handle-bar control, Bosch magneto, tyres almost new.—Garaged at Premier Motor Co., Birmingham. £18, or offer.

3½h.p. Rex, good condition, accumulators, adjustable pulley, accessories, spares, trial; £12 10s.—133, Oakwood Rd., Sparkhill, Birmingham.

N.S.U. 2½h.p. Twin, magneto, 1909, run few trials, otherwise perfectly new; cash £33. Tel.: 1180.—R. Crapps and Co., Ltd., Nottingham.

1908 Twin Rex de Luxe, 6h.p., Bosch magneto, handle-bar control, only little used; accept £22 10s.—Brown's Stores, 12, Bull Ring, Birmingham.

1½h.p. F.N., 1908, magneto, spring forks, adjustable pulley, numbers, lamp, spares, £19; coat, frieze, leather lined, £1.—72, Harrowby Rd., Grantham.

6h.p. N.S.U., late 1908, Albion clutch, spring forks, handle-bar controlled, 26 by 2½ tyres, lamp, horn, spares; £26 10s.—Jays, 210, Martin St., Leicester.

ROO, 4h.p. free engine, Bosch magneto, B. and B. carburetter, handle-bar control, Whittle belt; great bargain, £23 10s.—Brown's Stores, 12, Bull Ring, Birmingham.

4h.p. Roo, magneto, free engine, clutch, new Palmer tyre front, Shamrock Special back, Rich's tubes, Advance adjustable pulley, good condition; £19.—P. Wilcox, Dyke, Bourne.

QUADRANT, 3½h.p., handle-bar control, spring forks, stand, carrier, lamp, all accessories, complete, just overhauled, grand condition; £18.—13, Homer St., Balsall Heath, Birmingham.

REX de Luxe, 3½h.p., 1908, first-class condition, two speeds, magneto, brand new Kempshall back, nearly new Whittle, spares; what offers?—Willows, East Stockwith, Gainsborough.

1909 Triumph, with Triumph free engine, new at Easter, overhauled in August by makers, will do 56 m.p.h. by speedometer, first Triumph on formula Newham Hill-climb, spares.—Dermatine belt, valve complete, plug, fasteners, belt punch, nasal tool roll, tyres R.O.M. front, Clincher back; £46, complete, or nearest offer.—Geoffrey Smith, 37, Northumberland Rd., Coventry.

No. 1733.—3½ h.p. 1909 MINERVA, grey finish, spring forks, magneto; guaranteed.....	£28 10
No. 1722.—3½ h.p. 1908 MINERVA, spring forks; guaranteed.....	£22 10
No. 1732.—3½ h.p. 1907 TRIUMPH, manufactured in 1908, magneto, spring forks; guaranteed....	£27 10
No. 1728.—2½ h.p. REX Lightweight, 1908 magneto; guaranteed.....	£16 10
No. 1727.—2 h.p. MOTO-REVE, 1909 model, cream finish, magneto and spring forks; guaranteed.....	£28 10
No. 1716.—3 h.p. 1906 TRIUMPH, magneto and spring forks; guaranteed.....	19 Gns.
No. 1729.—3 h.p. TRIUMPH, ball-bearing engine; guaranteed.....	£15 0
No. 1723.—2½ h.p. TRIUMPH, Jap engine; guaranteed.....	£12 10
3½ h.p. 1908 TRIUMPH, magneto, spring forks; not received.....	30 Gns.
No. 1637.—3½ h.p. 1907 TRIUMPH, magneto, Mabon free engine clutch; guaranteed.....	£27 10
No. 1679.—1½ h.p. Late Model F.N. Lightweight, magneto ignition, spring forks; guaranteed..	£17 10
No. 1652.—6 h.p. J.A.P. and Sidecar, Phelon and Moore two-speed gear, Chater-Lea fittings, spring forks; guaranteed.....	29 Gns.
No. 1606.—3½ h.p. CHASE Tricar, two-speed gear	20 Gns.
No. 1618.—6 h.p. 1908 N.S.U. and Sidecar, coach-built two-speed, and free engine, magneto, spring forks; guaranteed.....	£35 0
No. 1623.—3½ h.p. PHOENIX, Minerva, Tricar..	20 Gns.
No. 1681.—3½ h.p. GREEN Motor Cycle, water-cooled engine, magneto.....	£25 0
No. 1481.—4 h.p. TWIN WERNER; guaranteed.....	£12 10
No. 1467.—2½ h.p. MINERVA.....	£10 10
No. 1617.—1½ h.p. QUADRANT; guaranteed..	£15 15
No. 1665.—3½ h.p. 1908 TRIUMPH, handle-bar control, spring forks, standard model.....	29 Gns.
No. 1443.—3½ h.p. TWIN WERNER, free engine clutch, chain drive; guaranteed.....	£10 10
No. 1545.—7-9 h.p. PEUGEOT, Chater-Lea fittings	£15 15
No. 1606.—7-9 h.p. V.S. and Sidecar, 1909 model, two-speed gear, and free engine, spring wheel, Mills and Fulford sidecar.....	£59 0
No. 693.—2½ h.p. R. & P., vertical engine; guaranteed.....	£8 10
2½ h.p. GRIFFON, vertical engine.....	£10 0
No. 1613.—3½ h.p. 1907 MINERVA.....	£16 10
No. 1664.—3½ h.p. ROC, free engine clutch; guaranteed.....	£15 15
No. 1452.—5 h.p. REX DE LUXE, magneto ignition, spring forks, and seat-pillar; guaranteed	£17 10
No. 1605.—2½ h.p. BROWN, vertical engine; guaranteed.....	£10 10
No. 1682.—4½ h.p. 1908 Four-cylinder F.N.....	30 Gns.
No. 1584.—4 h.p. BAT.....	£12 10
No. 1608.—4½ h.p. MINERVA and Sidecar, twin-cylinder engine, 1908 model. The lot.....	£25 0
No. 1680.—3½ h.p. M.M.C., Nala two-speed gear, magneto ignition, finished grey; guaranteed..	£19 19
No. 1528.—5 h.p. TWIN BROWN, four-speed gear, low frame, 1908 model.....	£19 19
No. 1625.—2½ h.p. BRADBURY, magneto.....	20 Gns.
No. 1631.—3½ h.p. Three-speed N.S.U., 1908 model, magneto.....	Offers
No. 1639.—3 h.p. ZENITH BICAR.....	£15 15
No. 1650.—2½ h.p. 1909 MATCHLESS, lightweight, magneto, spring forks, standard model..	Offers
No. 1577.—5 h.p. 1903 V.S., two-speed gear, Truffault forks, magneto.....	Offers
No. 1683.—4½ h.p. 1908 N.S.U., only once used, twin engine, magneto; guaranteed.....	£25 0
No. 922.—3½ h.p. PHOENIX COB, suitable for lady or gentleman, two-speed gear.....	£32 10
No. 1559.—6 h.p. MATCHLESS, magneto ignition, J.A.P. engine; guaranteed.....	Offers
No. 1596.—1½ h.p. F.N., spring forks, magneto, latest model.....	£17 10
No. 1534.—4½ h.p. 1908 MINERVA, R.O.M. contact breaker; guaranteed.....	20 Gns.
No. 1636.—5-6 h.p. Four-cylinder F.N.; guaranteed	30 Gns.
No. 1634.—7 h.p. MATCHLESS, twin engine, magneto, low frame, latest 1908 model; guaranteed	£25 0
No. 1616.—3 h.p. TRIUMPH.....	£15 15
No. 1465.—3 h.p. TRIUMPH, very low price..	15 Gns.
No. 1644.—2½ h.p. F.N.; guaranteed.....	15 Gns.
No. 1560.—3½ h.p. CHATER-LEA; guaranteed.....	£17 10
No. 1576.—3 h.p. TRIUMPH, magneto ignition; guaranteed.....	£17 10
No. 1542.—6 h.p. ANTOINE.....	£12 10
No. 1628.—5 h.p. TWIN PEUGEOT; guaranteed.....	£22 10
No. 1550.—3½ h.p. 1907 REX, magneto.....	£18 10
No. 1651.—1½ h.p. 1908 MOTOSACOCHE; guaranteed.....	£17 10
No. 1037.—2½ h.p. MATCHLESS.....	Offers
No. 918.—3½ h.p. EXCELSIOR and Sidecar.....	Offers
No. 1705.—1½ h.p. F.N., magneto, spring forks	£17 10

Machines quoted in this column are offered by WAUCHOPE'S, and carry their guarantee.

WAUCHOPE'S,

9, Shoe Lane, Fleet Street, LONDON.

Telephone 5777, Holborn.

MOTOR BICYCLES FOR SALE**SECTION V.**

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

1909 Triumph, just received; immediate delivery cash or easy payments.—Below.

1909 Triumph, new at Easter, perfect condition throughout; £41 10s.—Parker and Son, St. Hunts.

TWO Triumph Motors in stock, 1909, one with engine.—Crawley, St. Mary's, Bedford.

TRIUMPH, 1907, in first-class condition, hand control; £25.—A. Godfrey, 25, London Rd., Bedford.

2½h.p. Kerry Motor Cycle, perfect, and powerful engine, as new; £11.—Woolsey, Photographer, Suffolk.

3½h.p. Wolf, Stevens engine, accumulator ignition, new condition; £1; exchange magneto.—worthy, Walpole-St.-Andrew, Wisbech.

2h.p. Minerva, m.o. valves, spray, new Dermatine tyres, accumulator engine, and every part perfect; sacrifice £9.—Drake, Haddenham, Ely.

TRIUMPH, 3½h.p., magneto, splendid condition, chier tyres, as new; £27 cash, no offers.—Tevens, North Lopham, Thetford, Norfolk.

3h.p. Humber, belt drive, spray carburetter, just thoroughly overhauled, and new tyres, and fitted; bargain, £8 10s.—Criswell, Newmarket.

MOTO-REVE, 1908, magneto, Druid spring tyres perfect, back Thorne's punctureproof, engines as new, accessories, must sell; sacrifice £1.—Harvey, Builder, Watton.

1909 Zenette, Gradua gear, spring frame, 4h.p. J engine, Bosch magneto ignition, Cowey speedometer, Clincher tyres, studded, perfect running cost £60, accept £45; owner going abroad.—Francis Carbrooke, Thetford.

4½h.p. Single Peugeot, 80 by 98, just overhauled, Chater-Lea frame, low riding position, magneto, cover, gear driven, Advance pulley, 1in. W belt, spare rubber, two pairs footrests, foot-applied and rim brakes, cut-out, new Cowey speedometer, forks, Palmer cord tyres, almost unused, new innners, new spare B. and B. carburetter, handle control, all necessary accessories and spares, to tank, holds two gallons, in perfect order, and very any examination; price £25; owner kept cars for and finds no use for motor bike.—Apply, D. Copley, Thursley, Chancer Rd., Cambridge.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

3h.p. Triumph, in first-class order, recently overhauled by Triumph; £22.—Below.

3½h.p. Triumph, fine condition, Palmer cords, recently overhauled by Triumph; £27 10s.—Below.

3½h.p. Brown, spring forks, magneto; £18.—Below.

5h.p. Vindec, nearly new rubber studded tyres, forks, magneto, in good order; £25.—Below.

5h.p. Vindec, recently replated, enamelled grey overhauled, a grand machine, with many improvements; £30.—Hitchings and Son, Evesham.

3½h.p. Brown, spray carburetter, good condition cash.—Hamar, Knighton.

1909 Triumph, splendid condition, all spares, latest lamp; £38.—Davies, 164, High St. Stourbridge.

2½h.p. Minerva, vertical, Minerva spring forks, for road; sacrifice £8.—Adlington, Jun., R. Hill, Worcester.

3½h.p. N.S.U. and Sidecar, magneto, Advance accessories; £30; any trial; only wants bargain.—Kirby, Capel Crescent, Newport, Mon.

3½h.p. Rex, excellent condition, spare tyre, great all accessories; £10, or nearest offer; bargain.—Sturgess, Pencraig, Ross, Herefordshire.

MOTOSACOCHE, Druid forks, two Lucas stand, carrier, spares, New Departure hub front brake; bargain, £15 10s.; splendid condition; Akers, 28, High St., Newport.

1908 3½h.p. Rex, ball bearing engine, 1909, clutch, magneto and carburetter, Shamrock complete with stand, horn, tools, and spares, condition.—Woodward, Laugherne House, Upper Worcester.

1909 Standard Triumph, delivered only last done 50 miles, full tool kit as supplied, valve, handle-bar mirror, registered, Dunlop studded tyres; cause of sale financial difficulty trial or examination.—No. 3,175, The Motor Cycle Coventry.

5h.p. Genuine Peugeot, Roc two-speed gear, magneto, Truffault spring forks, 2in. S.B. rubber-studded tyres, new condition, new Michelin P. and H. lamp, spare tyres, valves, magneto, splendid condition; any trial; buying car; £27 offers.—Ben George, Beethoven House, Tredegar.

TOR BICYCLES FOR SALE.

SECTION VII.

ster, Oxford, Buckingham, Berks, s, and Hants, and Channel Islands.

Kerry, fast, reliable, thorough order, tyres good, Acetynote; £8.—H. Barrett, The Moors, Ham.

MPH, August, 1909, lamp, horn, etc.; £40. Phonograph Co., 133, High St., Cheltenham. 0 miles.

Humber, chain drive, long bars, low saddle, new unlop on back, in good running order, recently ed; £10.—Rayson, Albert Rd., Southsea.

Bargains.—F.N. Lightweight, £17; 3½ h.p. Rex, 0; will take £25 for the two for quick sale, in spares and fittings.—Freshwater, Newport Pag-

SPEED 3½ h.p. Rex, good running order, Longue- are, Palmers, Rich detachable tube, new Lycett are valves, pulley, etc., cash offers.—Wyatt, Bournemouth.

GLAS, 1909, Model B, perfect condition, only d two months, plate and enamel unscratched, ly reliable; 30 guineas, lowest.—Harrison, 72, Place, Cheltenham.

1909 Triumph, perfect condition, very fast, ted 1910 valves, Palmer cord front, Dunlop are valve, tube, and racing pulley, lamp, horn, ny tools; £38.—Priehard, Downington, Stow-on-

2½ h.p. Hamilton, Chater Lea extra low frame, w Continental tyres, Amac H.B. control car, adjustable pulley, footrests, Brooks B105 saddle, engine just overhauled, light, strong, machine.—38, London Rd., Southampton.

Pebok, Chater frame, girder, X1 all fittings, rembler coil, two accumulators, Hermetic tube tyres good, piston, rings, rod, gudgeon pin and new last winter, Lomax belt; £13; seen run- owther, Huntercomb Manor, Taplow, Berks.

SECTION VIII.

rd, Essex, Middlesex, Surrey, Kent, Sussex.

Minerva, Chater, Palmers; £9.—Williams, 2, Norman Rd., Merton, Surrey.

TWEIGHT 2½ h.p. Peugeot, splendid goer; £7 s.—478, High Rd., Tottenham.

Minerva motor bicycle, perfect condition; £11. Phillips, 86, South End, Croydon.

F Featherweight, unriden; £14 10s., bargain.— Anglo-Saxon, 31, Newgate St., City.

Robinson and Price, new condition; £15, or fer.—5, Burlington Rd., Tottenham.

Vindec Twin, and castor wheel sidecar, as new.—8, Barrett St., Manchester Sq., W.

Rex, good condition, and hill-climber; £9 10s., offer.—224, Wood St., Walthamstow.

Twin Rex; cost £50, in extra fine condition, £16 10s.—9, Parkholme Rd., Dalston.

Minerva, low built machine; £10 10s.; after 7.30.—137, Launsdown Rd., Tottenham.

5 h.p. Wolf, Sarolea engine, H.B. control, low, pares; £10.—4, Forest View Av., Leyton.

1907 3½ h.p. Motor Cycle, in splendid condition; 4 10s.—Motor, 20, Clyde Rd., Tottenham.

J.A.P. light, fast, reliable, good condition; 10.—Wade, 38, Rainbow St., Camberwell, Lon-

Rex, fine machine, everything as new; £17, guar- teed, genuine bargain.—Kirk, The Elms, Mort-

MPH, faultless, engine as new; any trial; bring y distance; £20.—75, Belmont St., Kentish

Kerry, sound reliable machine; cheap, with footboards.—7, Cedar Terrace, Knott's Green,

ry 24 Clincher or Palmer beaded edge cover, also wicker sidecar body.—15, West St., Pimlico,

Minerva, with sidecar; £17, complete, or sepa- rate, £12 and £5.—31, Allen Rd., Stoke Newing-

magneto, H.B. control, spring forks, 26 by 2½ in. es; 15 guineas.—Cornorall Ferris, 20, Brunswick

ou Want bargains in motor cycles, you can get m at Wauchope's, 9, Shoe Lane, Fleet St., Lon-

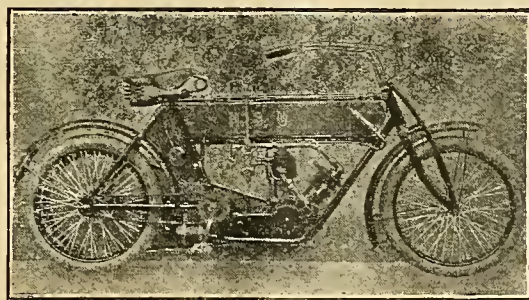
MPH, 1909, new; must sell at once; £42. — anager, Export Dept., 119-121, Queen Victoria

ou Want a good second-hand motor cycle, you can it at Wauchope's, 9, Shoe Lane, Fleet St., Lon-

Fafnir, H.B. control, Chater-Lea frame, perfect ondition; any trial; £11 10s.—23, Aberdeen Rd., ry.

GOING! GOING!! GONE!!!

Your golden opportunity of obtaining a new 1908 N.S.U. Motor Cycle at a very much second-hand price will soon be GONE.



SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.

IGNITION—Eisemann for singles; Bosch for twins.

FRAMES—Standard, and very low built.

WHEELS—24 in. and 26 in.

TYRES—Peter Union 2½ in. section to singles, and 2½ in. to twins.

CARB.—N.S.U. float-feed type.

BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.

EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits plugs, etc., all free.

PRICES:

	Maker's price.	Our price.	Deferred payments.
GENERAL—We guarantee fully every machine sold.			
3½ h.p.	£40	£31	£33
3¼ h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5½ h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

TO COLONIAL READERS.—We crate all machines free, and pay freight charges to nearest port (3 h.p. models excepted) at above prices.

FOUR ONLY.

3 h.p. N.S.U. Motor Cycles to above-mentioned specifications:

We are in a position to offer these machines to the public at the unprecedented low price of

£25 5s. 0d. (Nett Cash Only).

It must be understood that we cannot at this price entertain either deferred payments or exchanges. The price is so low to bring the machines within the reach of all.

Never before has a standard machine, perfectly new and guaranteed, been offered to the public at such a low price.

HAVE WE RECEIVED YOUR ENQUIRY???
If not why not???

Exchanges considered on most liberal terms possible.

TO CORRECT

an impression which has been circulated recently in view of the low prices, we believe, of these machines, we beg to state that

WE GUARANTEE

these N.S.U.'s to be sold through no fault whatsoever, and to be in every respect standard 1908 models, offers subject to machines being still unsold.

See other columns for our list of Second-hand motor cycles.

100 good Magneto Motor Cycles Wanted for spot cash £1,000 waiting.

Whatever you are requiring in the Motor Cycle line we can supply on the best possible terms.

Maudes' Motor Mart

136, GREAT PORTLAND STREET,

(off Oxford Circus), LONDON, W.

Also at POWELL STREET, HALIFAX.

Telephone: 552 Mayfair.

MOTOR BICYCLES FOR SALE.

2½ h.p. Minerva, good running order; money wanted 2½ at once; sell £6 10s.—Smith, 286, High Rd., S. Tottenham.

5½ h.p. Gerrard, water-cooled, three speeds, just the thing for serious touring; £25.—9, Parkholme Rd., Dalston.

FOR Sale, 3 h.p. Kerry, Chater Lea, Palmer cords, low; £14, accept good cycle and cash.—165, Algernon Rd., Lewisham.

4 h.p. Twin, Kerry engine, approval, £15; 3½ h.p. M.M.C., Palmers, £8 10s.; offers.—38, The Gardens, E. Dulwich.

QUADRANT, 3 h.p., good running order; £6 10s.; seen by appointment.—Thomason, 2, Broughton Rd., West Ealing.

VINDEC, 3½ h.p., Mabon clutch, Truffault spring forks, accessories, faultless; £17.—1, Cornwall Terrace, Baker St., London.

2½ h.p. Griffon-Chater, Clinchers, low, guaranteed perfect order; a bargain, 8 guineas.—H. Keys, Stan-ford-le-Hope, Essex.

3 h.p. Kerry, Clincher studded back, light, low; any trial; guaranteed; £9.—Confectioner, 193, Garratt Lane, Wandsworth.

3½ h.p. Minerva, splendid condition, fast, reliable, tyres, almost new, grey finish; £13.—330, Burdett Rd., Limehouse, E.

3 h.p. Clyde, magneto, Brown-Barlow carburetter, excellent condition; £8, or offer.—Byhurst, Chis-wick Lane London.

2½ h.p. Bradbury (B.S.A. fittings), Lucas lamp, acces- sories; £12, or offer, bargain.—4, Bruce Rd., Wealdstone, Harrow.

WHITTLES.—Vindec Special, 5 h.p., twin, late model, magneto, spring forks, two speeds, beautiful con- dition; sacrifice £26.

WHITTLES.—F.N., genuine, 4½-5 h.p., 4-cyl., late type, magneto, spring forks, excellent order; bar- gain, £26.

WHITTLES.—Antoine, 6 h.p., twin, with Liberty side- car, Chater-Lea fittings, powerful, good order; extra cheap, £18 18s.

WHITTLES.—1908 F.N. 1½ h.p. Lightweight, mag- neto; £16 10s.—Whittles Motor Exchange, Earlsfield, 'Phone, 711 Post, Wimbledon.

4½ h.p. F.N., 4-cyl., late model, handle-bar control, etc.; £25, or exchange for more powerful 2-cyl.— 28, Cleveland St., W.

TRIUMPH, 3½ h.p., handle-bar control, adjustable pulley, Palmer, mirror, lamp; £27 10s.—Williams, 11, The Chase, S.W.

1909 Motosacoche, magneto, nearly new, £23; also 4½ h.p. Aster, accumulator ignition, £13.—Twiddy, Tubs Hill, Sevenoaks.

TRIUMPH, late 1908, Mabon clutch, perfect condi- tion as new, just overhauled; £38.—H.D., 36, Beulah Hill, Norwood.

BRADBURY, 2½ h.p., splendid condition, just over- hauled, little used; must sell; £8 10s.—H. Thomas, Birkbeck Rd., Enfield.

A BARGAIN.—3½ h.p. Two-speeded Rex de Luxe, and accessories, excellent condition; offers.—Myer, 71, Warrington Crescent W.

£6 10s.—Werner, vertical engine, recently thoroughly overhauled, spray, 26 in. wheels, low.—59, High- gate Rd., Kentish Town.

1909 Triumph, practically new, spare cover, belt, generator, 5-note horn; £35.—Waiwick, Altair, Sutherland Rd., W. Ealing.

3½ h.p. Triumph, 1907, new piston and cylinder, ex- cellent condition £23, offer.—L. Hudson, Jesmond, Arlington Rd., Eastbourne.

TRIUMPH, 3½ h.p., 1908 standard, done about 1,500; first man with cash has it; £30.—Dr. Grogons, 43, Romford Rd., Stratford, Essex.

5 h.p. Rochet, twin Buchet, free engine, handle start- ing, good condition; £12.—Nicholls, 3, Ravenstone Rd., Leytonstone Rd., Stratford.

MINERVA, twin, 4½ h.p., accumulator, 2½ Continen- tals; trial given; list £43, £25.—Williams, 95, Marlborough Rd., Wood Green.

2 h.p. Quadrant, 3½ h.p. Rex, new tyres, spares etc.; ro reasonable offer refused; splendid condition. — Hornsey House, Sandwich, Kent.

5 h.p. Twin V.S., Truffault forks, magneto, not ridden 100 miles; best offer.—Motorist, Strathmore, Washington Rd., Worcester Park.

£18.—3 h.p. Kerry, with forecar, powerful motor, in good condition, tyres good; trials given.—E.G., 19, Queen's Rd., St. John's Wood.

UNREDEEMED Twin Rex and Sidecar, all acces- sories, perfect running order; £18 10s.—Matthews, Pawnbroker, London Rd., Croydon.

2 h.p. F.N., in perfect order, many improvements, gas lamp and motor suit; £9; seen any time.—9, Clareville Grove, South Kensington.

LIGHTWEIGHT Peugeot, Chater frame, Longue- mare, latest improvements; exchange Rex, or sell cheap.—66 Kenilworth Court, Putney.

6 h.p. J.A.P., Chater No. 6 frame, Palmer cords, side- car, spares, run 500 miles; £33; exchange new push cycles.—20, Godson Rd., Croydon.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Sale, enormous reduction on all machines; call and obtain great bargain at 5, Heath St.

HAMPSTEAD (£7 10s.)—Fafnir, 3½ h.p., Chater-Lea, good condition, with all accessories, Palmer tyres; bargain.—Below.

HAMPSTEAD (£6 10s.)—Humber, 3 h.p., in splendid condition, with all new accessories;—special bargain, first cleque.

HAMPSTEAD (£23).—4-cyl. F.N., 4½ h.p., 1908 model, magneto, spring forks, with all accessories.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½ h.p., splendid condition, with all accessories, late model.

HAMPSTEAD (£27).—F.N., new condition, 4-cyl., 1908 model, 4½ h.p., magneto, spring forks, all accessories.

HAMPSTEAD (£18).—F.N., 4-cyl., splendid condition, all accessories; also one £21, better condition, great bargain.

HAMPSTEAD (£21).—Minerva, 3½ h.p., 1909 model, new condition, handle-bar control, with all accessories; bargain.

HAMPSTEAD (£22).—Lincoln Elk, brand new, 1909, latest model, magneto, handle-bar control, lightly soiled; special bargain.

HAMPSTEAD (£16).—F.N. Lightweight, magneto, and spring forks, with all new accessories; great bargain.

HAMPSTEAD.—1909 New Triumphs in stock, Moto-Reves and F.N.'s at special reduction, latest models.

HAMPSTEAD (£22).—Moto-Reve, twin, magneto, and spring forks, 1909 pattern, splendid condition, with all accessories.

HAMPSTEAD.—Sole London and district agents for Lincoln Elks, all models in stock; special price made.

HAMPSTEAD (£12).—Singer, 3 h.p., magneto, new non-skid on back, in splendid order, with accessories.

HAMPSTEAD (£18).—F.N. 1½ h.p. Lightweight, magneto and spring forks, with all new accessories; bargain.

HAMPSTEAD (£27).—V.S., two-speed gear, 5 h.p., magneto and spring forks, all accessories; grand bargain.

HAMPSTEAD (£13).—Peugeot, 3½ h.p., spring forks, with all new accessories, splendid bargain.—5, Heath St.

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HAMPSTEAD (£12).—N.S.U., 3½ h.p., good order, with all accessories; J.A.P., 4 h.p., M.O.V., magneto, £21.

HAMPSTEAD (£6).—Whitley, 3 h.p., good order, accessories; Kerry, 3 h.p., good running condition, £8 10s.—Below.

HAMPSTEAD (£28).—V.S. Tourist Trophy, latest model, with handle-bar control, quite new condition, all accessories.

HAMPSTEAD (£14).—Riley, 3 h.p., vertical, late type; Kerry, 3 h.p., £6, in good order, bargain.

HAMPSTEAD (£12).—Minerva, 3½ h.p., spring forks, splendid condition, all accessories; 1908 Triumph, splendid order, £28.

HAMPSTEAD (£28).—Triumph, late 1908, splendid condition, with all accessories; Vindec Special, two-speed gear, £26.

HAMPSTEAD (£29).—5-6 h.p. F.N., late model, 4-cyl., special bargain, with all accessories, grand condition.

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HAMPSTEAD.—1909, May, 5-6 h.p. F.N., specially built low frame, comfortable footboards, finest condition; 36 guineas.

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Ditto ditto fine condition	£35 0
5½ h.p. W.C. REXETTE, two speeds, open frame, foot clutch, foot and side brakes	£27 10
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5½ h.p. TWIN REX, H.B. control, spring forks, and brand new DE LUXE SIDECAR with art cane body, latest improvements and 26 x 2½ tyre, £22 10s.

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4 of a Ton of Brand New Perfect Motor Cycle Covers. Best make. All sizes. 17/6 each. New Clincher A Won Covers 17/6, Tubes 4/11. Bargain list on application. Approval against cash.

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1908 3½ h.p. Magneto P. & M., two speeds	£35 0
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1907 4 h.p. Magneto ROC, Roc clutch	£24 10
4 h.p. ANTOINE, high tension magneto	£18 18
1908 3½ h.p. Magneto MINERVA, spg. fks.	£22 10
3½ h.p. Light, Low REX, long bars	£12 10
3 h.p. HUMBER, spray, free engine	£10 10
3 h.p. BRADBURY, low, 26in. wheels ..	£13 10
1906 3½ h.p. REX, spring forks, M.O.V. ..	£15 10
3 h.p. SINGER, belt drive, H.T. magneto	£19 10
3½ h.p. ARIEL, very powerful, spray	£13 10
3 h.p. CLYDE, magneto, long bars	£15 0
2½ h.p. KERRY, light and low, 26in. wheels	£9 10
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3½ h.p. REX, handle-bar control, Amac....	£10 10
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5½ h.p. REX DE LUXE, Roc clutch	£27 10
6 h.p. Twin ANTOINE and Sidecar	£18 10
5 h.p. Twin ZENITH Bicar	£19 0
6 h.p. Twin REX and Sidecar	£20 0
4½ h.p. Four-cylinder F.N., magneto	£23 10
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Five 5½ h.p. twin Rexes, spring forks, long bars, low frames, aluminium finish, blue lines, 26in. wheels. £17 17s.
Grand Sidecar machines. EXCHANGES.

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3 h.p. Humber	£10 0	3½ h.p. Werner	£13 10
3½ h.p. Rex	£10 10	2 h.p. Thomas	£8 0
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200 AMAC and BROWN & BARLOW Carburettors in Stock. Liberal exchange. Allowances.

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MAUDES'—Four 3 h.p. N.S.U.'s, brand new, models with magneto ignition, ideal light to clear at £25 5s. Remember four only.

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MAUDES'—Deferred payments, terms one-third and balance 10 per cent. monthly.

MAUDES'—Our prices for N.S.U.'s, 3½ h.p., £32; 4 h.p., £35; 5½ h.p., £37; all brand new.

MAUDES'—Kerry, 5 h.p., twin-cyl., 26in. enamelling and plating very good condition.

MAUDES'—3½ h.p. Quadrant, low, 26in. spring forks, spray; £12, first cheque secured.

MAUDES'—Rex, 5 h.p., twin, very low, spring aluminium finish, splendid condition, thoroughly overhauled; £17.

MAUDES'—Fafnir, 1908 model, 3½ h.p., m Chater-Lea frame, low built, spring forks.

MAUDES'—Peugeot, 7-9 h.p., perfect order, v built, long bar brass tank; £22.

MAUDES'—Zenith Bicar, 3 h.p. Fafnir engine speed gear, suit grandpa admirably; £17.

MAUDES'—Triumph, 1908, 1909, cylinder a ton, Bosch magneto, as new throughout;

MAUDES'—Fairly 2½ h.p. Lightweight, belt low built, good order; £11.

MAUDES'—Werner, 2 h.p., B. and B. cart handle-bar controlled, splendid order; £8.

MAUDES'—Peugeot, 4 h.p., Chater-Lea frame wheels, very good tyres, perfect; £17.

MAUDES'—M.M., 3½ h.p., magneto ignition model, an exceedingly fast machine, the the American market; £20.

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MAUDES'—Singer, 3 h.p., vertical engine, ne magneto, good running order; £15.

MAUDES'—Minerva, 2 h.p., wants slight adj otherwise sound; £5.

MAUDES'—Ariel, 3 h.p., 26in. wheels, ver tyres, good order all round; £15.

MAUDES' Motor Mart, 136, Great Portl London, W. Tel.: 552 Mayfair, for best i in motor cycles and accessories. A call will c you.

6 h.p. Matchless, twin J.A.P., Palmer cord tyre forks and frame, 100 saddle; bargain, £24, -69, Sandy Hill Rd., Plumstead, Kent.

EAGLES and Co., N.S.U. Agency, High St. have a few brand new N.S.U.'s at very low exchanges entertained; deferred payments.

3 1 h.p. N.S.U., brand new, magneto ignition, 1 2 26in. wheels, 1908 specification; £30; a exchange entertained.—Eagles and Co. N.S.U. 275, High St., Acton.

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5 1 h.p. N.S.U., twin, Bosch magneto, spring 1909, two-speed gear, free engine, with sidecar; £34 10s.; any trial.—Eagles and Co.,

N.S.U. Lightweight, 1908, Bosch magneto, c as new; £17 10s.; approval.—Eagles a High St., Acton.

REX, 3½ h.p., spring forks, Rich's tubes, tw trembler, new condition, perfect order; £12 15s.—T. 231, New King's Rd., Fulham.

3 3 h.p. N.S.U., magneto, stand, carrier, footr 4 footbrake, in good condition; £19, or m -3, 180, The Motor Cycle Offices, Coventry.

2 3 h.p. De Dion, Longuemere, thumbslides, 24 stands, Stanley belt, accessories, very lo £10 10s.—138, Lever St., City Rd., London.

TRIUMPH, 5 h.p., handle-bar control, new tyre, back wheel in good condition; an nearest £16.—24, Imperial Parade, Wimbledon.

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MOTOR Cycle, 2½ h.p., long handles, good hill just been overhauled, in perfect conditio Dolton, River Cottages, St. Paul's Cray, Kent.

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MINERVA, 3½ h.p., low built, spring forks, h control, excellent condition, lens mirror la 10s.—Vivid Motor Wks., East St., Bromley, Ke

5 h.p. 1908 Vindec, fine condition, London-E and return with sidecar, and other com £27 10s.. cash only.—Olsson, East Hill, Oxt

19 09 Triumph splendid condition; £40, or offer; private owner; seen any time.—E Acacia Motor Wks., Hermon Hill, South Wo

MOTOR BICYCLES FOR SALE.

LOST New, 6h.p. two-speed N.S.U., splendid sidecar machine, R.O.M. non-skid, many spares; £35, large Phelon-McCormac.—39, Birch Grove, Acton.

p. Sarolea, and upholstered sidecar, smart turn-out; exchange triar and cash; exchange either or sell.—Cross, 180, Liverpool Rd., Islington.

Werner Motor Bicycle, sidecar, good running order. Whittle belt; bargain; must sell; going; £10, near offer.—109, Broadway, Crickelewood.

8 3h.p. N.S.U., magneto ignition, in first-class condition, lamp, horn, and spares; £21; any trial.—Eaker, Station Parade, Willesden Green, N.W.

p. Kerry, spring forks, long bars, perfect condition, lot of spares; bargain, £6 15s.; cheap, but must sell.—Nicholls, 4, Ruston Mews, Notting Hill.

p. Rex (1907), spring forks, Palmer cords, 1909, handle-bars, first-rate condition, all accessories; Eastern Garage, 418, Romford Rd., Forest Gate.

Twin Rex, in new condition, special low machine, B. and B. handle-bar control; £50, or take lower in part exchange.—91, Greenleaf Rd., Waltham-tow.

p. Fafnir, B.S.A., very low, perfect, Brown and Barlow, 1909, H.B. control, spring forks; any to buyer; £15.—15, Connaught Rd., Leyton.

p. Jap Lightweight, perfect condition, all spares, complete; £10; can be seen any time after 6.30; day after 2.—Barnes, 2, Balms Rd., Southgate Rd., En.

p. De Dion engine and carburetter, Chater frame, Palmer tyres, spring forks, footrests, splendid; bargain, £11.—Squire, 37, Hartham Rd., Rav.

UMPH (late 1908), had very little wear, appearance and all working parts perfect; will send on al; £32.—Eastern Garage, 418, Romford Rd., Gate.

p. N.S.U., H.B. control, Bosch, spring forks, two belts (Watawata and Stanley), all accessories; £14.—Symons, St. Helens, Sandfield Rd., on Heath.

9 Triumph speed indicator lamp, horn, handle-bar mirror, Watawata and Shamrock belts, as £38.—Thomas, 38, Ashchurch Park Villas, Shep-Bush, W.

9 Triumph, not been ridden 1,000 miles, and well cared for, studded tyres, Lucas headlight, Tri-horn, spares; £39.—Eastern Garage, 418, Romford Road, Forest Gate.

8 5h.p. Twin Peugeot and Sidecar, Chater-Lea No. 6 frame, spring forks, two accumulators, condition, perfect; £27.—26, Landseer Rd., Hol-London, N.

UMPH, 3h.p., 1908, Mabon plate clutch (also ad-justable pulley, Palmer cord back, excellent condi-tion; £34, with clutch, £33.—The Dormers, Rd., Woodford.

p. Minerva (October, 1908), spring forks, mag-neto, Amac carburetter, H.B. control, perfect condition, guaranteed; £28.—Eastern Garage, 48, Rom-ford, Forest Gate.

p. Minerva, Royal Enfield frame, 26in. wheels, Palmer cord back, Clipper front, in excellent order appearance, trial and examination; £10.—Page, 74, Hill, Dartford, Kent.

DEC Special, 5-7h.p., twin, magneto, Vindec two-speed gear and free engine, also Millford castor sidecar, all spares; £35, or close offer.—Frank, Hosier, Eastbourne.

T Quadrant, 3h.p., little used, new tyres, car amp, speedometer, cyclometer, two accumulators, forks, stand, carrier, complete; £12 10s.—Archib-22, High St., Barnet.

p. Minerva, magneto, spring forks, Palmer cords, two brakes, B100 saddle, m.o.v., footrests, perfect condition; £18, with sidecar £22; exchange 5h.p.—St. s, Aldenham, Watford.

9 Twin, 5-6h.p., splendid going order, clutch, two-speed gear, will be ridden to private gentleman k at before purchasing, inside 30 miles London.—53, Richmond Rd., Bayswater.

T 6h.p. J.A.P. engine, B.B. carburetter, spring forks, new Willock bottom lamp and generator, sidecar could be fitted; price £20.—Apply, Chau-f—"Knapdale," Tooting Bee Rd., Tooting.

down secures a Wolf lightweight, £10 1s. 9d.; a Moto-Reve, £12 4s. 4d.; a Bradbury, £11 15s. 6d.; umph, balance in 12 monthly payments.—A. T. Stan-19, Lea Bridge Rd., Leyton, London, E.

p. De Dion, Roc clutch and two-speed gear, well sprung, Chater-Lea fittings, handle-bar control, ow built, thoroughly reliable; genuine bargain, £20, Kenmare Rd., Mare St., Hackney, London.

NUINE 2h.p. De Dion, Clincher tyres, Longue-mare, engine new, 50 miles trial with pleasure; ee £8 10s. Also 3h.p. Rex, powerful, done up ew; £7 5s.—Middleton, 21, Claremont Sq., N.

p. Twin Peugeot, low build, Chater-Lea, chain drive, Chater clutch, Bosch magneto, footboards, 2h.in. tyres, spring seat, spare cover, sprockets, valve, ; trial any time; £20.—Page, Engineer, Epsom.

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BETTER THAN THE BEST, and HALF THE COST.

Each £4 17 6 Each.

An IDEAL WINTER ATTACHMENT. Quite Rigid.

No sideslip. Can be ridden without passenger. Detached inside three minutes, and fit either left or right-hand side of motor cycle.

Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

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3½ h.p. Dux	£9	1 2½ h.p. Minerva, M.O.V.	£8 10
2 h.p. Rex	£5	1 2½ h.p. Humber	£5
3 h.p. Noble, M.O.V.	£7	1 2½ h.p. King	£8
2½ h.p. Whiteley	£6	1 2½ h.p. King	£8

1909 "PREMIER" Magnetos. Absolutely the finest magneto. £3 15s. each. DELIVERY FROM STOCK.

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3½ h.p. 1908 REX, magneto, etc.	£22 0
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1908 N.S.U. Lightweight, magneto	£22 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
3½ h.p. 1906 REX M.O.V., spring forks	£13 10
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3½ h.p. TWIN REX, a beauty	£15 10
3½ h.p. REX, M.O.V., spray	£10 10
6 h.p. TWIN REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
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4 h.p. KING, Palmer tyres	£12 0
3½ h.p. 1907 REX, lovely goer	£15 15
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34 0
3½ h.p. BROWN, M.O.V., fine goer	£12 0
4 h.p. ANTOINE, M.O.V., fine goer	£11 0
AMAC carburetters, handle-bar control, single or twin outlet	each 25/-

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6-7 h.p. SINGER, twin engine, M.O.V.	£32 0
5½ h.p. REXETTE, fine machine	£24 0
5-6 h.p. ROVER, newly enamelled	£17 6
4 h.p. PHENIX two-speed	£14 0

1908 Magneto REXES. Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto. £17 10s., or exchange.

"FARRAR'S SPECIAL" BELTING. Absolutely the finest rubber belt on the market. 33% cheaper than any other high-class belt. 3in., 9d. 3in., 1/1. 3in., 1/3. 4in., 1/6 per foot.

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1½ h.p. Minerva engine	25/-
Brown & Barlow carb., H.B. control	28/-
3½ h.p. Quadrant engine sets	37/6
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/3

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MOTOR BICYCLES FOR SALE.

MOTOSACOCHE, very good condition, accumulator (one spare), spring handle-bar, stand, carrier, lamp, sundry spare parts, tools, etc.; £20; trial, owner going abrad at once.—A.L., 37, Ellerker Gardens, Richmond.

MINERVA, 1909 model, 3h.p., magneto ignition, all latest improvements, not yet delivered from makers, spring forks; cost over £38, accept £32, lowest cash only; owner ordered abroad.—Benn, 105, Bolsover St., London, W.

3h.p. 1907 Triumph, Silver Cup, medal winner, excellent condition, new cylinder, piston, spares, valve, plug, contact breaker, belt, etc., horn, lamp, new back tyre, climb anything; £25, lowest.—30, Ferncroft Av., Hampstead.

2h.p. J.A.P., nearly new engine, F.N. carburetter, Chater-Lea frame, 26in. wheels, Palmer cord, new belt and accumulators, low seat and long handle-bars, very fast and reliable; £10 10s.—74, Piccott's End, Hemel Hempstead.

7-9h.p. Peugeot-Chater, A1 condition throughout, tyres good, non-skid back, footboards, two pulleys, two belts, very fast, will run very slowly, French grey, racy appearance; £20, no offers.—Mackintosh, 106, Loughborough Rd., Brixton.

TRIUMPH, 3h.p., 1909 pattern, only ridden few times, equal to new, Palmer cord tyres, Autoclipse lamp, with Lucas generator; reason for selling medically unfit to ride; accept £39; any trial.—Hickman, "Accarsane," Hook Rd., Surbiton.

1908 Vindec Special, in first-class order, adjustable pulley, steel studded Michelin back cover, spare parts, tools and accessories, handle-bar control, spring forks, Truffault; bargain at 25 guineas.—Seen at Pond's, 349, West End Lane, London, N.W.

LATE 1908 6h.p. twin Phenomenon, standard model, Bosch magneto, Nala two-speed, Whittle belt, many spares, suitable for sidecar; cost £68, condition as new, exceptional bargain, £28.—Newbury, 12, Conway Rd., Southgate, N. Phone, 219, Palmers Green.

PULLMAN'S Winter Prices.—Triumph, 3h.p., magneto, as new, £34; F.N., 2h.p., £12; twin Minerva, with Chater-Lea sidecar, £24; many other bargains, prices too low for extensive advertisements.—Write for list to Pullman Bros., London Rd., Norbury, Lond. n.

1909 8h.p. Minerva, M.I.O.V., spring forks, Shamrock belt, Bosch magneto, Amac carburetter, Triumph H.B. control, adjustable pulley, Autoclipse lamp, automatic generator, ridden 400 miles, ideal passenger machine; £35.—Draper, 13, Beresford Sq., Woolwich.

HUMBER, magneto, 1909, two-speed and Millford castor wheel, sidecar, cost £57; Triumph, magneto 3h.p., handle-bar control, new Rom covers, cost £48 August, 1907; room wanted; no reasonable offer refused; seen by appointment.—113, Hainault Rd., Leytonstone, Essex.

3h.p. Rex, condition like new, spring forks, 26in. wheels, long handle-bars, low position, new tyres, butt-ended tubes, footrests, two accumulators, fast, absolutely reliable, large gas lamp, horn, stand, carrier, toolbag, voltmeter, goggles, numbers spare belt, valves, sacrifice £13.—12, Market Sq., Hertsam Sussex.

THE Eastern Garage Co. invite offers for their end-of-season stock of second-hand machines, which include: 4h.p. J.A.P., 4h.p. Antoine, 3h.p. Fafnir, 3h.p. Triumph (1907), 3h.p. Hebart, 3h.p. Automotor, 2h.p. Noble, 2h.p. Minerva, 2h.p. Royal Enfield, 2h.p. Buchet, etc., etc. Any reasonable offer accepted.—Call 418, Romford Rd. Forest Gate. Telephone, 10 Stratford. Telegrams, "Egaraco," London.

4h.p. Twin Minerva, low built, pan seat, excellent condition, cash bargain, £15 10s.; 2h.p. J.A.P., vertical, light, fast, £10 10s.; 3h.p. Peugeot, magneto, spring forks, Palmer tyres, £20; 2h.p. Phoenix, magneto, two speeds, grand machine, £15; 2h.p. Brown, vertical engine, excellent condition, £10 10s.; 3h.p. Excelsior, M.M.C. engine, excellent condition, £9 10s.; several machines, in perfect order, £5. We do exchanges.—128, High Rd., South Tottenham.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

£8.—2h.p. J.A.P., in B.S.A. frame, in first-class condition throughout.—Reynolds, Broadway, Dorset.

DOUGLAS, 2h.p., 1909, new August 20th, 140 miles one gallon petrol, little ridden, unscratched, good reason selling, complete, all accessories; £32.—Thorne, Brunswick, Tiverton.

3h.p. Bradbury, magneto, Longuemare carburetter, 2h.p. new Shamrock belt, switch, spares, easy starter in excellent running order; £20.—Farrant, High St., Wellington, Somerset.

SECTION X.

Scotland.

2h.p. Griffon; bargain, or exchange, with little cash for 3h.p.—Calder, 55, Lothian Rd., Edinburgh.

TRIUMPH, 1908, new August, run 4,000, perfect order, usual fitments; £35.—Hetherington, Agent Lockerbie.

3h.p. Rex Motor Cycle, overhauled, fast machine capital condition; £13 10s.—Jeff and Sons, Baul St., Coatbridge.

£9.—3h.p. Rex, perfect condition, rebored and coad painted last June, has been little used.—A Anderson, 7, Victoria Place, Kelso.

MOTOR BICYCLES FOR SALE.

5 h.p. Twin Rex, Bosch magneto, Brown and Barlow H.B. carburettor, run 1,000 miles; bargain, £27 10s.—"Teller," Braemaray, Denny, Stirlingshire.

1909 Zenith Gradna, J.A.P., Matchless silencer, heavy non-skids, done 500 miles, spares, trial willingly; £40, no offers.—Apply, E.H., University Union, Glasgow.

SEVERAL good second-hand magneto machines going cheap. All Rex models in stock, clearance prices. Also all Rex sundries.—Farrow, 32, Cowcaddens St., Glasgow.

1909 Triumph, with Triumph free engine clutch, not run 800 miles; reasonable demonstration given; guaranteed perfect in every detail; cost £54 6s., accept £46, no offers.—Motorist, Ambleside, Ladybank.

THE Largest Stock, largest variety, and the best makes!—Alexander's Motor Exchange, Rex, V.S., Moto-Reve, Norton, Roc, Excelsior, Zenith, Douglas, Minerva. We can supply you with these or any other make; some special bargains presently in superior second-hands.—Alexander's, 110, Lothian Rd., Edinburgh.

SECTION XI.**Ireland and Isle of Man.**

F.N. Motor Cycle, new magneto, new tyres, just overhauled by F.N. Motor Agency; price £30, or exchange to value £35.—David Peplow, Lurgan, Ireland.

TRICARS FOR SALE.

4 h.p. Rex W.C. Tricar, in splendid condition; £12, bargain.—15, Fengates Rd., Redhill.

6 h.p. Rex Triette, very fast, splendid machine, as new; sacrifice £22.—852, Garratt Lane, Tooting.

8-10 h.p. Rexette, 3 seats, two speeds, twin wheel, perfect order; £32.—255, Earlsfield Rd., Wandsworth.

6 h.p. Twin Tricar, perfect order, free engine; £16, or reasonable offer.—201, Kentish Town Rd., N.W.

4 h.p. Rover, water cooled, free engine, perfect order; £2 offers; cash or bike.—87, Mildmay Grove, Islington.

8-10 h.p. Rexette, 3-seater, 2 cyls., spring frame, two speeds; £37 10s.—14, Zermatt St., Chapelton, Leeds.

8 h.p. Rex, 3-seater, two-speed, coach-built, perfect order; best offer accepted.—38, Westgate, Mansfield.

HALIFAX.—Seven water-cooled Tricars for sale or exchange. List free.—Motor Exchange, Westgate, Halifax.

4 h.p. Wolf Water-cooled Tricar, three speeds, coach-built, splendid condition; £20.—Chilton, High St., Watford.

6 h.p. Riley Twin, three speeds and reverse, splendid condition, spares; £45.—147, High Rd., Weed Green, N.

5 h.p. Garrard Tricar, water-cooled, three speeds, worm drive, foot control; £25.—20, Potternewton Lane, Leeds.

ROVER Tricar, 3 h.p., Palmer cords, wicker seat, splendid condition; £20.—64, Bramfield Rd., Clapham Junction.

3 h.p. Runabout, free engine, chain drive, bucket seat, wheel steering; bargain, £11.—128, High Rd., South Tottenham.

4 h.p. Rover Tricar, water-cooled, two speeds, chain drive, excellent condition; sacrifice 15 guineas.—Grisswell, Newmarket.

PHENIX Trimo, magneto ignition, two speeds, very powerful, excellent condition; £25, quick sale.—Lund and Sergeant, Stockport.

REXETTE, 6 h.p., coach-built, water-cooled, free engine, two speeds; genuine bargain, £28.—103, Heeley Rd., Selly Oak, Worcestershire.

4 h.p. Bat Engine Tricar for sale, good condition; must be cleared; £9, or nearest offer; bargain.—78, Brockley Rise, Forest Hill, London.

5-6 h.p. Sarolea Tricar, Chater, three speeds, wheel control, perfect condition; £38, or exchange 1909 4-cyl. F.N.—Emms, 32, Farnaby Rd., Shortlands.

REXETTE, 5-6 h.p., water-cooled; trial run arranged; first-class condition; sell or exchange motor cycle and sidecar, or small car.—Scales, 18, Sun St., Finsbury.

RALEIGHETTE, 3 h.p., water cooled, free engine, two speeds, covered, any trial, £26; also 2 h.p. De Dion, £9.—9, Hennicker Gardens, Boundary Rd., East Ham.

6 h.p. De Dion, genuine, three speeds, coach built, excellent order, trial given; £25, or exchange motor cycle and cash.—Noble, 9, Surrey Row, Blackfriars Rd., S.E.

6 h.p. Zenith open sprung frame tricar, two speeds, handle starting, Whittle belt, B. and B. carburettor; £35, or exchange twin and sidecar.—122, Calford Rd., Kingsland.

TRICAR Chater-Lea, coach-built, 6 h.p. J.A.P. engine, clutch and carburettor, two speeds, car tyres; go anywhere, perfect order; £45.—Chalmers, St. Marychurch, Torquay.

REXETTE, 6 h.p., 1907 model, live frame, torpedo back, 3-seater, exceptional condition, two speeds, foot clutch; £25 motor bike part.—Sinclare, Walton Rd., East Molesey.

MAUDES'.

1908 N.S.U.s, BRAND NEW, NOT £31 & UPWARDS, BUT £31 SECURES:

£31	Brand new 3½ h.p. N.S.U., 26in. wheels, magneto ignition, Peter Union tyres, will climb anything ..	£31
£13	3 h.p. BRADBURY, spring forks, low-built, long bars, handle-bar control, B. & B. brass tank, new tyres to both wheels, foot brake. An ideal mount ..	£13
£32	N.S.U., 1908, 3½ h.p., brand new, 26in. wheels, Peter Union tyres, an ideal mount ..	£32
£22	BRADBURY, 1908, 3 h.p., accumulator ignition, Bradbury latest pattern spring forks, vertical engine, not done 200 miles ..	£22
£20	RIP, 3½ h.p., Peugeot engine, spring frame, Longuemare spray carburettor, footrests, as new, climb anything ..	£20
£25	N.S.U., 1908, 3 h.p., brand new, and perfect magneto, first cheque secures ..	£25
£15	REX, 1906, 3½ h.p., 26in. wheels, low built, spring forks, enamelling and plating perfect, practically new tyres to both wheels ..	£15
£14	ROVER, 2½ h.p., low built, handle-bar control, 26in. wheels, good tyres, cream finish, splendid condition ..	£14
£17	ALCYON, 5 h.p., 26in. wheels, Minerva spring forks, plated tank, first-class condition ..	£17
£15	MINERVA, 3½ h.p., vertical engine, 26in. wheels, A Won condition ..	£15
£17	TWIN REX, 5 h.p., spring forks, low built, aluminium finish, footboards, a beauty ..	£17
£31	N.S.U., 3½ h.p., 1908 model, magneto, low built, brand new, all latest improvements, Peter Union tyres, etc. ..	£31
£22	MINERVA, 4½ h.p., 1907, twin, Minerva spring forks, low, 2½in. tyres ..	£22
£12	CENTAUR, 3½ h.p., low built, belt drive, in good condition ..	£12
£9	BARTER, 2½ h.p., spray carburettor, geared pulley; a bargain ..	£9

TRICARS.

£40	REXETTE, 8-10 h.p., two speeds and reverse, water-cooled, open frame, in splendid condition ..	£40
£18	PHENIX TRIMO Coach-built Forecar, two-speed and free engine, good tyres to all wheels, a bargain ..	£18

50/- DOWN and 5/- weekly secures the following:

WERNER, 2 h.p., vertical, 26in. wheels, Werner automatic spray carburettor ..	£8
J.A.P., 2½ h.p., good tyres, Stanley Dermatine belt ..	£3
HUMBER, 3½ h.p., trembler coil, spray carburettor, in good condition ..	£9
MINERVA, 1½ h.p., in fair condition ..	£6

Brand New MILLS-FULFORD Sidecar, 1909, nine-guinea model, to clear ..

ACCESSORY BARGAINS.

Genuine 26 x 2½in. CLINCHER Rubber-studded tyres, list price 31/6; our price ..	25/-
CLINCHER 26 x 2½in. Tubes, post paid ..	5/6
F.R.S. Lamp, brand new, a bargain ..	19/6
LUCAS King of the Road, brand new, complete with generator, our price ..	30/-
HELLA Searchlight, best plated, divided glasses, complete with generator ..	14/11
Trinote Horns, "What a noise!" ..	7/3
Treble Twist Horns, will shit a tram! ..	6/6
Double Twist Horns, heavily plated ..	4/6
Variable pulleys, heavily plated ..	12/6
Rex Pattern Long Bars, heavily plated ..	6/6
Straight Bars, heavy gauge tubing ..	5/6
Swan-neck Seat-pillars, any drop ..	4/6
Mudguards, well finished, 3in. ..	2/11
Mudguards, 4in. ..	3/6
Mabon Free Engine Clutch, nearly new ..	30/-
Brown and Barlow Carburetters, handle-bar control, latest type ..	30/-
A.M.A.C. Carburetters, latest pattern ..	29/-

We can make you the best allowance. Write us before buying elsewhere, as we carry the largest stock of motor cycles and accessories in the world.

Note the address:

MAUDES' MOTOR MART,

POWELL STREET, HALIFAX.

Telephones: 433 Day, 904 Night.

Telegrams: "Petrol, Halifax."

Also at 136, Great Portland Street, LONDON, W.

TRICARS FOR SALE.

TRICAR, in good condition, two-speed gear, frame, wheel steering, coach-built, Minerva Lea frame: photo and price.—G. A. Cross, Old

3½ h.p. Excelsior Forecar, splendid condition out, Brown's two-speed gear, free engine going abroad; £20, or near offer.—Phillips, St. Hinckley, Leicestershire.

QUADRANT Tricar 6 h.p., two speeds, just the overhauled and guaranteed in thorough order, with full kit of accessories; £30, or offer Villa, Stanley Rd., Twickenham.

RILEY, 5 h.p., two speeds, 700 by 80 Dunlop wheels with lamps, apron, spare tyre, tool most new; no rubbish; any trial here.—Partington, 11, High St., Maidenhead.

6 h.p. Tricar, latest model Quadrant, overhauled, working order; sell, bargain, exchange, adjustment; offers considered; bought 212, Shobnall Rd., Burton-on-Trent.

£25 for quick sale, 5 h.p. twin Rex Triette started, four speeds, starts like car, steel back tyre, an ideal winter mount, just thorough hauled.—66, Grand Parade, Harringay.

5-6 h.p. Kerry Tricar, Abingdon frame, two tyres new, just been overhauled, property officer leaving, no reasonable offer refused.—To at Phillips Bros., Birchett Rd., Aldershot.

1908 Rex Litette, 6 h.p. Twin, magneto, coach water cooled, two speeds, Roc clutch, Wh adjustable pulley, any trial; sacrifice 40 guineas buying car.—W. Hunt, Draner, Colchester.

6½ h.p. 1907 Chater-Lea Open Frame Tricar water cooled, coach-built, wheel steering, all improvements; £25, or exchange for magneto motor.—22, The Avenue, Bruce Grove, Tottenham.

9 h.p. Singer coach-built tricar, twin-cyl., water three speeds forward and reverse, wheel heavy car tyres, condition as new, seen by appt. W.P.S., 15, Alpha Rd., New Cross, London.

4 h.p. Kelecom engined forecar, wicker basket, two-speed gear, first-class running order graph; £21 10s.; would take good motor cycle change.—Hamilton, 116, Almada St., Hamilton.

RELIABLE 5-6 h.p. Bradbury Tricar, w.c., two metal clutches, 2½in. Palmer cords, coach etc., new May, 1908, warranted; £23 10s., or bike and little cash.—13, Sun St., Pitsmoor.

4½ h.p. Stevens engine, Riley two speeds and wheel steering, handle starting, water cooled band brakes, chain drive, climbs anything, an £22.—Chapman, 17, King's Parade, Uxbridge Southall.

5½ h.p. Rexette Tricar, coach-built, water-cooled, two speeds, wheel steering, two brakes, the overhauled, new Continental tyres, extra heavy good running order; bargain, £29.—37, Palewell East Sheen.

8 h.p. Twin-cyl. Stevens Tricar, water-cooled, motor ignition, three speeds, free engine driven wheel steering, coach-built bucket seat, condition, just wants slight overhaul; £30.—Moat, Annan.

SACRIFICE.—Splendid 6 h.p. Rexette, water everything in first-class condition, and the road, fast, reliable and good climber; accept £23 10s., or best offer; must sell; bought tricar.—Arthur, 8, Moss St., Paisley.

PHENIX Trimo, late model, 6 h.p., twin, far open frame, coach built throughout, car Michelin car tyres, R.O.M. ignition, wheel guaranteed perfect condition, spare tubes, spare two P.R. 40 amp. accumulators, owner going in October, view and trial by appointment; price or near spot cash offer.—J.D.S., 584, High Rd., Stone.

SIDECARS AND FORECARS

SIDECAR, almost new, upholstered green, tyre, new August; bargain, £4 15s.—5, Hampstead.

FARRAR'S Halifax Sidecars are sent on a guaranteed 12 months; immediate delivery any motor cycle.

HALIFAX Sidecars are superb value; £4 each; equalling others costing double.—Motories, Square Rd., Halifax.

SPLENDID Sidecar, Dunlop, nearly new condition, accept £4 4s., cost over double.—Short, Spre Yard, Chesterfield.

£3 10s.—Light Rigid Sidecar, left side, 2 adjustable throughout.—Brown, 140, Lane, Hornsey, N.

SIDECAR, good condition, fit any frame, lowest, £3 15s.—Markham, 91, Farnes Rd, pool Rd., London, N.

CHATER Sidecar, Minerva twin, 4 h.p., in accumulators, Mabon clutch; £33.—Will Marlborough Rd., Wood Green.

UNREDEEMED.—Latest Chater-Lea sidecar new, 26 by 2½ tyre; £5 10s.—Matthew broker, London Rd., West Croydon.

FITEASY Sidecar, for narrow doors, whole retail.—Middleton and Co., Manufacturer son St., Newington Green, London, N.

THE MOTOR CYCLE

Vol. 7. No. 340.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

The International Tourist Trophy Race.

FAVoured by beautiful weather, Thursday's race was an even greater success than the two races which have gone before. The arrangements were well carried out from start to finish, the course was well guarded, there was no hitch of any kind and we do not hesitate to say that the Auto Cycle Union never handled any motor cycling event better. It was also satisfactory to know that the greatest enthusiasm was exhibited by the thousands of spectators lined the course, and in this connection it may be said that much larger crowds witnessed the racing this year, both visitors and inhabitants, than ever before.

The organisers were lucky in regard to the climatic conditions. From Monday to Thursday the weather was all that could be desired, but immediately after the last man had finished rain came on. The comments from the race are many, and we do not attempt to give them all now.

It was generally expected that this year's T.T. would be a battle of the cylinders, but we find that the race resolved itself into England *versus* America. The duel was a most interesting and exciting one, but in the end a Britisher on a British made machine emerged victorious. The race was by no means an absolute triumph for twin-cylinder engines, although the first and second positions were occupied by this type of machine. The single-cylinder machines showed a surprising turn of speed, and at one period of the race a competitor on a s.c. machine had worked into third place the result was very open. As it was, the single-cylinder machines occupied the third, fourth, and fifth positions at the finish, which proves that the

regulations limiting multi-cylinders to 750 c.c. and singles to 500 c.c. were well chosen and not unfair to either type, notwithstanding the great handicap under which single-cylinder machines competed. It is interesting to observe that whereas the winning engine has a very short stroke relative to the bore, the engine which gained second place is totally different in design, having a much longer stroke than bore. This once again points to the fact that within reasonable limits of bore-stroke ratio, power is governed by cubical capacity alone, and there is very little to be gained in the way of speed by adopting a long or short stroke. A point worth noting is that the first five machines had mechanically operated inlet valves, those of the twin-cylinders occupying first and second places being of the overhead type. There were fifty-four starters in the race, of whom twenty-eight rode single-cylinder machines, twenty-five twin-cylinder, and one a four-cylinder. Of this number nineteen completed the course before the expiration of the time limit, and of these eleven rode twins and eight single-cylinder machines. Although the course is by no means an easy one, abounding with corners, and notwithstanding the fact that half the competitors were novices at racing, it is pleasing to record that there was no serious accident during the progress of the race. Considering the difficult nature of the course and the severity of Creg Willey's Hill, which had to be climbed on each of the ten circuits, the speed of the winning machines is nothing short of remarkable.

As a whole, the predominant feature of the race is the extraordinary efficiency of the single-cylinder engine as compared with the twin, putting on one side all considerations except that of speed from given cylinder capacities.

CURRENT CHAT

Time to
Light Lamp

SPECIAL FEATURES

THE TOURIST TROPHY RACE.

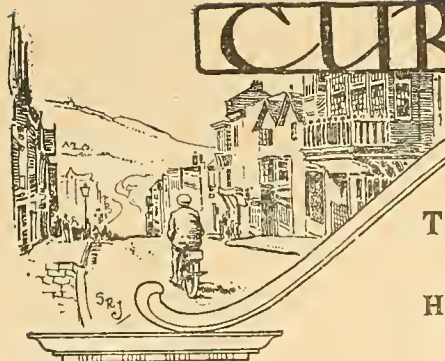
Special illustrated description.

HARROGATE TO THE RIVIERA AND
BACK BY MOTOR CYCLE.

Sep. 29..6.42

Oct. 2..6.36

,, 6..6.27

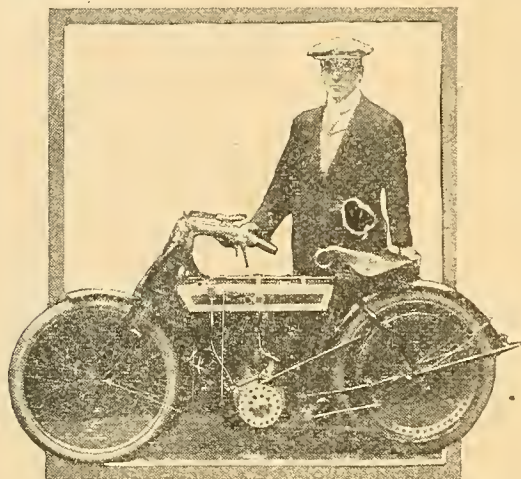


Hill-climb near Salisbury.

A hill-climb at Homington Hill on the 18th inst. for Salisbury and district motor cyclists resulted in a win for H. Davis riding a 5 h.p. twin Rex. His time was 1m. 7 $\frac{4}{5}$ s. for half a mile.

Motor Cyclists in the German Army Manœuvres.

The volunteer motor cyclists, 100 in number, who took part in this year's German Imperial Manœuvres, had no light task set them, what with the



F. C. Bagshawe (Leeds), who rode a 5 h.p. Twin-cylinder Rex in the T.T. race, and did very well in the hill-climbs on the following day.

wretched weather and the steep gradients. From the second day onwards the roads were thick with mud. But the volunteers spared neither themselves nor their machines, and, generally speaking, gave the utmost satisfaction. Once again, however, it was made clear that the lighter machines could be better depended upon than the heavier class, which not infrequently failed where roads were narrow and bad. In particular, the Motosacoche type seems to have proved the most effective for all-round work, especially under trying conditions.

Two Hours' Race for Motor Cycles.

On Saturday, October 9th, the British Motor Cycle Racing Club will hold a meeting at Brooklands, the chief feature of which will be a two hours' race for all classes of motor cycles. Members newly elected for the 1910 season will be allowed to compete at this meeting.

The Military Manœuvres in Oxfordshire.

The squad of motor cyclists who took part in the great army manœuvres last week were reported to have been hard worked, but they carried out their duties to the satisfaction of the commanders. The motor cyclists had very little sleep, and the night mists were, moreover, cruelly cold, wet, and impenetrable.

Next Week's Brooklands Meeting.

On Wednesday next, the 6th prox., two motor cycle races will be included in the Brooklands A.R.C. Meeting, particulars of which have already appeared in these pages. Entries closed on Monday last.

Marvellous Pedalling Feat.

Once again the three-cylinder V type Anzani engine has asserted itself. This time it was used by Hoffmann on his monster pacing motor cycle at Munich, when he helped Paul Guignard to wrest the hour push cycle record from Wills, the Englishman. The distance covered was 63 miles 255 yards, Wills's previous best being 61 miles 1,007 yards.

A Two-stroke Aeroplane Engine.

Engineer Grade, the only German aviator who has succeeded in making a flight of any length, uses a two-stroke Grade for propelling his aeroplane, the class of engine built into the Grade motor cycle, only, of course, much more powerful. Up to the time of writing, Grade's longest flight lasted some three minutes, and his greatest altitude is nearly 100ft.

The Clashing of Competition Dates.

What a pity it is that the A.C.U. and M.C.C. have important events arranged for the same day, viz., October 16th. The A.C.U. has the Quarterly Trials and the M.C.C. its Brooklands private meeting. Both are important events, the Quarterly Trials having their value to the trade, and the Brooklands meeting providing a splendid opportunity for those who have never ridden on a safe track before. It is obvious that each would receive a better entry if the events were held on separate dates.

FUTURE EVENTS.

Sept. 29—British M.C.R.C. Sixth Members' Meeting at Brooklands.

Oct. 6—Race Meeting at Brooklands (two events for motor cycles).

„ 9—Two Hours' Record Race at Brooklands, organised by the British M.C.R.C.

„ 9—Edinburgh Motor Cycling Club Open Hill-climb on Amulree.

„ 16—A.C.U. Fourth Quarterly Trial of 1909, Uxbridge to Banbury and back.

„ 16—M.C.C. Private Race Meeting and Gymkhana on Brooklands track.

„ 23—M.C.C. Closing Run to Brighton.

Nov. 12-20—Olympia Motor Exhibition.

„ 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, N.

Tolls in Bavaria.

Bavarian motor cyclists are jected to considerable annoyance expense by the varied tolls imposed on the parishes through which they have to ride. The cyclist who ventures into new districts is quite in the dark as to what he may be called upon to pay; the toll may be any sum from 1 $\frac{1}{4}$ d. to 10d., this latter sum being levied by a parish called Moosbach.



After making fastest time in the Edinburgh M.C.C. hill-climb on Manor Hill, Peebles, Baxter set off for the Isle of Man with his twin Rex, but found the pace in the T.T. too hot for amateurs.

near Landshut. There are stretches of some sixty miles where the tolls collected amount to as much as half a sovereign. An automobile organisation has published a list of many of the parishes where these tolls are levied, and upon motorists to boycott them.

A British Success.

The result of the Tourist Trophy Race is a decisive score for British productions. The fastest twin-cylinder machine and the fastest single-cylinder machine, with the exception of the magnetos and carburetter on the twin-cylinder machine. Moreover, out of the twelve in order of finishing ten were British-made machines.

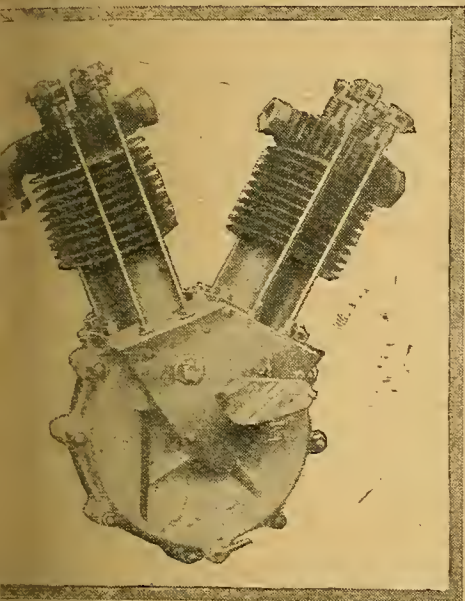
Did Giuppone Expect to Win!

Giuppone, that one-time expert motor cyclist, who finished twelfth in the T.T. Race, must surely have underestimated the performances of British riders, for he employed one of the smallest engines in the race, equipped with accumulator and coil ignition and Truffault forks. He still believed in a big enough carburetter, pinning his faith to a car-sized Longuemont. It may be mentioned that Giuppone was successful in a voiturette race at Ostend on the 19th inst., leaving in

ely after the conclusion of the for the Isle of Man. He only two days' practising, so to finish fifth with an 84 x 86 mm. engine a striking performance. Giupone is an adept in rounding corners on a motor bicycle. He has not ridden a motor cycle lately, but has lost none of his old dash and daring.

Winning Engine.

The J.A.P. engine used by H. A. Collier is exactly the same as the 85 x 85 mm. twin-cylinder J.A.P. engine with overhead valves, except the cylinders are shorter. To



The 85 x 65 mm. Twin-cylinder J.A.P. engine used by H. A. Collier, the winner of the Tourist Trophy.

at the required cylinder capacity for the T.T. race the stroke was reduced to 65 mm., this particular engine being selected by the makers, as they are best able to reduce the stroke and at the same time get the proper compression. Beyond shortening the stroke, the engine is absolutely standard, and has the same compression as is common to all standard J.A.P. engines.

Year's Winners "out of it."

Last year's winners seemed to be out of it this year, although Marshall was to a late stage promised to have a try in the matter. He finished the first lap in the third position, which he kept until the sixth round, and on the next lap crept into second place, placing Lee Evans, and was only a few minutes behind Harry Collier. Marshall was doomed to disappointment, however, for on the next time round the timing gear stripped—an almost unknown occurrence with J.A.P. engines.

T.T. Race: Some Interesting Observations.

Harry A. Collier, the Tourist Trophy winner, will be remembered as the twenty-four hours' motor bicycle record holder. He has competed in all three Tourist Trophy Races, and although made the fastest circuit in 1907 on a single-cylinder machine, he was not placed in either of the two first races of the Tourist Trophy.

There were fifty-four starters in the race, and nineteen completed the course within the time limit allowed, which

means that all the nineteen either made non-stop runs, or were not delayed more than a few minutes. There were comparatively few mechanical failures, the withdrawals in most cases being due to falls through skidding at corners. Burst tyres also accounted for several retirements, the covers in some cases refusing to remain on the rims at high speed. The last-mentioned trouble proves the necessity of serious practising beforehand.

The most serious accident during the progress of the race happened to A. J. Sproston, who fell in the first quarter of a mile breaking his ankle bone. He pluckily continued, and completed the full course.

G. E. Stanley was also unfortunate, as he occupied fourth position when he sustained a fall which put him out of the running. Stanley had done wonderfully well in practice spins.

H. A. Collier's fifth lap was the fastest ever accomplished on the Ballacrairie-Peel-Kirkmichael-Ballacrairie course. His time was 18m. 9s. Rem Fowler's previous best, accomplished in the first Tourist Trophy Race, with a restricted fuel allowance was 22m. 6½s. Single-cylinder machines last week frequently covered the course in less than twenty minutes.

C. B. Franklin was the fastest amateur rider in the race, and wins the private owner's silver cup. Although fifth in order of speed, he was but 26m. 54s. slower than the winner.

Colver's Matchless-J.A.P. and Giupone's Peugeot were the only accumulator ignited machines in the race. Both completed the course, occupying

tenth and twelfth positions respectively. Chain-driven machines numbered three, the Indians and the Scott being equipped with this type of transmission. All the remainder were belt-driven with the exception of the F.N., which is bevel driven.

The two-stroke Scott was the lightest machine in the T.T. Race. The rider, E. S. Myers, surprised many by the wonderful manner in which he could attain high speed from a standing start. A two-speed gear and free engine is used on the Scott.

Police Traps.

There has been a trap working between Newport (Mon.) and Cardiff, somewhere between the seventh and ninth milestones, but the police have not yet been very strict.

Hill-climb on Amulree.

Saturday next, the 2nd prox., is the latest date for receipt of entries for the Edinburgh M.C.C. open hill-climb on Amulree, that formidable ascent which proved too much for all the competitors in the Scottish Reliability Trials. The competition is to take place on the following Saturday, at 2 p.m.

Over Seventy-one Miles in One Hour.

Regarding the paragraph on page 716 of the last issue, we are now advised that the correct distance covered by Fred Huyck on a 7 h.p. Indian at Springfield, U.S.A., on the 6th inst., was 71 miles 620 yards. During the attempt Huyck had to leave the track for a whole minute or more owing to a broken chain, using a spare machine until the chain of the original one was repaired. The Hendee Co. claim this ride as a record.



Tourist Trophy Race. A competitor at Ballacrairie corner. Many were the styles adopted by competitors in rounding this corner. The old stagers saved many seconds, sometimes minutes, by skilful corner work on every circuit of the course.



[Previous instalments appeared in our issues of September 15th and 22nd.]

I was now passing through what I took to be a cork forest. The view at the top was magnificent, and although I had passed here on my outward journey it seemed totally different. At the top I propped up my machine and had an enjoyable cigarette and admired the view. Far away were the Maritime Alps with their snow-bound summits, but the air was so clear that they seemed quite close. Down below, almost out of sight, could be seen white specks, presumably houses, dotted here and there. Looking at the surrounding country again, and then at my motor bicycle, I felt as though we did not belong to this earth at all: we seemed so out of place. Here I was aware that something was approaching. It proved to be the car I had left. As it passed I noticed that the water was boiling. Remounting, I cautiously descended the Col, reaching the ancient Roman city of Frejus with its famous aqueduct.

The road now hugged the coast, and soon I renewed my acquaintance with St. Maxime, and again tarried awhile to admire the little village.

Again avoiding St. Tropez, I did not follow the coast road, but struck a much better road inland, which joined the Mediterranean just before reaching Hyères. Between Hyères and Toulon the road was much frequented by groups of sailors from the war-ships. They were usually playing some game on the road, and were so boisterous over it that I had to dismount once or twice, as I could not attract their attention quickly enough if I came upon them round a corner.

Dusty Roads even Welcomed.

After leaving Toulon the roads, to my surprise and joy, began to get almost dusty, but there were stretches which were still a little "tricky" owing to the grease. Continuing through Ollioules brought me to le Beausset and its twisty but pretty road, to within a few miles of Aubagne, where, by taking the road to the right, I made for Roquevaire, and got on to a fine road which avoided busy Marseilles.

The going was magnificent, the roads being dustless and dry, and beautifully engineered, and so for mile after mile I averaged thirty-five miles an hour with perfect comfort and ease. The road extended in an almost straight line, and several times almost lost itself in perspective. The nice undulating surface made it the more enjoyable almost all the way to Avignon (a distance of over forty miles), and on the way I passed through Aix, St. Cannat, and Lambesc, where I caught glimpses of the river Durance. On to Sénas, Orgon, and across the river, I arrived at Avignon, and enquiring for the best hotel, was directed to the Grand Hotel d'Europe, which proved most comfortable.

Here I reflected over what I consider easily the most enjoyable run of the tour. The distance covered

was almost 200 miles, and nearly every yard was magnificent. On one portion in particular the scene was almost bare of human habitation whatever, and seemed to be given over to nature—except in one spot only, and here it seemed as if man had indeed been jealous, for on a small peak, which rose abruptly from the surrounding country, rose a church steeply with its spire dominating the small village which clung round its base as if in protection from the wild and rugged country which surrounded it. How do the inhabitants live? There was no railway within ten miles. There seemed to be no fields or vineyards. Perhaps the place was only some ancient ruins, lonely did it appear to be. Indeed, it might have been some monastery in the centre of Thibet, so cut off from the world was its situation. Water splashes had been rather frequent on this run, owing to the heavy rains: one in particular, where the road was under water for over fifty yards, and the water was running swiftly. Seeing a pedal cyclist approaching I waited to see what he would do. He risked it. Wished he hadn't! A quick change came over his face as he began to get scared, the water rising to his front spindle. Then he waited to see the result, but I was not having any. So I pushed my machine up a small banking and rode between the metal rails of a small railway line till I was forced off by some officials, as I was near a railway station. Getting on to an almost dry part of the road, I was able to ride a few yards, but was brought up suddenly at another splash. This time I made a dash to get across. Splash! the water went in all directions, even in my face. Steam filled the air. My belt slipped and gave me a really free engine, and horrors! the machine came to a stop in inches of water. Stepping smartly I reached the opposite side twenty yards off, with my feet almost dry, due to the overalls covering up the lace holes on my boots.

In the hotel courtyard next morning I noticed one of England's best cars—a six-cylinder Rolls-Royce. Chatting with the driver, I learned that he was a Triumph rider himself. He told me that he had seen me leaving Nice the previous day, and he had practically come the same way as I had, and was going in the same direction to just outside Paris. Bidding him good-bye, I swung out of the gateway and turned to the right, keeping the River Rhone on my left, and headed for Orange. The roads again, I was pleased to find, were in perfect condition. Just outside Orange the stately Roman Arch was passed, and I believe it is said to be the best in France, and for its antiquity is in a marvellous state of preservation.

I believe it was soon after leaving Orange that I passed over a very wide river, which owing to the recent heavy rains was swirling under the narrow bridge at a good pace, carrying small trees and

arrogate to the Riviera and Back by Motor Cycle.—

branches on its way. The bridge was one of the finest I have ever seen.

A Fright.

Always keeping the Rhone on my left-hand and nearly always in sight of it, I worked my way North. Several very busy little villages were passed close by the river side. Once near a village I saw a caution board of some description with a word resembling "Cassaris," and I wondered whatever the warning was for. I gave another look back to see if I had passed anything. I need not have troubled, however, for before I knew what had happened I was nearly thrown over the handle-bars, as I almost shot over a large and sudden dip in the road with a little stream running at the bottom. I kept a look-out in future for those kindly notice boards, and some even stated the distance to those "wash-outs" in metres.

The scenery was rather nice, but by no stretch of imagination could it possibly compare with the views of the previous day. Every now and again, however, could be seen, perched up on the highest point for miles, some ancient castle or fortress which seemed in ruins. How old they were I have no idea, but they seemed to be built with an eye to repulsing any marauding band.

After passing through Montelimar I had to dispense with my faithful large scale road map, as it only gave the roads as far north as I had reached, so I brought out my old Bradshaw railway map, which was the only one I had to pilot me home. Through Valence and St. Rambert, and stopping just before reaching Vienne, I locked my bicycle on the stand, and sat on the grassy bank to enjoy a quiet smoke. Looking over the machine from where I sat I was surprised to notice that there was no chain on my pedalling gear. I had been riding for hours, so it might have been miles behind. Where I sat the road was straight for about three miles, and a two-seated racing car whizzed past in a cloud of dust with about six spare tyres on the back. It was going a good eighty miles an hour, and the suction made my machine sway on its stand. This is not an American yarn! Continuing my way, I reached Lyons with its busy thoroughfares and large number of bridges which span the river. As I expected, I found great difficulty in finding my way on to the correct road, but at last I got out. The road got worse and worse, till it finished in a tow path along the river side. Back into Lyons again I happily discovered I had hardly any petrol left, so I filled up at a grocer's shop. Almost every grocer's shop and ironmonger's have some petrol cans outside as a sign. Next time I found the correct road, and duly arrived at Macon about six o'clock. I elected to stay the night at the Hotel de France, and I had no sooner put my machine under cover than rain came on and continued for the best part of the evening.

The day's run had been satisfactory—about 175 miles—without any trouble, except for one or two little prints alongside the machine owing to my losing the pedal chain, and one or two steep hills in the middle of certain villages with a ridiculous speed limit of

under five miles an hour, which, needless to say, I hardly complied with, as the streets were practically deserted and perfectly straight and wide.

Once I had obtained an excellent view of several hundred cavalymen performing some manoeuvres or tournament. They presented a brilliant spectacle as they wheeled this way and that with their swords and accoutrements glittering in the sun. Sometimes I passed large groups of soldiers halting by the roadside with their swords stacked up and their horses tethered or being led to some stream near by.

I had arranged for an early breakfast in the morning, so was very much annoyed when I got up to find it had been raining nearly all the night through, and was still raining. After an hour or so the rain ceased, so I continued my way again, making for Chalon. The previous evening I had discovered that I was only sixty miles from Geneva, and I wondered if it would be worth while to make a short *détour*, but the rain decided for me, and I rode straight on. Chalon is on the Rhone, although in this part it is called the Saone,



The Bay, Mentone.

the river emptying itself into the Mediterranean at least 250 miles away. I was surprised to see some torpedo boats or destroyers so far inland, and also observed the large workshops of Messrs. Rochet-Schneider, of armament fame.

Keeping the river on my right I was threading my way along the crowded street when I was aware of a gentle purring sound. A horn sounded, and a large green car bonnet crept past me. It was the Rolls-Royce which I had seen at Avignon, 200 miles away, the previous morning. Knowing that the car was going the same way as myself, I followed. In a short distance there appeared a large arrow on my left pointing out the road to Paris, so I was surprised when the car passed it, but I kept behind, as I thought the driver knew a better way. However, it appears that he did not know the way at all, so I turned round and regained the Paris road, which appeared in a long grey muddy line.

(To be concluded next week.)

Tyres are the chief consideration in present day motor cycle trials, and it is not without interest to know that Jas. Stewart, who recently won the Muratti Trophy outright, used Palmers.

Wind Screens on Sidecars.

[4286.]-I notice on page 691 of your issue of September 15th a picture of Mr. F. E. Lee, of Stoke-on-Trent, with a celluloid wind screen attached to his sidecar. I think it would be of extreme interest to his fellow sidecarists if Mr. Lee could be persuaded to give in the Correspondence columns of your valuable journal his experiences with this novelty. I am interested to know where such an article can be obtained, and particularly how it is fixed to the sidecar. I should also like to know how the combination behaves against a wind; that is, whether it materially increases the amount of work to be done by the machine. The last point is of vital importance to me, since my machine is only $3\frac{1}{2}$ h.p. with two-speed gear, and a strong head wind taxes the power of the machine almost to the limit.

J. F. BRIGGS.

Punctures in the Driving Tyre.

[4287.]-I am very much surprised on reading the portion of the judges' report on the six days' trial relating to puncture protectors. I cannot imagine how anyone could for one moment believe that the reason that punctures mostly occur in the back wheel is that the front wheel tips the nail or other puncture material up on end, and the back wheel catches it before it has time to fall again.

If this is the case, how do you account for machines of different lengths all suffering the same, such as tandems, triplets, and singles? Again, how is it that punctures occur in the back wheel of a tricar so persistently when there is no front wheel directly in front of it? You very rarely get a puncture in a front wheel or a sidecar wheel, because it only rolls along the road, whereas the cause of punctures in the back wheel is because, whether pedalled or propelled by an engine, it is being forced round with a big drag on the road. Therefore, as soon as it comes in contact with a nail, etc., it naturally picks it up, and next time it comes round it is driven into the tyre.

The best way to prevent the majority of punctures is to fix a bit of steel wire across the back stays to just miss the tyre. This will prevent seventy-five per cent. of the punctures, which are, I think, the greatest bugbear the motor cyclist has to put up with.

PATSY BOLLIVER.

The Land's End to John-o'-Groat's Record.

[4288.]-I think Mr. A. W. Bentley [No. 4273] comes down rather hard on your correspondent who signs himself "Own Bat" [4255]. There is no endeavour on the part of "Own Bat" to belittle any record holder's performances, nor does it necessarily imply he is without courage because he uses a *nom-de-plume*. Mr. Bentley perhaps thinks abuse is a weapon of argument.

When "Own Bat" mentioned "motor cars" and "tent garages," he was only following his argument to its logical conclusion. The End-to-end record is now purely a matter of capital and organisation, and I believe it would be easily possible to find hundreds of motor cyclists who could emulate either Mr. Hart Davies's or Mr. Bentley's feat given proper weapons and organisation.

"Own Bat's" idea is a thoroughly sporting one, and would be a true test of man's endurance apart from vast expenditure and organisation. What chance has the average motor cyclist, when the cost must be a new machine with special fittings and expenses which must get up from £20 to £30, to say nothing of a band of followers to pilot and nurse the competitor?

The first man who gets through on his own bat (I like the phrase), who carries food and petrol with him (if necessary), and gets an odd hour's sleep in a barn, will have done much more than the present record holder or any of his predecessors.

W. E. HOLMES.

[4289.]-I crave space to reply to Mr. Vivian Olsson and Mr. Arthur W. Bentley on the above subject. I regret that my letter (owing to its length) was not printed in its entirety, and that part which related to the average speed was omitted. This, of course, was the basis of my argument.

It will be well within the memory of both the gentlemen that some years ago Mr. Chas. Jarrott set up several records from London to Monte Carlo on a 40 h.p. Crossley, and the editors of several car papers deprecated these performances, especially the speed bursts from London to Dover; and I ask you, sir, as editor of *The Motor Cycle*, can you justify

a ride of 900 miles at an average speed above the legal limit? If either Mr. Olsson or Mr. Bentley can, I shall be glad to see his line of argument.

As to belittling Mr. Hart Davies's record, such was not my intention. I quite agree that it was a splendid performance, and reflects great credit alike to man and mount, and it was merely to the manner in which the run was conducted that I objected to.

I congratulate Messrs. Olsson and Bentley on their own rides, and should like to say that Mr. Olsson's ride, with little or no arrangements and help, is the nearest approach to what I mean.

Mr. Hart Davies spent so much time on his machine and so little off that a lowering of the record means a higher average speed or better arrangements.

THE WRITER OF THE LETTER.

Motor Cycle Design.

[4290.]-The above correspondence comes at a very opportune moment, as we are nearing the Stanley Show, where makers will be exhibiting their latest productions.

I think an opportunity arises for suggesting the idea of asking the Motor Union to give a diploma to the manufacturer of the motor cycle which is considered the best in design, transmission, control, safety, ease of starting, brakes, easy riding position, cleanliness, silence, and freedom from vibration. Perhaps the best method to gain unbiased opinion would be to ask the representatives of each of the town and country clubs, who would doubtless be present at the show to record their opinion to the Motor Union, and the machine that the majority favoured would be the chosen one for the award. The cost of this innovation would surely be readily defrayed by members of the trade, and its result would be of great interest to readers of *The Motor Cycle*.

ARTHUR W. WALL.

Fuel Consumption.

[4291.]-In reply to Mr. F. P. Johnson's letter No. 4257 in your issue of September 15th, I regret that he should have thought that my letter was "written in a sarcastic vein," and would point out that the extract from the letter which he quotes—presumably as being sarcastic—is merely a bald statement of fact, which emphasises the excellence of the performances of Nos. 1 and 2.

I feel sure that a trial of this sort, held by a club of the standing of the Nottingham and District M.C.C., would be conducted under the close observation of the club officials and Mr. Johnson's suggestion that Messrs. Brough and Reilly should repeat their performances under "official observation" appears unnecessary, and not very polite to the officials of the club, or the competitors. Supposing that I had £10 to expend on a Nottingham charity, it is not clear from Mr. Johnson's letter how the repetition of the performance would enlighten me as to how I might run double the distance per gallon of petrol that I am able to do now. The gentlemen whose machines performed so splendidly can no doubt remember how it was done, and if they wish to inform the readers of *The Motor Cycle* as to how a very large saving in fuel can be effected, could do so without going to the trouble of repeating their performances. This would be an act of charity which would dwarf the one proposed by Mr. Johnson into insignificance.

F. C. JAMES.

EXPERIENCES WANTED.

"A B 929" desires owners' experiences with the Zenith Gradua for sidecar work.

"J. E." (Plymouth), 7-8 h.p. two-speed Bat and sidecar. Is the lin. belt strong enough for its work?

"J. H." (Lancs.), 1909 Quadrant, as regards power.

The rider of a Motosacoche living in Nevern Road, Earls Court, and who on the 17th inst. rendered assistance to H. Hill, the rider of a four-cylinder F.N., is asked to send his address to the Editor to be forwarded.

"Capt. A.L.W." would like to know if there are any motor cyclists at Free Town, Sierra Leone, on the West Coast of Africa, and whether they will advise as to the best type of motor bicycle for that district. Also, if the road up to the Civil Hill Station is either from condition of surface or gradient rideable.

THE ISLE OF MAN WEEK

(BY OUR SPECIAL CORRESPONDENT.)

RACE PRELIMINARIES.

I ARRIVED by the *Viking* on Tuesday, the 21st inst., in company with about thirty other motor cyclists. Though, naturally, not so many visitors have come over for the Auto Cycle T.T. as for the Four Inch Race last year, the number of people who have arrived here with and without their motor bicycles is considerable. The islanders

take a great interest in the race, and deeply deplore the fact that there is no car race this year.

Shortly after my arrival I set out on the trusty little 3/4 h.p. Messrs. Douglas Bros. have placed at my disposal for this week, for Ballacraine, and there met good many of the competitors putting finishing touches to their machines. R. O. Clark and A. West were two very late arrivals, who crossed over with me on Tuesday, and so have only had one morning's practice. I then drove the Douglas round the course, and was soon bumping over its rough surface towards

Creg Willey's Hill. The hill itself is in excellent condition, and the little lightweight soared up it in splendid form. From the summit to the wicked corner at Kirk Michael the going is somewhat better, but it is by no means perfect, and is passably good till Peel is reached. From Peel to St. John's it is again bumpy. It is a great pity the Highway Board has no steam roller, as without it a really smooth surface cannot be obtained. In the evening the competitors met at the A.C.U. headquarters, the Sefton Hotel, and received final instructions from Mr. V. Hart, one of the judges.

Wednesday morning I was up betimes, and after a delightful eight mile spin I reached Ballacraine, and round the corner of the hotel there the competitors were coming in quick succession. Many did not turn up at all, as they had practised enough, but several of the experienced riders made several circuits, among whom Godfrey and Giuppone created much interest—the former by covering the course in 19 1/2 m., and the latter by taking the corner in a masterly manner. Most of the others took the corner well, and only one had an insignificant tumble. A little farther on, however, L. C. Munro was run into by Leno, who was



Competitors and spectators assembling at St. John's on Wednesday morning last for the weighing.

The silencer and brake tests were conducted within a mile of this point in the direction of Creg Willey's Hill.

The Isle of Man Week—

going round the course in the wrong direction. Poor Munro suffered a broken arm, and was carried back to Douglas in Mr. Williamson's car. Leno's case was brought up before the judges on Wednesday morning, and he was disqualified. Fortunately, this is the only serious accident which has occurred since practising was allowed.

Giuppone out of Practice.

I had a few minutes' chat with Giuppone at the conclusion of his last trial spin, and he told me he had not ridden a motor bicycle for a year—properly speaking, for two years, as his last ride was a kilometre long up Gaillon Hill—so he was rather out of practice. He thought the course was pretty and not too difficult.

were tested before the same officials on the return, the men being required to pull up or nearly pull up at a given signal between two points. Some machines—in fact most—pulled up quite nicely, others did not, but all satisfied the judges. This concluded a busy morning's work.

The Day of the Race.

As the gallant little Douglas carried me down the Peel road just after eight o'clock on the morning of the race at an easy speed, as I was dawdling to let a friend catch me up, dozens of motor bicycles passed on their way to the start. Here and there hired flies were jogging along carrying spectators, while several train loads were deposited at St. John's, and by the time the hour approached 10 a.m. such a



The first two riders to start were J. Marshall (3½ h.p. Triumph), last year's winner (right), and H. Reed (5 h.p. Dot-Peugeot) (left). A group of officials and other competitors ready to start can be seen in the background.

At 8 a.m. the practising ceased, and all cleared off to Douglas or Peel for breakfast. About 10.30 all the competitors and many spectators turned up at St. John's, and there were told by Mr. Hart that they were to be marshalled in order, and first get weighed at the railway station, and then have their silencers tested by riding straightaway from the St. John's Station up a stiff little hill about a mile away. The marshalling was ably carried out by Mr. C. E. Rackham, the weighing by Messrs. R. D. F. Paul and E. S. Ross, and the brake and silencer tests by Messrs. J. R. Nisbet, J. W. G. Brooker, and V. Holroyd. All were weighed except J. F. Jones (3½ h.p. Triumph), who ran into a wall and damaged his machine; Munro (5½ h.p. N.S.U.), who met with the accident referred to above; and A. West (3½ h.p. Triumph), who, suffering from temporary mental aberration, forgot to present himself at St. John's.

Nearly all the machines appear to be sound and sensible mounts, and the freak element is entirely absent. Leaving the station the competitors crossed the main road, and proceeded to a short steep hill, halfway up which the judges adjudicated on the efficiency of the silencers. All passed the test satisfactorily. The Indians, the Scott, and one or two of the Triumphs were wonderfully quiet. The brakes

crowd as has never before assembled at the Auto Cycle T.T. lined the road in the vicinity of St. John's.

The weather was splendidly fine, cool at first, but warmer as the day wore on, but a strong westerly wind raised a good deal of dust, and rendered the going somewhat trying along the Peel-Ballacrine road. By 9 a.m. nearly all the competitors had presented themselves, and each was then placed in a position opposite his number on the cross-country road to Glen Helen. Messrs. Paul, Nisbet, Starley, and a host of others arranged them in order on both sides of the road, so that they extended from the foot of Tynwald Hill to the edge of the main road. What police there were behaved excellently in attempting to keep the enclosures clear of unauthorised people, but there were not nearly enough, and the marshals had all they could do to keep a free passage for the riders and their many attendants. As the hour approached, the men were arranged in pairs on the course by Paul, the chief marshal. After the last train load of spectators had arrived from Douglas and Colonel Freeth, chief constable of the island, had completed a tour of the course to see that all was in order, the word to go was given, and Marshall and Reed leaped into their saddles at 10.22, their engines firing at once. Despite the high compression used on many of the engines, it

The Isle of Man Week.—

was remarkable how easily they started. Perryman, Godfrey, Applebee, Carter, Fowler, and Lang did not get away very smartly, but the performance made



At the starting point. G. E. Stanley (3½ h.p. Premier) (right) and B. Vickers-Jones (3½ h.p. Premier) (left) waiting for the word "Go!" from the timekeepers, G. P. Glazebrook and A. V. Ebbelwhite, on the extreme right. The wearer of the badge is Chief Marshal R. D. F. Paul.

by the Scott was so splendid that the crowd could not refrain a cheer. At the words "Get ready" Myers stamped on the starting pedal, and the Scott fired at once; at the word "Go" he was moving away in the saddle, before the man starting with him had hardly begun to run. It served to show the public how a motor bicycle should be started. The men were sent off in pairs at half-minute intervals. The absentees were J. F. Jones, L. C. Munro, and J. Leno, whose reasons for not starting are given above; Fletcher, who did not ride the Indian which he was down to ride in the programme; and West, whose injured knee did not allow him to compete.

As soon as the last man had been sent off the crowd settled itself down to watch for the first arrival, and here and there people sat in advantageous positions on the grass. Hardly had they done this when a policeman's whistle blew loud and shrilly. Who was it? Eyes were strained and necks craned forward to catch a glimpse of the rider. Was it Marshall or Reed? Marshall had kept his place, but Lee Evans on the red Indian, who started No. 7, had leaped up to second place in order, and was travelling at a great speed. Next in order passed Drury, Reed travelling slowly, Godfrey going well, and Wells who stopped and retired as he had hurt himself in mounting, H. Collier travelling at a great rate, Perryman, Murphy, Colver, Gibson, J. Bashall, Stewart, W. Bashall, F. Applebee, Stanley, Brice, Franklin, and Sproston (who to everyone's astonishment removed his left boot and threw it on the ground), Norton, White, Cooper, Bowen, V. Jones, Fowler, Moorhouse, Lord, Adamson, Smyth, Creyton, Grinstead, Newsome (who was going particularly well), Greer, Myers (his machine running beautifully), Heaton, Giuppone, Baxter, and Bell together, J. D. A. Munro, R. O. Clark, Wilson, Maclean, F. C. Wood, and Butler. Even at this early stage there were several retirements—Carter who retired through a puncture at Glen Helen (irreparable as he had no repair outfit), Wells to whose retirement I have just referred, Blake who buckled his front wheel at Ballacraigne, Bentley who failed to take the corner at the foot of Creg Willey's Hill, and several others.

First Round.

The first six on time at the end of the first lap were:

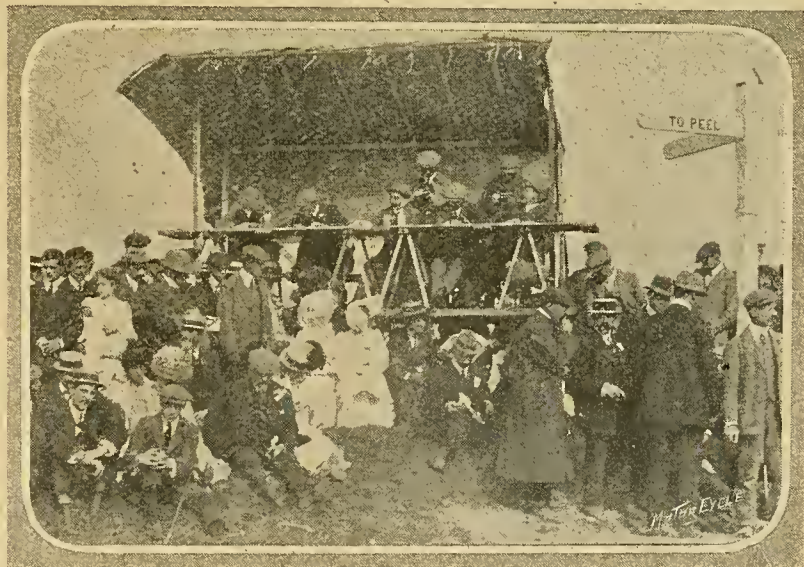
Rider and machine.	N.	S.
1. G. Lee Evans (5 h.p. Indian) ...	18	45
2. H. A. Collier (5 h.p. Matchless-J.A.P.)	19	25
3. F. W. Dayrell (5 h.p. Bat-J.A.P.) ...	19	35
4. O. C. Godfrey (3½ h.p. Rex) ...	19	42
5. H. H. Bowen (3½ h.p. Bat-J.A.P.) ...	19	45
6. G. E. Stanley (3½ h.p. Premier) ...	20	9

Second Round.

In the second round Evans maintained his lead, this time riding well ahead of Marshall, and at this early stage he looked a winner, while Drury, H. Collier, Godfrey, and Stanley, followed next in order. The times for the two laps were:

1. G. Lee Evans (5 h.p. Indian) ...	37	43
2. H. A. Collier (5 h.p. Matchless-J.A.P.)	38	40
3. J. Marshall (3½ h.p. Triumph) ...	39	43
4. F. W. Dayrell (5 h.p. Bat-J.A.P.) ...	39	54
5. O. C. Godfrey (3½ h.p. Rex) ...	40	1
6. G. E. Stanley (3½ h.p. Premier) ...	40	10

Sproston, who was riding well and keeping up a good average, came round with his bootless leg hanging down, and later a rumour was current that he had broken an ankle bone. Ellis (3½ h.p. Rex) found his engine was not pulling properly, so he stopped at the excellently arranged scoring board at which the aggregate times were put up by a willing staff of marshals.



The timekeepers' box at St. John's.

looked at the progress of the race, and then proceeded. Of course, he was out of the running, but his action greatly amused the spectators.

Third Round

At the end of the third round the positions of the first four were unchanged, the times being:

1. G. Lee Evans (5 h.p. Indian) ...	56	43
2. H. A. Collier (5 h.p. Matchless-J.A.P.)	57	29
3. J. Marshall (3½ h.p. Triumph) ...	59	13
4. F. W. Dayrell (5 h.p. Bat-J.A.P.) ...	59	53
5. F. W. Newsome (3½ h.p. Triumph) ...	1	1 4
6. H. H. Bowen (3½ h.p. Bat-J.A.P.) ...	1	2 0

Fourth Round.

In the fourth round Evans maintained first place, followed by Collier and Marshall, Godfrey having run into fourth position.

1. G. Lee Evans (5 h.p. Indian) ...	1	15	46
2. H. A. Collier (5 h.p. Matchless-J.A.P.)	1	18	51
3. J. Marshall (3½ h.p. Triumph) ...	1	19	25
4. O. C. Godfrey (3½ h.p. Rex) ...	1	21	12
5. F. W. Newsome (3½ h.p. Triumph) ...	1	21	53
6. F. W. Dayrell (5 h.p. Bat-J.A.P.) ...	1	22	14

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Fifth Round.

Evans still led at the end of the fifth round, his machine running with surprising sweetness and regularity. Dayrell and Newsome fell back, and Drury and Rem Fowler ran into fifth and sixth positions.

Rider and machine.		H.	M.	S.
1.	G. Lee Evans (5 h.p. Indian) ...	1	35	5
2.	H. A. Collier (5 h.p. Matchless-J.A.P.)	1	37	0
3.	J. Marshall (3½ h.p. Triumph)...	1	38	50
4.	O. C. Godfrey (3½ h.p. Rex) ...	1	43	29
5.	Noel E. Drury (5 h.p. J.A.P.)...	1	45	4
6.	H. Rem Fowler (5 h.p. Rex)...	1	49	42

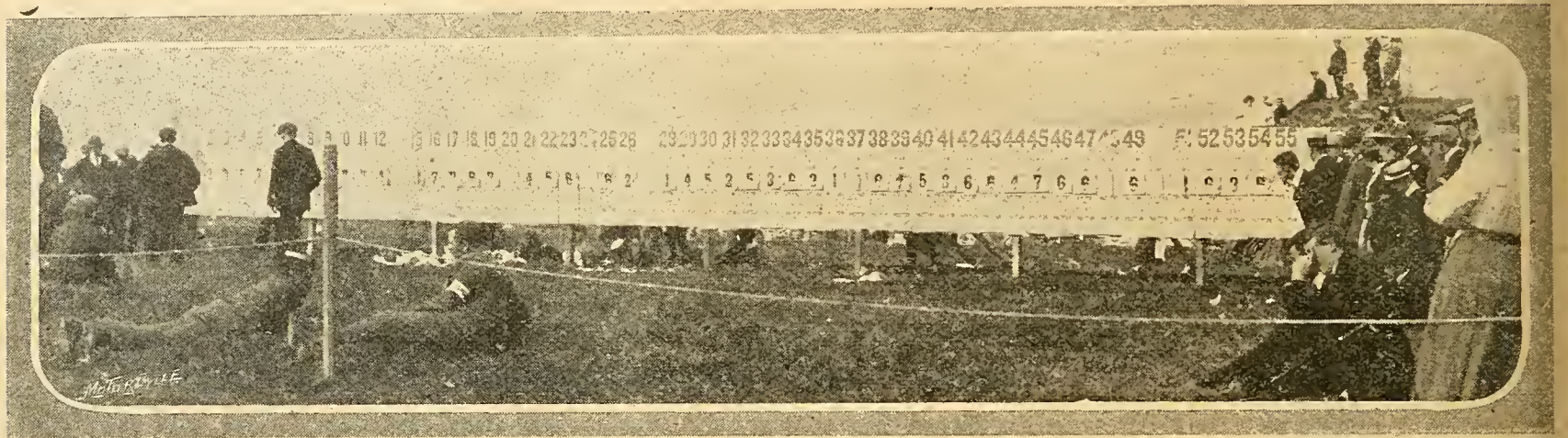
In this round Collier made the record lap, covering the course in the remarkably short time of 18m. 9s., or 50 m.p.h.

It was now clearly Collier's race. Evans, save for a miracle, could never regain the ground he had lost, and was a sure second, but the struggle for third place lay between Godfrey and Newsome, who should hold the honour of being the fastest single-cylinder.

Ninth Round.

Rider and machine.		H.	M.	S.
1.	H. A. Collier (5 h.p. Matchless-J.A.P.)	2	54	30
2.	G. Lee Evans (5 h.p. Indian) ...	2	57	43
3.	F. W. Newsome (3½ h.p. Triumph) ...	3	10	29
4.	O. C. Godfrey (3½ h.p. Rex) ...	3	10	43
5.	H. Rem Fowler (5 h.p. Rex) ...	3	17	56

At about twenty minutes to two Collier rushed in a winner amid the acclamations of the crowd. 4m. 2s. later Evans arrived, and was heartily cheered for his



The scoring board erected on the green just in front of Tynwald Hill. The top row of figures are competitors' numbers, below them appear the names of the riders and the particulars of the machines; the large figures in the centre indicate the number of rounds completed by each competitor at the time the photograph was taken, and below them the times are given.

Sixth Round.

In the sixth round Evans stopped to fill up with petrol and oil and lost time in so doing; this he was never able to regain, and Collier established a lead which he held throughout the remainder of the race. The first six now stood:

1.	H. A. Collier (5 h.p. Matchless-J.A.P.)	1	55	59
2.	G. Lee Evans (5 h.p. Indian) ...	1	57	17
3.	J. Marshall (3½ h.p. Triumph)...	1	58	12
4.	O. C. Godfrey (3½ h.p. Rex) ...	2	4	23
5.	Noel E. Drury (5 h.p. J.A.P.) ...	2	7	37
6.	F. W. Newsome (3½ h.p. Triumph) ...	2	10	10

Seventh Round.

In this round, Marshall displaced Evans for second place.

1.	H. A. Collier (5 h.p. Matchless-J.A.P.)	2	14	38
2.	J. Marshall (3½ h.p. Triumph)...	2	17	34
3.	G. Lee Evans (5 h.p. Indian) ...	2	18	30
4.	O. C. Godfrey (3½ h.p. Rex) ...	2	26	29
5.	F. W. Newsome (3½ h.p. Triumph) ...	2	30	48
6.	H. Rem Fowler (5 h.p. Rex) ...	2	34	23

This was the last time we were to see Marshall, as near Creg Willey's Hill he broke an exhaust valve and had trouble with his timing gear. This was very hard luck, as at the time the incident happened he had worked up to second place, being less than 3m. behind Collier.

Eighth Round.

In the eighth round Collier still continued to run with the utmost regularity. Evans was second, and a fine race ensued between Godfrey and Newsome.

1.	H. A. Collier (5 h.p. Matchless-J.A.P.)	2	33	24
2.	G. Lee Evans (5 h.p. Indian) ...	2	38	13
3.	O. C. Godfrey (3½ h.p. Rex) ...	2	49	56
4.	F. W. Newsome (3½ h.p. Triumph)...	2	51	38
5.	H. Rem Fowler (5 h.p. Rex) ...	2	56	2
6.	H. V. Colver (3½ h.p. Matchless-J.A.P.)	2	57	15

excellent performance. Godfrey arrived next, and was unfortunately posted up as being third, owing to an error. This proved a sore disappointment to him, as later Newsome was announced to be third man, beating Godfrey by 21³/₅s. only.

The results of the race are as follows:

Rider and machine.	Time.			Average speed m.p.h.
	h.	m.	s.	
1. H. A. Collier (5 h.p. Matchless-J.A.P.)	3	13	37 ⁴ / ₅	*49.04
2. G. Lee Evans (5 h.p. Indian)	3	17	35 ¹ / ₅	48
3. W. F. Newsome (3½ h.p. Triumph)	3	31	10	44.92
4. O. C. Godfrey (3½ h.p. Rex)	3	31	31 ³ / ₅	44.84
5. C. B. Franklin (3½ h.p. Triumph)	3	40	31 ¹ / ₅	43.06
6. F. A. Applebæe (5 h.p. Rex)	3	42	24 ¹ / ₅	42.66
7. J. D. A. Munro (5 h.p. Bat-J.A.P.)	3	46	15 ¹ / ₅	42.
8. B. V. Jones (3¾ h.p. Premier)	3	46	16 ⁴ / ₅	42.
9. A. J. Moorhouse (5 h.p. Rex)	3	46	54 ² / ₅	41.54
10. H. V. Colver (3½ h.p. Matchless-J.A.P.)	3	55	8 ³ / ₅	40.35
11. W. Creyton (3½ h.p. Triumph)	3	55	10	40.35
12. J. Giuppone (3½ h.p. Peugeot)	3	57	49	39.89
13. J. Lang (5 h.p. Tee Bee-J.A.P.)	4	0	53	
14. W. G. McMinnies (3½ h.p. Triumph)	4	4	24 ¹ / ₅	
15. J. Stewart (3½ h.p. Triumph)	4	10	45 ¹ / ₅	
16. H. R. Fowler (5 h.p. Rex)	4	15	47 ¹ / ₅	
17. T. Greer (5 h.p. Rex)	4	29	29 ¹ / ₅	
18. A. J. Sproston (5 h.p. Rex)	4	56	32 ¹ / ₅	
19. P. Butler (5 h.p. Dot-Peugeot)	4	58	50	

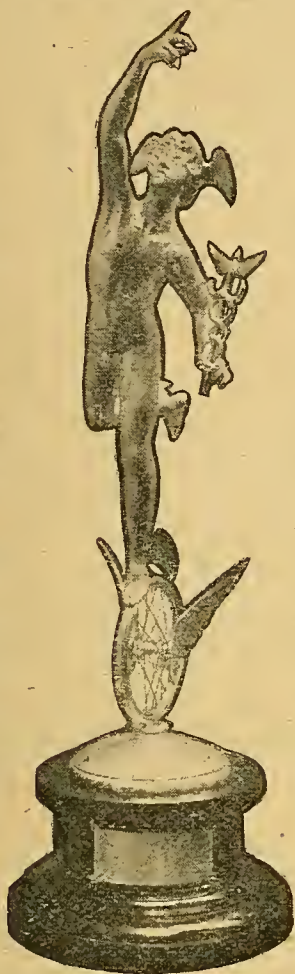
*The best average speed last year, on a restricted fuel consumption basis, was made by J. Marshall, 3½ h.p. Triumph, 40.4 m.p.h. Collier beat Marshall's 1908 time by 41m. 12²/₅s.

It will be seen that out of fifty-four starters nineteen completed the course, and of these in the first half-dozen the two first and the sixth were mounted on twins, the third, fourth, and fifth on singles. It was thought at first in certain quarters that the singles would have no chance against the twins, but, had Marshall suffered no

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trouble, he might have finished first once again. Sproston's arrival was greeted with vociferous cheering, as, despite several punctures, he had gone through the race with a broken ankle bone through catching his left foot between the footrest and the ground when turning sharply on the bridge between

the International Auto Cycle Tourist Trophy Race was founded in 1907 at the suggestion of the Marquis de Buzilly St. Mars, who kindly offered to provide a trophy for a race between genuine touring machines.



The winner in 1907 was C. R. Collier, who rode a 3½ h.p. single-cylinder Matchless - J.A.P. J. Marshall won the Trophy in 1903 on a 3½ h.p. single-cylinder Triumph, and H. A. Collier is the present holder on a 5 h.p. Twin Matchless-J.A.P.

Peel and St. John's. His remarkable pluck was much admired, but many people think he ought to have retired, not only for his own sake, but for other people's, in case he had failed to pull up, owing to his injured foot preventing him from using his brake.

Naturally, as there was no limit to petrol consumption this year, the times were vastly faster, and naturally tumbles were more frequent. No one, however, experienced serious injury, which speaks well for the riders' skill. At the conclusion the first twelve machines were taken into an enclosure, and the cylinders were measured by the two expert judges, Messrs. A. Sharp and J. W. G. Brooker. Mr. J. W. Orde, who acted as one of the judges, arrived by the early morning boat on the day of the race. It was largely owing to his influence with the Isle of Man authorities that the race was so successfully carried out.

For the second time since the Auto Cycle Tourist Trophy Race was instituted the trophy goes to Matchless motor cycles and J.A.P. engines, since C. R. Collier won the first race in 1907. This year his luck was against him, and he failed to finish the first round. Subject to confirmation by the A.C.U. Committee, the following awards will be made: H. A. Collier the trophy and £40, G. Lee Evans £20, W. Newsome £10, C. B. Franklin £5 and a silver cup value five guineas for being the first private owner to finish, J. D. A. Munro a silver cup value £2 2s. for being the second private owner, A. J. Moorhouse a gold medal presented by the Rex Co. for being the

first private owner to arrive mounted on a Rex machine, and a silver medal to all those who completed the course. Mr. Brooker's prize for the rider in the first six to make the most consistent running will not be awarded until the judges have given the matter their consideration.

Those officials to whom the success of the meeting is largely due are the following: Judges, Messrs. J. W. G. Brooker, V. Hart, J. W. Orde, and A. Sharp. Chief marshals, Messrs. J. R. Nisbet, R. D. F. Paul, J. K. Starley, and V. A. Holroyd. Marshals, Messrs. H. P. Beasley, H. G. Bell, S. W. Carty, R. S. Brook-Hitching, B. H. Davies, J. Haslam, L. A. Baddeley, E. L. Bates, R. W. Duke, Dr. Williams, H. R. Mayo, A. E. Newton, H. C. Pickering, C. E. Rackham, and A. J. Wilson, and the members of the Manx Automobile Club. Press steward, Mr. F. A. Hardy. Timekeepers, Messrs. A. V. Ebbelwhite, A. G. Reynolds, and C. P. Glazebrook. Time auditors, Messrs. J. Baynes, R. A. Tyler, F. Little, and the secretary, Mr. F. Straight, who carried out his none too easy task with great credit.

The people in the Island did all in their power to render the race a success. Lord Raglan, the Lieut.-Governor, took the greatest interest in the events; while Col. Freeth, the Chief Constable, managed the police arrangements in the most excellent manner. Mr. C. H. Cubbin, secretary, and Mr. Hughes-Game, chairman of the Highway Board, looked after the roads. Mr. G. T. A. Brown, of the Manx Automobile Club, and Mr. W. Gilmore, secretary of that body, rendered valuable assistance. Cars which lent valuable aid to the officials were placed at their disposal by Mr. A. E. Bennett of the Bosch Magneto Co., Lieut. Maclean, R.N., Mr. G. T. A. Brown, and Mr. W. Williamson of the Rex Co., while the Manx Electric Tramway Co. lent a motor char-à-banc.

The Race seen from Creg Willey's Hill.

Creg Willey's Hill, as all those who have studied the T.T. course know, is the steepest and most tricky hill on the circuit. As regards gradient, it is not extremely



J. Baxter (5 h.p. Rex) leading G. Lee Evans (5 h.p. Indian) and R. J. Bell (4 h.p. N.S.U.) on the road near Peel.

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severe, but it is long, and there are two bad turns—one at the foot and the other some little way up. The road ascends out of Glen Helen, and the ever freshening breeze eddying round the hills blew down the course at this particular point. Here there were plenty of incidents. Bentley fell in the first round through taking the corner at the foot too fast. The fall damaged the rear wheel of his machine, so that it touched the forks and would not revolve, and he retired. Ellis's machine overheated, and he dismounted. It was after this incident that he stopped to see how things were going on at St. John's. Reed stopped some time on the hill and then went on. Wilson also had a long rest and then proceeded, while

breaking the bolts holding on the magneto. He proceeded as far as the Kirk Michael depot, and then retired. Gibson fell twice at the Kirk Michael corner and did not finish.

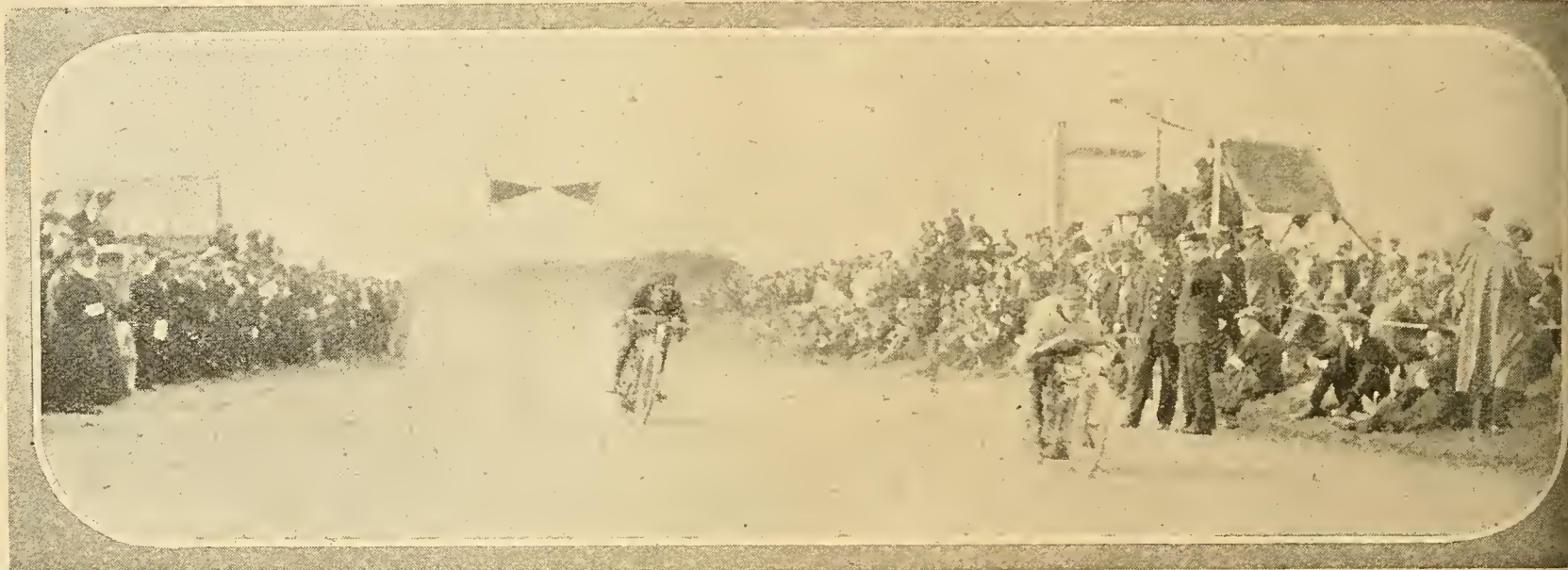
As has been mentioned elsewhere, there were good many spills, but, happily,—one may have plenty of tumbles off a motor bicycle without doing serious damage.

The following is a record of the less successful competitors:

H. Reed (5 h.p. Dot-Peugeot) retired Ballacrairie; seized piston on first round.

J. L. Nerton (3½ h.p. Norton) retired after covering nine laps; lubrication failed.

N. E. Drury (5 h.p. J.A.P.) retired seventh round; broke saddle pin.



The winner entering on the last round at St. John's. Collier is the second rider in the picture. The dust cloud shows the speed at which he is passing the other competitor.

Norton had a brief respite in which to shorten his belt. In his third round W. H. Bashall was somewhat impeded by the rider in front of him, and had to switch off, but he cleverly managed to get going again without leaving the saddle. In his third round Lang had the misfortune to shed his belt, while in his fourth circuit Bowen, who had been going well, ran out of petrol on the hill, which was just halfway between the St. John's and Kirk Michael depots, and with much persuasion begged some off a spectator, who reluctantly parted with a little from his nearly full tank.

Wilson's next appearance at Glen Helen was his last, as his cover had blown off four times, so he retired. In his fourth round Bagshaw retired for the same reason, while later news came to hand that Smyth's engine had seized between Kirk Michael and Peel. Wood, who shed a mudguard at St. John's, broke an overhead valve operating rod at Glen Helen, and replaced it in a wonderfully short space of time. Creg Willey's Hill proved the undoing of Murphy, who skidded and fell at the sharp corner, shearing both ends off his front wheel spindle. In his eighth round Baxter's engine overheated, and he stopped at the foot of the hill, but after a rest he restarted. Lord stopped at Glen Helen with a burst tyre. Giuppone passed fairly regularly, but his engine misfired the whole time, and he lost his silencer on the first round.

News from other sources of incidents on the course was rather meagre. McMinnies fell at Peel. Maclean fell twice at Ballacrairie, buckling his front wheel and

W. H. Wells (5 h.p. Indian) retired end of first round through injuries received the previous day in mounting.

S. C. Perryman (5 h.p. Norton) retired seventh round; magneto came loose, lost oil plug out of crankcase, and exhaust lifter broke.

R. Ellis (3½ h.p. Rex) withdrew second round through overheating.

W. Grinstead (5 h.p. Rex) retired sixth round; tyre troubles.

W. O. Bentley (3½ h.p. Rex) ran into wall first round, Ballacrairie corner.

C. E. Murphy (3½ h.p. Triumph) broke front spindle through fall, eighth round.

C. R. Collier (5 h.p. Matchless-J.A.P.); belt came first round and jammed and damaged wheel.

W. H. Bashall (5 h.p. Bat-J.A.P.) retired sixth round; fell and damaged footrests and broke oil pipe.

J. T. Bashall (3½ h.p. Bat-J.A.P.) retired sixth round; leaking oil tank, hand previously injured in practice.

H. Gibson (3½ h.p. Triumph) retired ninth round; petrol tank came adrift, fell at Kirk Michael first lap, exhaust lifter came adrift, and brake jammed; fifth lap, ran out of petrol, filled up with and ran on paraffin bought at cottage near Kirk Michael, where the same procedure was gone through three times in succession; lost filler cap, tank sprung a leak, filled up with more paraffin, leaking paraffin short high-tension wire; finally, leak became so serious he gave up at Kirk Michael.

T. A. Carter (5 h.p. Rex) retired first round; punctured. He had no repair outfit.

J. Adamson (3½ h.p. Triumph); tank reported on fire Devil's Elbow.

R. M. White (3½ h.p. Brown); cylinder head blew off second round.

R. M. Brice (3½ h.p. Brown); valve broke and smashed piston fifth round.

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J. Baxter (5 h.p. Rex) retired tenth round through burst re; exhaust lifter wire also broke.
J. C. Smyth (3½ h.p. Rex) retired fourth round; reported sized engine.
R. Lord (3½ h.p. Rex) retired seventh round through burst re.
G. E. Stanley (3½ h.p. Premier) retired fourth round through bad fall near Peel.
W. Heaton (3½ h.p. Rex) retired third round; valve cap flew off.
H. L. Cooper (3½ h.p. Triumph) retired second round; bottom of valve tappet broke and tappet jammed.
F. C. Bagshaw (5 h.p. Rex) withdrew first round through burst tyre.
C. Wilson (3½ h.p. Rex) retired fourth round; burst tyre at Glen Helen.
A. V. Blake (3½ h.p. Triumph) retired; damaged his arm.
R. J. Bell (4 h.p. N.S.U.) fell and damaged engine in fourth round.

E. S. Myers (3½ h.p. Scott) fell in seventh round and damaged footrests; these being attached to crankcase engine was damaged; the magneto also came loose.

H. H. Bowen (3½ h.p. Bat-J.A.P.) fell and damaged tank seventh round; petrol caught fire.

A. V. Blake (3½ h.p. Triumph) retired through fall and damaged arm first round at Ballacraine.

H. Martin (5 h.p. Martin-J.A.P.) retired first round; broken front forks.

F. W. Dayrell (5 h.p. Bat-J.A.P.) retired ninth lap; broken lubricating oil pipe. He had injured his knee in practice and did well to go so far.

R. O. Clark (5 h.p. C.F.N.) retired fourth round; crankshaft reported broken at Kirk Michael.

F. C. Wood (3½ h.p. N.S.U.) retired after ninth round; broke m.o.i. valve operating rod, removed it and tried to finish as automatic; this delayed him too much, and he retired.

F. H. Maclean (3½ h.p. Triumph) retired fourth round through fall at Ballacraine, damaging magneto.

THE TWO HILL CLIMBS.

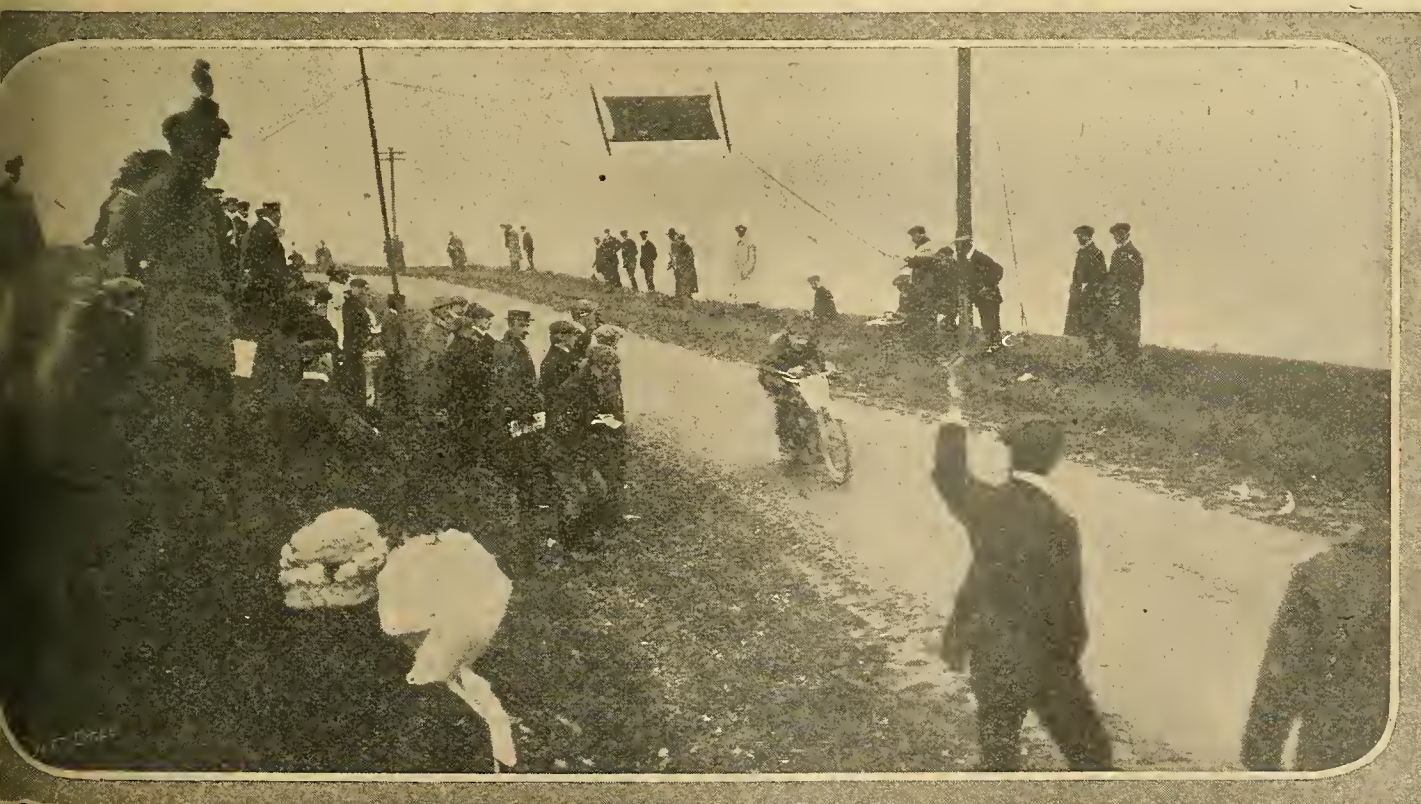
"Owing to a frivolous objection," as one of the Isle of Man papers put it, the venue of the morning hill-climb was changed from Richmond Hill to Crogga Hill. The objection was there might be tourist traffic on the Kewagigue Road. Crogga Hill is near Port St. George on the coast road to Castletown, about 3½ miles from Douglas. It is a short, sharp ascent of 155 yards in length. From the start to the first bend to the right the grade is fairly steep, then the course is straight for 150 yards, and the gradient is in the neighbourhood of 1 in 8; next follows another right bend to the right, where the steepest portion of the hill (about 1 in 7) is encountered. The last hundred yards to the finish have a gradient of between 1 in 14 and 1 in 20. High banks lined the road, which proved to be good vantage points for the numerous spectators, who enthusiastically applauded the riders. Seventy-five entries had been received, but as it had poured with rain immediately after the T.T. Race the day before, the roads were very greasy. Doubtless also many of the competitors were tired after the previous day's exertions, and a fair number of the machines which had competed in the T.T. were not in good enough condition for a hill-climb. Consequently only thirty-five starters put in an appearance.

Despite the previous night's rain, the weather was fine, the roads were drying rapidly, and the surface of the hill itself was in very good condition. As previously stated in *The Motor Cycle*, the results were based on the performances on the two hills.

At Crogga Hill, in Class 1a, for touring machines with cylinders not exceeding 750 c.c., J. Eastwood (3½ h.p. Bradbury) made fastest time, 27½s.; while P. Platt, riding a similar machine, covered the course in 28½s.; F. W. Applebee, sen. (5 h.p. Rex), was third, 34s.; and E. S. Myers (3½ h.p. Scott) was fourth, time 35½s.

In Class 1b, for touring machines with engines not exceeding 760 c.c. cylinder capacity (private owners only), H. Gibson (3½ h.p. Triumph) made the fastest time, 25½s.; while F. A. Hardy (3½ h.p. Norton) came second, 35½s.

In Class 2a, for single-cylinder machines which competed in the T.T. Race, the fastest ascent was made by F. W. Newsome (3½ h.p. Triumph), 24¾s. Next in order came W. G. McMinnies (3½ h.p. Triumph), 26¼s.; R. Lord (5 h.p. Rex) was third, 28s.; J. Adamson (3½ h.p. Triumph) was fourth, 28½s.; W. Creyton was fifth, 28¾s.; H. V. Colver (3½ h.p. Matchless) sixth, 28¾s.; J. Stewart (3½ h.p. Triumph)



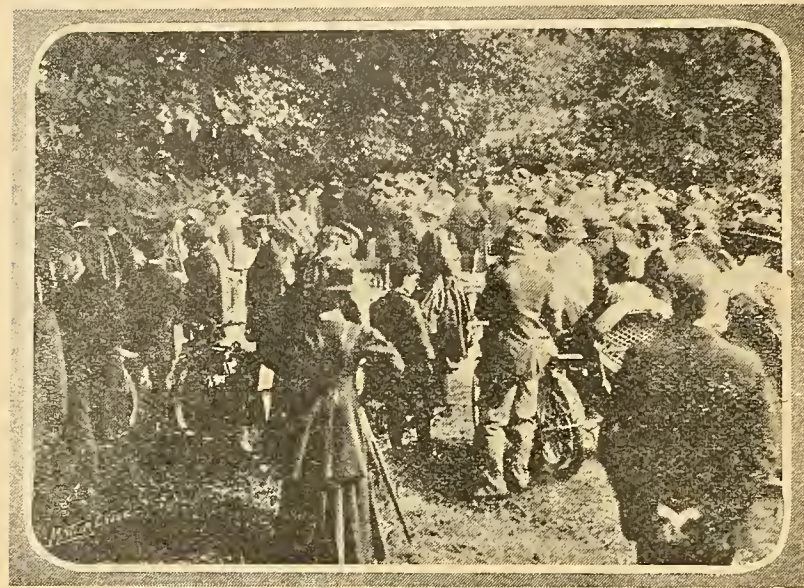
C. R. Collier
(5 h.p. Matchless-J.A.P.) finishing the Snaefell hill-climb. The finishing post was about 300 yards from the Bungalow nearer to Ramsey. Collier's speed was equal to 44.8 miles per hour for the whole distance—a little over six miles.

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seventh, $29\frac{1}{5}$ s.; and J. L. Norton ($3\frac{1}{2}$ h.p. Norton) eighth, $29\frac{3}{5}$ s.

Class 2b, for single-cylinder machines which competed in the T.T. Race (private owners only), H. Gibson ($3\frac{1}{2}$ h.p. Triumph), 27s., 1; J. Adamson ($3\frac{1}{2}$ h.p. Triumph), $28\frac{1}{5}$ s., 2.

Class 3a, for multi-cylinder machines which competed in the T.T. Race. In this class fastest time was made by F. A. Applebee (5 h.p. Rex), $22\frac{2}{5}$ s.;



A very large crowd assembled to witness the hill climb at Crogha hill, near Port Soderick, on Friday morning last. The picture shows spectators and some of the competitors at the foot of the hill after the contest.

the remainder being given in order of time: G. Lee Evans (5 h.p. Indian), $22\frac{4}{5}$ s.; B. V. Jones ($3\frac{3}{4}$ h.p. Premier), $23\frac{2}{5}$ s.; C. R. Collier (5 h.p. Matchless), $23\frac{3}{5}$ s.; H. A. Collier (5 h.p. Matchless), 26s.

Class 3b, for multi-cylinder machines which competed in the T.T. Race (private owners only), J. Baxter (5 h.p. Rex), $24\frac{4}{5}$ s., 1; T. Greer (5 h.p. Rex), $35\frac{2}{5}$ s., 2.

Class 4, for any type of machine not exceeding 1,000 c.c. Fastest time was made by J. Scriven (5 h.p. Rex), 22s.; C. R. Collier (5 h.p. Matchless) and F. A. Applebee (5 h.p. Rex), 23s. each, second; B. V. Jones ($3\frac{3}{4}$ h.p. Premier), $23\frac{1}{5}$ s.; H. A. Collier (5 h.p. Matchless), $25\frac{3}{5}$ s. A. Moorhouse was the only competitor to fail on this hill. His trouble was a sooted plug.

Snaefell Hill Climb.

Everyone greatly looked forward to the afternoon's event, and a continuous stream of motor bicycles poured over the mountain road to Ramsey after the morning hill-climb. At the summit of the pass, where was the finish, the clouds rolled by, at times enveloping the road in mist. This, however, in no way interfered with the competitors. The course, which was six miles long, was in very good condition, and down near Ramsey the sun shone brightly. At the finish was His Excellency the Lieutenant-Governor of the Island, Lord Raglan, Mr. J. W. Orde, one of the judges, and the timekeeper, Mr. C. P. Glazebrook, and a crowd of spectators. From the start just outside Ramsey the competitors had first to negotiate the bad hairpin corner, and above it, about half a mile further on, another corner, which, if it did not equal its predecessor in sharpness, exceeded it in the severity of the gradient, but in no case was the latter worse than 1 in 8. From this point to the finish the road was very fast.

It was nearly 3 p.m. when the first man in Class 1a came up the hill. It was a quarter past four before the men had all gone by, and then, when the number of spectators had dwindled to a considerable extent, it was announced that the men had been told by telephone to descend the hill and make another ascent.

The results of the two climbs (which were found by adding the best of the two runs up Snaefell to the times up Crogha Hill) were as follows:

CLASS 1A.

Rider and machine.		M.	S.
1.	P. Platt ($3\frac{1}{2}$ h.p. Bradbury) ...	11	14 $\frac{1}{5}$
2.	J. Eastwood ($3\frac{1}{2}$ h.p. Bradbury) ...	11	33 $\frac{1}{5}$
3.	E. S. Myers ($3\frac{1}{2}$ h.p. Scott) ...	12	53 $\frac{1}{5}$
4.	F. W. Applebee, sen. (5 h.p. Rex) ...	12	59 $\frac{1}{5}$

CLASS 1B.

1.	H. Gibson ($3\frac{1}{2}$ h.p. Triumph) ...	10	18 $\frac{3}{5}$
2.	F. A. Hardy ($3\frac{1}{2}$ h.p. Norton) ...	11	48 $\frac{3}{5}$

CLASS 2A.

1.	F. W. Newsome ($3\frac{1}{2}$ h.p. Triumph) ...	9	13 $\frac{1}{5}$
2.	J. Adamson ($3\frac{1}{2}$ h.p. Triumph) ...	10	54 $\frac{1}{5}$
3.	W. G. McMinnies ($3\frac{1}{2}$ h.p. Triumph) ...	10	14 $\frac{1}{5}$
4.	W. Croyton ($3\frac{1}{2}$ h.p. Triumph) ...	10	18 $\frac{1}{5}$
5.	H. V. Colver ($3\frac{1}{2}$ h.p. Matchless) ...	10	39 $\frac{1}{5}$
6.	J. Stewart ($3\frac{1}{2}$ h.p. Triumph) ...	10	49
7.	J. L. Norton ($3\frac{1}{2}$ h.p. Norton) ...	11	84
8.	J. C. Smyth ($3\frac{1}{2}$ h.p. Rex) ...	11	39 $\frac{1}{5}$

CLASS 2B.

1.	H. Gibson ($3\frac{1}{2}$ h.p. Triumph) ...	9	44 $\frac{1}{5}$
2.	J. Adamson ($3\frac{1}{2}$ h.p. Triumph) ...	9	47 $\frac{1}{5}$

THE MANX A.C. CLASS.

	Start.	Gross time.	Nett time.
		M. S.	M. S.
1. T. Kissatk (4 h.p. Stevens) ...	5m.	14 26 $\frac{1}{5}$	9 26 $\frac{1}{5}$
2. — Smith (3 $\frac{1}{2}$ h.p. T.T. Triumph) scr.			10 2 $\frac{1}{5}$
3. F. Coole (3 $\frac{1}{2}$ h.p. Triumph)	2m.	12 25 $\frac{2}{5}$	10 25 $\frac{2}{5}$

CLASS 3A.

1.	G. Lee Evans (5 h.p. Indian) ...	8	41
2.	C. R. Collier (5 h.p. Matchless) ...	8	49 $\frac{1}{5}$
3.	H. A. Collier (5 h.p. Matchless) ...	9	3 $\frac{1}{5}$
4.	F. A. Applebee (5 h.p. Rex) ...	9	19 $\frac{4}{5}$
5.	B. V. Jones ($3\frac{3}{4}$ h.p. Premier) ...	9	59 $\frac{1}{5}$
6.	J. Baxter (5 h.p. Rex) ...	10	35 $\frac{4}{5}$

CLASS 3B.

1.	J. Baxter (5 h.p. Rex) ...	10	10 $\frac{4}{5}$
2.	T. Greer (5 h.p. Rex) ...	11	50

CLASS 4.

1.	C. R. Collier (5 h.p. Matchless) ...	8	25 $\frac{4}{5}$
2.	H. A. Collier (5 h.p. Matchless) ...	8	48 $\frac{1}{5}$
3.	F. A. Applebee (5 h.p. Rex) ...	9	28 $\frac{1}{5}$
4.	J. Scriven (5 h.p. Rex) ...	9	46
5.	B. V. Jones ($3\frac{3}{4}$ h.p. Premier) ...	9	59 $\frac{1}{5}$

The fastest time up the mountain road was made by C. R. Collier in 8m. $2\frac{4}{5}$ s., which works out to an average speed of 44.8 miles an hour. The $2\frac{3}{4}$ h.p. Douglas which performed well on the two hills was disqualified for not being driven by the rider stated in the programme. Subject to confirmation by the committee, gold medals will be awarded to the first in each class, irrespective of the number of entries, and silver and bronze medals to the second and third.





CTORY!

has been fought and won, and once again
 helming force proof of the superiority of the

MAGNETO

s speak for themselves:

D. A. Munro..	Bat	15. J. Stewart ..	Triumph
Moorhouse ..	Rex	16. H Rem Fowler	Rex
V. Colver ..	Matchless	17. T. Greer ..	Rex
Creyton ..	Triumph	18. A. J. Sproston..	Rex
Lang ..	Tee-Bee	19. P. Butler ..	Dot
G. McMinnies	Triumph		

**All fitted
 with
 BOSCH
 MAGNETO.**

FITTED by REASON of PROVED MERITS

ETO Co., Ltd., 23, Store St., London, W.C.

Telegrams : "Bomag, London."

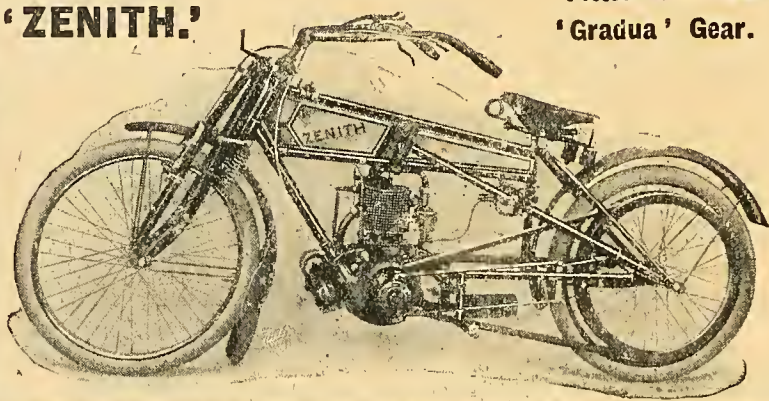
THE SPLENDID SUCCESSES WITH THE
'ZENITH-GRADUA'

Mark it as the
Leading Touring Machine

All machines tested on BROOKLANDS Track and Test Hill.

The
'ZENITH.'

Fitted with the
 'Gradua' Gear.



The gear is operated by one control. It is the only gear which is infinitely variable, including free engine position.

The object of the gear is to obtain that uniform engine speed which is essential to obtain maximum efficiency.

The **GRADUA GEAR** enables the load to be picked up with the minimum strain on belt, tyres, and engine, owing to the gradual increase in gear ratios.

"TRIUMPH"
CONVERSIONS.
12 Gns. (fitted).

ZENITH MOTORS, LTD.,
WEYBRIDGE. (Phone No. 4.)

P.S.—A "Zenith-Gradua" is on view at The Service Co., High Holborn; and at Sherwell's, 46, York St., Westminster.

THE
LODGE
SPARKING PLUG,
 DESIGNED FOR MAXIMUM POWER.

The best plug for either magneto or accumulator. Every plug supplied with steel gauge for setting the points.

FURTHER APPRECIATION.

14, Russell Street,
 Dudley.
 Aug. 19th, 1909.

Messrs. Lodge Bros. & Co.,
 14, New Street, Birmingham.

Dear Sirs,

I must say I am exceedingly pleased with the "Lodge Plug," as are all my customers. It is the plug the Motor Cyclist has been looking for for a long time, as it will fire regularly no matter how hot the engine.

Yours faithfully,

(Signed)

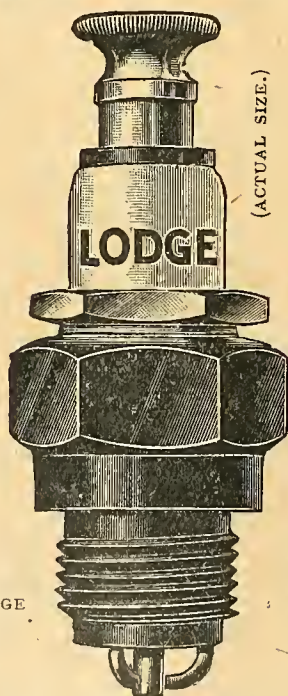
LIONEL R. TANNER.

ASK FOR THESE PLUGS AT YOUR GARAGE

PRICE 4/- NETT.

POST FREE.

LODGE BROS. & Co., Dept. A, 14 New St., Birmingham.



"1910-F.R.S."

Best Plating included.

25/6.

With famous 5in. MANGIN LENS

and all special refinements. See that "F.R.S." is engraved on each lens.

700

FEET

BEAM.

7 DAYS' FREE TRIAL.

DRIP GENERATORS, 5/- and 10/-
 AUTOMATIC GENERATORS 30/-
 Latest brackets to fix generator over top tube of cycle frame, 6/-.

IF BACK DOOR HINGED,

28/-.

Plated Carrier, 7/-
 Black, 4/6 extra.

700 FEET BEAM.

THIS IS THE LAMP WHICH

is British made throughout—is used all over the world—described as "Ideal" by Mr. Bischoff, expert in lamp modelling. With these points: Adjustable Carrier. Magnificent Hinges. Perfect Appearance. Non-Glare Chimney. Invisible Catches. Side Sockets fitted from inside of lamp. Screwed in Lens. Special Burner Works (all to specification) containing gas refining chamber. Angular and up and down movement. Bray's latest "Roni" Burner. Body of lamp is made of Jointless Heavy Gauge Tube. **GUARANTEED FOR SIX MONTHS.**

Carriers fit 1909 Triumphs. We also make special ones for P. & M., F.N., and Humber. No extra charges. Mention make of machine.

Inadvertently some lenses fitted to our lamps have been put in with wrong focus. Should a rider have found his lamp not to give a pure piercing beam, we will replace free of charge, when the lamp is returned. The correct test is to shine the lamp on a white wall for preference; at 11 feet or so the flame should have a perfect reproduction on the wall. This only refers to the 1910 model.

S. HALL & SONS, LTD.,
 Swinton Row, EDINBURGH.

154, Clerkenwell Rd., London, E.C. 18, Eldon Sq., Newcastle-on-Tyne.
 24, Queen St., Glasgow. Wrottesley St., Birmingham.

Stocked by SERVICE Co., LTD., LONDON (Our Special Agents).

In answering these advertisements it is desirable to mention "The Motor Cycle."

CLUB NEWS

Harrogate and District M.C.C.

The reliability trial, previously arranged to be re-run on September 26th, will not be held on that date. Will competitors please note that October 3rd is now definitely fixed upon?

Glasgow M.C.C.

The final competitive event for this year was carried out on Saturday, 18th inst., and took the form of a flexibility trial and speed-judging contest. Competitors were required to cover from standing start one mile at top speed, thereafter half-mile at slow speed, and finally one mile at the gal limit. The results were as follows:

Name and machine.	Fast mile m.p.h.	Slow half-mile m.p.h.	Points lost on S.J.	Figure of merit
Alex. Fraser (3½ Triumph)	33.02	9.04	2.5	+1.16
J. S. Fulton (4½ F.N.) ...	33.64	9.37	4	-0.41
H. W. Ballardie (3½ Triumph)	36	9.52	4.5	-0.72
T. Black (3½ Rex) ...	37.60	12.24	5	-1.93
W. Deans (4½ Minerva) ...	40.22	11.04	7	-3.36
D. S. Baddeley (7 Baddeley)	44.44	11.25	7.5	-3.55
R. Jones (3½ Premier) ...	39.13	12.08	12.5	-9.27

Fraser won the club prize for combined contest; Ballardie, being second best on flexibility (after Baddeley), takes special prize offered for that branch of contest by Baddeley.

Surrey M.C.C.

The 200 miles reliability run to Weymouth and back was a great success, and was favoured with perfect weather. A start was made at 8 a.m. from the Bush Hotel, Farnham, and the route taken was *via* Alton, Winchester, Romsey, Ringwood, Dorchester, the destination being Tilley's garage, Weymouth. L. Kennard and the hon. sec. retired before reaching Romsey, and G. Pine fouled a corner outside Romsey, and retired with a buckled wheel. The rest were successful in running to schedule time, and reached Weymouth at one o'clock. Lunch was served at the Victoria Hotel, in the Esplanade, and the return journey began at 3.30. The following arrived at the Bush Hotel, Farnham, on time, 7.30, and qualified for gold medals: F. A. McNab (4½ h.p. Trump-J.A.P.), H. Mitchell (3½ h.p. Triumph), R. Owtram (3½ h.p. Triumph), J. Sparks (6 h.p. J.A.P.), Allcott (3 h.p. Triumph), and C. Gammon (3½ h.p. Rex). Messrs. Tilley kindly checked at Weymouth, and gave every assistance.

C. Gammon rode nearest to time throughout on a 3½ h.p. Rex with surface carburetter and R.O.M. tyres, and is deserving of special mention.

Aberdeen and District M.C.C.

The club held the last competition of the year—a flexibility trial—on the Slug Road on the 18th inst. There were fifteen competitors, and seven finished, the winners being: 1, D. Ogilvie (5 h.p. Vindec); 2, J. Bruce (3½ h.p. T.T. Triumph); 3, G. F. Davie (2¾ h.p. N.S.U.). A special prize of the value of £2 2s., presented by Mr. P. W. Smith for the best time, was won by J. Bruce (3½ h.p. T.T. Triumph).

Oldham and District M.C.

This club held a reliability trial on September 18th over probably the most severe course in the country, including such hills as Sun Brow, Booth Dane, and Ripponden Bank. The result was: Gold medals.—P. Platt (3½ h.p. Bradbury), 100 marks; H. Bottoms (5 h.p. Dot), 100 marks; G. Whetman (3½ h.p. Bradbury), 100 marks; F. Whitehouse (3½ h.p. Triumph), 100 marks; and J. Bottoms (3½ h.p. Triumph), 100 marks. Silver medal.—J. Eastwood (3½ h.p. Bradbury), 95 marks.

F. Wood (3½ h.p. Bradbury), J. P. Parry (3½ h.p. Bradbury), and J. Greaves retired.

A meeting will be held at headquarters this evening (Wednesday).

North-eastern Automobile Association.

The above Association held a hill-climb at Ragpath Side, near Lanchester (Co. Durham), on Saturday, the 18th inst. The weather was fine, and the surface of the hill in splendid condition. Results:

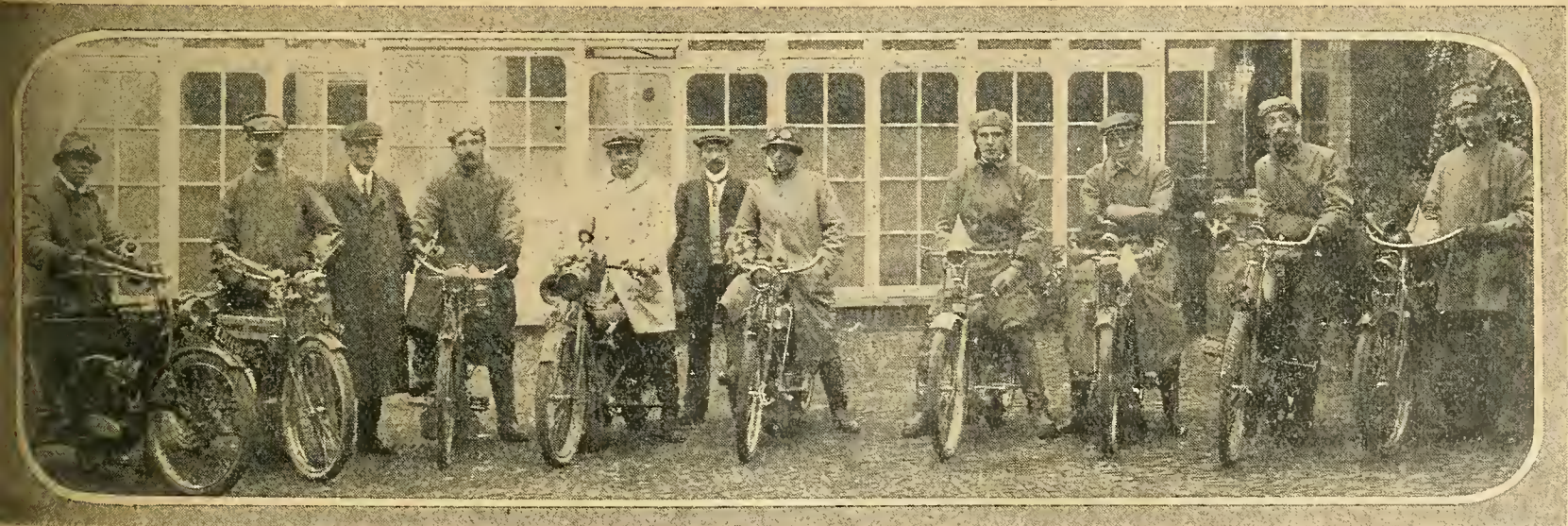
CLASS I.—Single-cylinder Motor Bicycles.

	Figure of merit.
1. Robt. Ellis (3½ h.p. Rex) ...	81.24
2. Jos. P. Robson (3½ h.p. Triumph) ...	89.17
3. Jas. R. Moore (3½ h.p. Dene) ...	99.39

CLASS II.—Twin-cylinder Motor Bicycles.

1. H. Mason (4½ h.p. Barclay) ...	433.8
2. A. Todd (5 h.p. Peugeot) ...	554.89
3. J. A. Dent (7 h.p. Vindec) ...	630.74

The officials were: J. E. Hodgkin, secretary; Alan G. Robson and A. Dixon, timekeepers; and F. G. Storey, judge.



Competitors in the Surrey M.C.C. 200 Miles Reliability Run to Weymouth and back. The results are given above.

Club News.—

Bradford M.C.C.

The 100 miles reliability trials, open to members who had never won a gold medal, resulted as under: 1, S. Johnson (3½ h.p. Phelon and Moore), gold medal; 2, C. Bedford (3½ h.p. Triumph), silver medal; 3, A. Ellis (2¾ h.p. Douglas), silver medal. There were twenty-two starters.

The novice trials for the Rex cup, on the 12th inst., were interesting in that no competitor had any idea of the course to be followed until he arrived at the starting point, when the mileages and route were handed to him. Each competitor's watch was sealed in a small glass case, and time taken from it by checkers en route. The route selected was Bradford to Matlock and back. The result was as follows: 1, E. Lees 5 h.p. Vindec), Rex cup and gold medal; 2, J. Lawn (3½ h.p. Rex), silver medal; 3, S. C. Todd (3½ h.p. Quadrant), bronze medal. The sealed watch idea turned out to be very satisfactory.

Walthamstow M.C.

In the recent non-stop and speed-judging competition over a circular course from Epping to Ongar and back, the results were: J. H. Kerr (5 h.p. Rex), 1m. 43s. fast; F. A. Applebee (3½ h.p. Rex), 1m. 17¾s. slow; R. J. Lisles (5½ h.p. Humber tricar), 7m. 18s. slow; A. T. Stanton (3½ h.p. Bradbury), 10m. 14¼s. slow; A. A. Blanks (3½ h.p. Rex), 3m. 24s. slow; C. W. Lee (3½ h.p. Rex), 1m. 22s. slow; W. S. Low (3½ h.p. Rex), 3m. 15s. slow; J. W. Percival (7 h.p. Fafnir tricar), 23s. slow; L. W. G. Laver (4 h.p. Rover tricar), 11m. 2¼s.

slow; F. W. Applebee (5 h.p. Rex sidecar), punctured); W. H. Applebee (3¼ h.p. Rex tricar), punctured; S. McMinn non-starter.

Mr. West's prize was won by the hon. sec., J. W. Perci



A Scott in Scotland. Gordon Bostock on the two-cylinder, two-stroke, two-speed Scott he rode in the Glasgow M.C.C. Flexibility Test on the 18th inst.

val. On Saturday next, the 2nd inst., a paper-chase competition will be held.

B.M.C.R.C. MEETING AT BROOKLANDS.

T O-DAY (Wednesday) the sixth members' meeting of the British Motor Cycle Racing Club takes place at Brooklands, commencing at 3 p.m.

Three events have been included in the programme—the T.T. Race (distance twenty-five miles), the T.T. Handicap, and the usual record time trials.

1.—T.T. Race. Distance twenty-five miles (fork start and finish). For T.T. machines, in touring trim, as ridden in the Isle of Man. Single-cylinder engines and multi-cylinder engines, the cubic capacity of which does not exceed 500 c.c. and 750 c.c. respectively. First prize, silver cup; second, £2; third, £1.

2.—T.T. Handicap Race. Distance 8¼ miles (fork start and finish). For all classes of motor bicycles, the cubic capacity of whose engines does not exceed 750 c.c. First prize, £1 1s.; second, 12s. 6d.; third, 7s. 6d.

3.—Record Time Trials. Distances, kilometre and one mile. Flying start. Open only to members who compete in one or both of events 1 and 2. Each member will be allowed one trial over the above-mentioned distances, and best performances will be noted for the undermentioned engine sizes: Class A, for engines not exceeding 275 c.c.; B, 344 c.c.; C, 500 c.c.; D, 750 c.c.; E, 1,000 c.c. Certificates officially certifying the best performance made in each of the above classes will be given.

AUTO CYCLE UNION (Northern Centre) HILL-CLIMB.

A HILL-CLIMB, confined to members of the above centre or of clubs affiliated to the Union and situate within the Northern Centre, was held on Ragpath Side in the county of Durham on the 18th inst. Ragpath Side is an ideal hill for a climb, being altogether nearly a mile long—the first half-mile has just a slight gradient and the last half-mile an average gradient of 1 in 8, the severest stretch being near the top, and being 1 in 5.3.

The surface of the hill was perfect, not a loose stone or bump or dust on the whole course. The last half-mile of the hill was selected for competition.

The hill is a gradual curve on the side of a natural amphitheatre, and can be seen from start to finish. It affords a fine view for an unlimited number of spectators, about 2,000 of whom viewed the climb, which was held in glorious sunshine.

The awards were made in the single-cylinder class C × T and in the multi-cylinder class on ———, and in the multi-cylinder class on ———.

There were fourteen entries in the single-cylinder class, and seventeen entries in the multi-cylinder class.

The positions of the first six competitors in each class are as follows:

SINGLE-CYLINDERS.

	Time.	Figure of
	m. s.	Merit.
1. Thos. Smith (3½ h.p. Triumph) ...	58¾	83.01
2. Robt. Ellis (3½ h.p. T.T. Rex) ...	58½	84.42
3. R. B. Smith (4 h.p. N.S.U.) ...	1 4½	86.74
4. S. Hudson (3½ h.p. Premier) ...	1 6¼	92.67
5. J. R. Moore (3½ h.p. Dene) ...	59¾	96.16
6. J. A. Dent (3½ h.p. Triumph) ...	1 8	101.46

MULTI-CYLINDERS.

1. C. Reinhart (6 h.p. N.S.U.) ...	48½	431.02
2. H. Mason (4½ h.p. Berceley) ...	59¾	435.97
3. R. Wilson (5½ h.p. N.S.U.) ...	1 7	440.36
4. J. F. Mallett (6 h.p. N.S.U.) ...	57	467.9
5. E. J. Tiffin (8 h.p. Minerva) ...	1 7¼	489.5
6. A. Todd (5 h.p. Peugeot) ...	1 4½	518.55

A telephone was installed on the hill, and the competitors were timed with one watch only at the top of the hill.

MOTOR BICYCLES FOR SALE.

1909 Triumph, free engine clutch, done 500, complete; £45.—Cross, Triumph Agent, Rotherham.

EEDS.—5½ h.p. Twin N.S.U., footboards, large pan seat, long handle-bars, spare valves, rubber belt; £9.

EEDS.—5 h.p. Twin Rex, spring forks and seat-pillar, tyres and belt as new; £16 16s.

EEDS.—3½ h.p. Twin Peugeot, Truffault spring forks, R.O.M. contact breaker, low machine, tyres and belt; £18.

EEDS.—3½ h.p. Minerva, spring forks, had very little use, lamp, horn, spares; £15 15s.

EEDS.—3½ h.p. Rex, good running order; £9; exchanges entertained.—Leeds Motor Exchange, 28, Cock St., Leeds.

1 h.p. Lurquin and Coudert, 1907 model, good, sound, reliable motor cycle; £12.—Missin, Cottingham, Hull.

TRIUMPH, 1908, splendid condition, lamp, horn, spares; £30.—Rev. Ellison, St. Anne's-on-Sea, Yn.

HUMBER, latest 3½ h.p. pedal model, never used, fully guaranteed; £38; trial.—Motorist, 28, King St., Wigan.

PREMIER, 3½ h.p., new two weeks ago; must be sold; cost £45, bargain, £35.—Parkdale, Trafalgar Rd., Wigan.

REX, 3½ h.p., 1906, excellent order, £10 cash; Prested new trembler coil, 12s. 6d.—83, Hawkshead St., Southport.

WOLF Lightweight, flat belt, 23 guinea model, not used 30 miles, latest pattern; £17 17s.—Timberlake, Wigan.

1 h.p. Roc, 1909, new, not ridden 200 miles, two speeds and free engine; £35.—A.J., 200, Attercliffe Common, Sheffield.

1907 Triumph, bought 1908, 1909 handle-bar control, tyres good, machine like new; £30, bargain. Dossier, see Wanted.

1908 3½ h.p. Triumph, condition perfect, new rubber studded tyre, spares; £33.—Draper's Warehouse, Wadworth, near Barnsley.

1 h.p. O.T.A.V., magneto, hood, electric lamps, pale green body, a handy, simple, economical 2-seater. Hame, Newstead, Buttonstone Lane, York.

HITCHINGS, Ltd., specialise in Douglas lightweight motor cycles. Inquiries receive prompt and courteous attention.—74, Bold St., Liverpool.

LIVERPOOL.—Intending purchasers of Triumphs and Douglas motors should, to obtain the protection of the makers' guarantees, buy only from the official agents Hitchings, Ltd., 74, Bold St. (the firm with over 30 years' highest reputation).

VIBRATIONLESS Douglas, the best lightweight on the market and British made: send for list and testimonials.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Douglas and Triumphs.

1909 Triumph, new, as delivered; owner compelled to sell through unforeseen circumstances; cash offers wanted.—14, Diamond St., Moldgreen, Huddersfield.

TWIN Rex, 5½ h.p., H.B. control, B.B. carburetter, tyres, belt, and tubes all in new condition, very fast machine; lowest £25.—Hogg, Merchant, Scunthorpe.

D. and M., late 1907, H.B. control, long footboards, and spares, Clincher studded tyres, Rich tubes; £31.—Hattersley, Stowell Mill St., Little Horton, Bradford.

1 h.p. 1908 Standard Triumph, winner Harold Eccles cup hill-climb, 1908, mechanical condition excellent, general condition good; £33 10s.—25, Albatross St., Preston.

1 h.p. N.S.U., Model de Luxe, new May, 1909, only ridden 650 miles, all accessories, N.S.U. two-speed gear, Continental non-skid; offers.—No. 3,227, The Motor Cycle Offices, Coventry.

VINDEC, 5 h.p. twin, magneto, spring forks, Clincher tyres, Brown and Barlow carburetter, handle control, many spares, 1908 pattern.—Baxter, Waratah, Lower Walton, Warrington.

1 h.p. Late 1907 (black finish) Twin Rex, Roc clutch, Chater-Lea sidecar (all spares), perfect, climb anything; trial invited; £30, or nearest offer; sell separate.—G. North King St., Batley.

1 h.p. Triumph, 1907, adjustable pulley, 1909 piston and cylinder fitted, H.B. control; trial here by appointment; £32 10s.—Jno. Smith, Tobacconist, Market Place, Knaresborough.

1 h.p. Minerva, £4; 2½ h.p. Humher, £6 10s.; 3½ h.p. Quadrant, very little used, £18; trailer, £2 10s.; the pair car lamps, plated, 20s.; one 880 by 120 Dunlop over, 50s.—Carr, Fleet St., Bury.

1909 Rex de Luxe, 5 h.p. twin, two-speed gear, complete with sidecarriage; also 1909 Premier, 3½ h.p., won gold medal three quarterly trials, non-stops, perfect; what offers?—W. D. Savory, Cleckheaton.

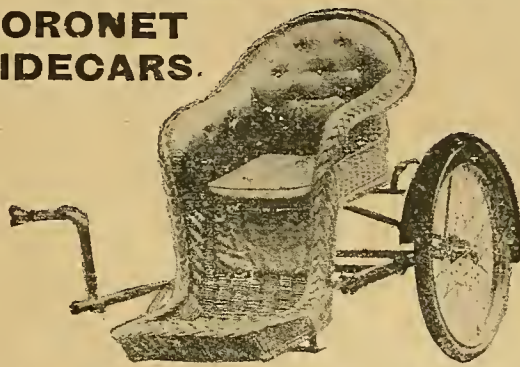
1 h.p. N.S.U., 1908, condition perfect, absolutely reliable, new non-skid tyres and rubber belt, fine headlight, two-note horn, watch, stand, etc.; a bargain, at a crotch, 18 guineas.—1,155, Leeds Rd., Bradford.

PHELON and Moore, new June, 1908, two speeds, handle-bar control, Bosch magneto, lamp, horn, spares, Rich tube, plugs, etc.; £34 for quick sale; condition perfect.—Allen, 68, Carter Knowle Rd., Sheffield.

For WINTER RIDING.

Safe to ride without passenger. No side-slip.

CORONET SIDECARS.



Before buying a Sidecar, send for illustrated circular, explaining the advantages of "CORONET" Sidecars over other makes. Delivery from stock to suit Minervas, Rexes, N.S.U.'s, Triumphs, and any other make. Attached in three minutes.

PRICE £4 17s. 6d. each.

ALL OUR MACHINES ARE TESTED.

6 h.p. J.A.P., Chater Lea frame, spring forks....	£18 10
3 h.p. TRIUMPH, magneto, spring forks, 1906..	£18 10
4 h.p. ANTOINE, 26in. wheels, M.O.V., smart..	£11 10
2½ h.p. LLOYDS, vertical engine, 26in. wheels ..	£8 15
2½ h.p. CLEMENT GARRARD, 26in. wheels, low built	£8 15
3½ h.p. 1909 HUMBER, two speeds	£37 10
3½ h.p. REX, 1908½, ball bearing, h.b. control ..	£29 10
3½ h.p. TRIUMPH, new	£45 0
3½ h.p. N.S.U., magneto, 2½in. tyres, long bars ..	£22 10
3 h.p. N.S.U., magneto, 1908, smart	£17 10
3 h.p. REX, 1908, magneto, h.b. control	£17 10
3½ h.p. THOS. SILVER, magneto, variable pulley ..	£18 10
5½ h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4½ h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£13 10
3½ h.p. REX, spring forks, trembler coil	£10 10
3½ h.p. REX, 26in. wheels, M.O.V., h.b. control..	£8 15

Best cash offer accepted for the following:

3 h.p. FAFNIR, 26in. wheels, h.b. control	£9 10	
2½ h.p. SPARK, 26in. wheels, magneto ignition ..	£8 10	
3½ h.p. EXCELSIOR £6 15	3½ h.p. REX	£6 15
3½ h.p. QUADRANT £6 15	2½ h.p. GARRARD	£6 15
2 h.p. STANDARD £5 5	2 h.p. LIBERTY	£5 5

Send for list of other bargains. Best, biggest, and cheapest stock. Cash buyers liberally treated.

TRICARS.

4 h.p. STEVENS, fan-cooled, powerful	£12 12
8 h.p. FAFNIR, 2-cyl., open frame, two speeds..	£35 0
5 h.p. TWIN REX, fitted with sidecar, Osborne four-speed pulley, free engine, spring forks ..	£19 19
12 h.p. HUTTON CAR, two-seater, four-cylinder engine, M.O.V., three speeds, reverse, splendid condition	£55 0
5½ h.p. HUMBER CAR, three speeds, reverse....	£27 10

ENGINES.

3½	h.p. REX, 1908, ball bearing model	£5 10
3½	AURORA, M.O.V. £3 5	2¾ DE DION £2 5
1¾	WERNER £1 10	1½ STANDARD .. £1 10

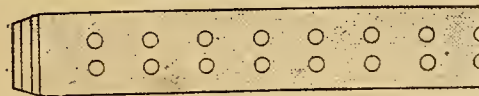
CORONET ADJUSTABLE PULLEY.



12/6 The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade.

Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

"GRIPSKIN" BELTING.



Made from selected parts of hides, correct angle, perfect drive; the best leather belt on the market. Longer life than rubber.

¾ in., 9d.; 1 in., 10d.; 1½ in., 1/-; 2 in., 1/1. Special terms to the trade.

CARBURETTERS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES.

CHARLES STREET, off Square Road.

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

£35.—Roc, 4 h.p., single-cyl., clutch, two speeds, magneto, lamp, all accessories, many refinements, very little used, absolutely perfect; owner going abroad, trial any time.—Rev. Francis Robinson, 352, New Hall Lane, Preston.

1909 Triumphs, standard and clutch models, immediate delivery; 4 h.p. N.S.U., Model de Luxe, new month ago, also Millford castor wheel sidecar, all accessories, cost £70, accept £40.—Moldgreen Engineering Works, Huddersfield.

1909 Triumph, adjustable Mabon clutch, Palmer castor tyres, spare pulley, case magneto spares, th valves, Clincher tyre, Stanley belt, electric lamp, used, owing to illness; £40.—Box No. 3,184, The Motor Cycle Offices, Coventry.

VINDEC Special, 5 h.p., twin, two-speed, winner 20-guinea shield at B.M.C.C. hill-climb, fastest time "Flying Kilo" touring class, just overhauled equal to new, spare cover, tube, valves, etc.; what offer not under £40.—Bedford, Wood View, Liversedge.

1908 4 h.p. Minerva, enamelled grey, footboard Brown and Barlow carburetter fitted, new tyre a tube on back, five perfect accumulators; the machine in splendid going order, but wants a good cleaning must sell, £16.—M., 76, Sandford Grove Rd., Sheffield.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines can deliver new machines from stock at low prices, cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 5, Chester Rd., Old Trafford.

4 h.p. Zenith Gradua, new July, 2½in. tyres, cost w. Cowey, Lucas lamp, generator, horn, over £60, price for quick sale £45, the coming popular mount; 4 Centaur, M.O.V., Druid forks, R.O.M., two-speed, used, will climb anything, good sidecar machine, £11 Miller, Brentwood, Brighouse.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

5 h.p. F.N., 1909, bought in May, all spares; what offers?—C. Attwood, Eccleshall, Staffs.

5 h.p. 4-cyl. F.N.; trial or examination here; £35 Scampton, 52, St. Chad's Rd., Derby.

BRAND New 1909 Premier Motor Cycle, 3½ h.p.; 10s., or offers.—Mossey, High St., Stone.

2½ h.p. Bichrone Lightweight, great hill-climber; 10s.—T. Cairns, Norton Rd., Birkenhead.

HUMBER, 1909, Roc two-speed gear, perfect order, trial allowed; £35.—F. Needham, Green Way, Bowdon.

2 h.p. Wolf Lightweight, magneto, new May, not ridden 200 miles; £15.—50, Darlington St., Walsinghampton.

4 h.p. Motor Cycle, all grey, footboards, new belt pulley; £13 10s.; good goer.—72, Park Rd. W. Birkenhead.

1908 4 h.p. Roc, Bosch, B. and B. carburetter, Druid forks, spares; trial; £20, offers.—Holmes, Moor Rd., Stockport.

HUMBER, 1909, new model, single speed, used trial runs, scarcely soiled, £34; N.S.U., magneto, 3½ h.p., perfect, £18; want Drummond lathe.—Park Melbourne, Derby.

3½ h.p. Rex, spring forks, new tyres, £14; Montgomery flexible art cane sidecar, plated springs, Palm apron, £5; all in magnificent order.—Elmhurst, Brookurst Hill, Northwich.

TWIN Rex de Luxe, magneto, tremendously powerful, does not notice hills, almost dead silent, cut-out walking pace or over 50, new Duco Flex, a no-trouble machine; £26.—Slater, Wood's Lane, Derby.

DOUGLAS Lightweight, British made, twin cylinder magneto, spring forks, a revelation in comfort, ease of starting, power, and reliability, absolutely vibrationless; write for lists.—Hitchings, Ltd., 74, Bold Liverpool. Sole Agents for Liverpool and Birkenhead.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

1909 Triumph, new May 4th, new condition; £25.—Heighton, Fletton Av., Peterborough.

3 h.p. Rex, excellent order, just been overhauled, 1 back tyre; £12 12s.—Martin, Ironmonger, Market Harborough.

3½ h.p. 1909 Excelsior, nearly new, in perfect order; trial; spares; £35.—8, Emerson Rd., Harborough Birmingham.

£10.—Werner, 3 h.p., Continental, new back, low gear, climber, fast, just overhauled.—Camm, Stamford St., Grantham.

3½ h.p. Lincoln Elk, Palmer studded, perfect order, good condition, complete; £11 10s.—Bett, E. Kirkby, Spilsby.

MOTOSACOCHE, perfect condition, spring fork attachment, New Departure hub; £13 10s.—F. Dr. Woodhouse, Whitwell, Oakham.

N.S.U. 2½ h.p. Twin, magneto, 1909, run few trials otherwise perfectly new; cash £33. Tel.: 1180 R. Cripps and Co., Ltd., Nottingham.

MOTOR BICYCLES FOR SALE.

9 Bradbury, 3½ h.p., new six weeks ago, broken leg cause of selling; not scratched; £28.—Bert x, 13, West St., Retford, Notts.

EXCEPTIONAL Bargain.—3½ h.p. Rex, 1907 model, splendid running order, perfect tyres; £10 10s.—Boot Manufacturer, Leamington.

9 Triumph, free engine model, perfect in every respect, run 2,000 miles; £44 cash.—C. F. Hay-Duntroon, Queen Victoria Rd., Coventry.

X, 3½ h.p., perfect, spring forks, spare cover, bags, stands, carriers, lamp, accessories; £14, or near must sell.—123, Bowyer Rd., Saltley, Birmingham.

C.C. 1909, 3½ h.p., Auto-varia pulley and free engine, B. and B. carburetter, tools, accessories, splendid condition; £37.—Phillips, 91, Holly Rd., Hands-Birmingham.

p. Minerva, magneto ignition, H.B. control, perfect throughout, £12 12s.; also 5-6 h.p. Rex, cantiseat, tyres and all parts perfect, £13 13s.—102, way, Coventry.

9 3½ h.p. Triumph, splendid condition, new April, lamp, spares, guaranteed perfect; genuine offer, lines, near offer; after 6 p.m.—21, College Rd., y, Birmingham.

9 Triumph, free engine clutch model, new at Easter, no fault, many spares, including belt, and plug; trial; £45, or nearest offer.—Geoffrey, 37, Northumberland Rd., Coventry.

UMPH, 1909, new July, with all tools, Autoclipse lamp, spare valve, Bosch magneto, outfit; £40, or near cash adjustment; no rubbish.—G. C. dgold, Mafeking House, Gainsborough, Lines.

Twin Minerva, handle-bar control, fitted with Powell two-speed and free engine hub in back R.O.M. tyre, as new, not done 500 miles; £40, bargain.—Bent, 99, King Richards Rd., Leicester.

UMPH, 1908, 1909 engine, all accessories, new Palmer cord tyre, new Watawata belt, perfect condition, £34; also Mabon free engine clutch.—Lam-e, 59, Willows Crescent, Cannon Hill, Birmingham.

SECTION V.

olk, Suffolk, Cambridge, Huntingdon, d Bedford.

MPLETE Chater No.-6 Motor Cycle, less engine; see under Miscellaneous.—Wallis, Cambridge.

RGAIN.—1909 2½ h.p. De Dion, low, racy, accessories; approval.—Ames, c/o Howell, Halt Rd., ham.

p. De Dion, Chater-Lea, Clincher tyres, everything in good order; £9.—37, Searle St., Ches-Cambs.

p. Rex, 1907, variable pulley, perfect condition, lamp, spares; £15.—Particulars, Watson, Park ce, Cambridge.

p. Wolf, Stevens engine, accumulator ignition, new condition; £17; exchange magneto.—Kenworthy, ole St. Andrew, Wisbech.

9 Moto-Reve, fitted with every up-to-date improvement and accessory, equal to new; cost £45 May accept £35.—Cuckow, Ranelagh Rd., Felixstowe.

p. Twin Peugeot Motor Bicycle, fast, very powerful, and reliable, with Chater-Lea sidecar, splendid condition, will climb anything; £32 cash.—Stebbings, borough, Norfolk.

p. Minerva, spray, M.O., Dermatine, bargain, £9; 2½ h.p. Minerva, surface, Dermatine, good and re-£8; 3½ h.p., M.O. valves, on Alldays frame, splendid order, £10.—Full particulars, Drake, Haddenham,

ARVELLOUS Little Lightweight, latest 1909 2½ h.p. J.A.P., gear driven Bosch magneto, low frame, as about 100 lbs., guaranteed to do 45 miles per and climb any hill, handle-bar Brown and Barlow, ks B105, like new, only used few times; lowest £26.—Wallis, grocer, Hills Rd., Cambridge.

SECTION VI.

cestershire, Herefordshire, Radnor, Breck-ock, Monmouth, Glamorgan, Carmarthen, ardiglan, and Pembroke.

p. Rex, spring forks, Mabon clutch, side boxes, spares; £11.—V. Bode, West Lodge, Malvern.

p. Triumph, 1908, and sidecar, fine combination, perfect; what offers?—Davies, Western Rd., Hag-Stourbridge.

ADRANT, 2½ h.p., spray, splendid condition, new cylinder recently, good tyres; £7 10s.—Parsons, Wks., Bewdley.

p. Quadrant, perfect order, new belt, tyres, tubes; £19, or offer; trial.—Smith and Son, Iron-ers, Pontypool.

UMPH, £45; unable take delivery; still in crate with agent; accept above immediate cash.—John, Oakwood St., Port Talbot.

9 Premier, 3½ h.p., nearly new, guaranteed perfect, ride 100 miles meet purchaser; £38, cost £48.—7, The Motor Cycle Offices, Coventry.

UMPH, 1908, 3½ h.p., lamp, generator, horn, spares, many accessories, new condition through-bargain, £33.—Peaty, 57, Newport Rd., Cardiff.

3½ h.p. QUADRANT, magneto and spring fork, 1908 model; guaranteed £25 0

3½ h.p. 1909 TRIUMPH, standard model; guaran- teed 38 Gns.

No. 1740.—3½ h.p. 1909 T.T. TRIUMPH; guaran- teed 38 Gns.

5 h.p. VINDEC SPECIAL, 2-speed gear, magneto, Truffault forks; also castor wheel sidecar, Mills and Fulford artistic cane seat; guaranteed £37 10

No. 1734.—14 h.p. DE DION Tricar, twin cylinder engine, two-speeds and reverse, open frame, coach built, water cooled..... 40 Gns.

No. 1701.—3½ h.p. WHITE and POPPE; guaran- teed 15 Gns.

No. 1729.—3 h.p. TRIUMPH, ball-bearing engine; guaranteed £12 10

1½ h.p. MOTOSACOCHE, 1909 model, magneto, Druid forks £25 0

No. 1722.—3½ h.p. 1908 MINERVA, spring forks; guaranteed £22 10

No. 1732.—3½ h.p. 1907 TRIUMPH, manufactured in 1908, magneto, spring forks; guaranteed £27 10

No. 1727.—2 h.p. MOTO-REVE, 1909 model, cream finish, magneto and spring forks; guaranteed £28 10

No. 1716.—3 h.p. 1906 TRIUMPH, magneto and spring forks; guaranteed 19 Gns.

No. 1729.—3 h.p. TRIUMPH, ball-bearing engine; guaranteed £15 0

3½ h.p. 1908 TRIUMPH, magneto, spring forks 30 Gns

No. 1637.—3½ h.p. 1907 TRIUMPH, magneto, Mabon free engine clutch; guaranteed £27 10

No. 1679.—1½ h.p. Late Model F.N. Lightweight, magneto ignition, spring forks; guaranteed .. £17 10

No. 1606.—3½ h.p. CHASE Tricar, two-speed gear 20 Gns.

No. 1618.—6 h.p. 1908 N.S.U. and Sidecar, coach-built two-speed, and free engine, magneto, spring forks; guaranteed £35 0

No. 1623.—3½ h.p. PHENIX, Minerva, Tricar .. 20 Gns.

No. 1681.—3½ h.p. GREEN Motor Cycle, water-cooled engine, magneto £25 0

No. 1481.—4 h.p. 1WIN WERNER: guaranteed £12 10

No. 1467.—2½ h.p. MINERVA £10 10

No. 1617.—1½ h.p. QUADRANT; guaranteed .. £15 15

No. 1665.—3½ h.p. 1908 TRIUMPH, handle-bar control, spring forks, standard model 29 Gns.

No. 1443.—3½ h.p. TWIN WERNER, free engine clutch, chain drive; guaranteed £10 10

No. 1545.—7-9 h.p. PEUGEOT, Chater-Lea fittings £15 15

2½ h.p. GRIFFON, vertical engine £10 0

No. 1613.—3½ h.p. 1907 MINERVA £16 10

No. 1664.—3½ h.p. ROC, free engine clutch; guaranteed £15 15

No. 1452.—5 h.p. REX DE LUXE, magneto ignition, spring forks, and seat-pillar; guaranteed £17 10

No. 1605.—2½ h.p. BROWN, vertical engine; guaranteed £10 10

No. 1584.—4 h.p. BAT £12 10

No. 1680.—3½ h.p. M.M.C., Nala two-speed gear, magneto ignition, finished grey; guaranteed .. £19 19

No. 1625.—2½ h.p. BRADBURY, magneto 20 Gns.

No. 1639.—3 h.p. ZENITH BICAR £15 15

No. 1650.—2½ h.p. 1909 MATCHLESS, light-weight, magneto, spring forks, standard model .. Offers

No. 1577.—5 h.p. 1908 V.S., two-speed gear, Truffault forks, magneto Offers

No. 922.—3½ h.p. PHENIX COB, suitable for lady or gentleman, two-speed gear £25 0

No. 1559.—6 h.p. MATCHLESS, magneto ignition, J.A.P. engine; guaranteed Offers

No. 1596.—1½ h.p. F.N., spring forks, magneto, latest model £17 10

No. 1534.—4½ h.p. 1908 MINERVA, R.O.M. contact breaker; guaranteed 20 Gns.

No. 1634.—7 h.p. MATCHLESS, twin engine, mag- neto, low frame, latest 1908 model; guaranteed £25 0

No. 1616.—3 h.p. TRIUMPH £15 15

No. 1465.—3 h.p. TRIUMPH, very low price .. 15 Gns.

No. 1644.—2½ h.p. F.N.; guaranteed 15 Gns.

No. 1576.—3 h.p. TRIUMPH, magneto ignition; guaranteed £17 10

No. 1542.—6 h.p. ANTOINE £12 10

No. 1651.—1½ h.p. 1908 MOTOSACOCHE; guaran- teed £17 10

No. 1037.—2½ h.p. MATCHLESS Offers

No. 918.—3½ h.p. EXCELSIOR and Sidecar.... Offers

Machines quoted in this column are offered by WAUCHOPE'S, and carry their guarantee.

WAUCHOPE'S,

9, Shoe Lane, Fleet Street, LONDON.

Telephone 5777. Holborn.

MOTOR BICYCLES FOR SALE

1909 2½ h.p. Ariel Lightweight, magneto, handle control, perfect condition, ridden 400 miles, rests, stand, carrier, etc., complete; £28.—Ellis, Pi St., Swansea.

1909 Triumph Motor Cycle, as new, including horn, Lucas lamp, and generator, two L pannier bags, R.O.M. tyre, spare tyre, belt, self-seal air tubes; £40, bargain.—Tunbridge, Gower St., Swan

2½ h.p. Twin Motosacocche, new June, 1909, Dr 24 forks, Michelin tyres, butt ended tubes, V spares, new condition; cash £29, cost over £42, or change 5 h.p. twin, or 3½ h.p. single.—Trigg, Eureka Pl Ebbw Vale, Mon.

SECTION VII.

Gloucester, Oxford, Buckingham, Ber Wilts, and Hants, and Channel Islands.

13 h.p. Hobart, good order, Dunlops, good, tubes unpunctured; £7 10s.—Lequesne, 50, Don Jersey.

3 h.p. Motor Cycle; £9, or exchange push bike cash.—Full particulars, Narborough, Broad Banbury.

5 h.p. Twin Kerry. Whittle, two accumulators, 2 tyres Minerva spring forks; £18.—Bell, Col Green, Bristol.

24 10s., or nearest; cycle part; buying tricar. Brunswick Hill, Reading.

24 h.p. Minerva, in good running order, tyres go can be seen at Red Garage, Basingstoke; 10s.—Bradshaw, Rotherwick, Winchester, Hants.

4½ h.p. Twin Minerva, condition as new, 2½ tyres, £42 also 3½ h.p. Zenith Bicar, two speeds and free gine, new Clinchers (studded), with sidecar, £35.—City Rd., Bristol.

1909 New 3½ h.p. Triumph; 1909 new 1½ h.p. (R.A.C. h.p.) Motosacocche; 1909 new 5-6 h.p. 4-F.N., fitted Cowley meter, special tyres; what offers Randall, Andover.

24 h.p. Peugeot, Brown and Barlow (new), H.B. d trol, new Dunlop back, two brakes, excellent dition; owner buying lightweight; £14.—Bruton, Mo Cottage, Rudford, Gloucester.

TRIUMPH, 3½ h.p., 1908, splendid condition, piston, rebushed, new wheel, suit sidecar, Whit belt, tools, Premier searchlight; inspection; trial; guineas.—Stark, Cherwell, Oxford.

2½ h.p. N.S.U. Lightweight, twin-cyl., geared pul 22 new end June, 1909, sold for no fault, and dition absolutely as new; £30, cost new £43.—Apply, Littleboy, Hook Norton, Banbury.

10 GUINEAS.—3 h.p. Renault, 2-seater, De D water-cooled engine, three speeds, live axle, rning order, wants front tyres, this is not an old cro photo.—18, Madison Av., Bournemouth.

7 h.p. Peugeot, Mabon clutch, variable pulley, H control, latest fittings, R.O.M. ignition, R.O combination tyre; £25, exceptional bargain.—Ellers Hillside Av., Bitterne Park, Southampton.

F.N., 4½ h.p., 4-cyl., 1908½, perfect condition throu out, mileage only 457; compulsory sale; cost w extras and spares over £60, great bargain, £35, or h offer.—Grafton, 32, Thorpury Av., Southampton.

FOR Sale, 4½ h.p. Minerva twin-cyl. motor cycle, ac mulator ignition, Longuemare carburetter, Bas Michel coil, footrests, long handle-bars, adjustable ley, Whittle's belt, Brooks B100 saddle, just been, bushed throughout; price £17, or offers, or will consi a pedal cycle and cash.—The Bembridge Motor Co., Point, Bembridge, Isle of Wight.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Ke and Sussex.

£12.—3½ h.p. Kerry, in new condition throughout, take sidecar.

£6.—3 h.p. Royal Sovereign, in good working order.—Burnt Ash Rd., Lee, S.E.

3½ h.p. De Dion-Bat, sprung frame, footboards; £2 Must be sold.—Below.

3 h.p. Kerry, H.B. control, spring forks, low and fa £10.—Below.

3½ h.p. Rex, just enamelled and plated, footboa 4 H.B. control; £15, offers.—139, Balaam St., Pl tow, E.

2 h.p. Minerva, Chater-Lea, Longuemare, low, spa £7.—46a, Evelina Rd., Nunhead, S.E.

24 h.p. Robinson and Price, new condition; £15, offer.—5, Burlington Rd., Tottenham.

£6, or offer.—2½ h.p. Scout Lightweight; suit be ner.—37, Elmer Av., Southend-on-Sea.

4½ h.p. Chater-Lea, M.M.C., built 1908, perfect or £12.—1, Tudor Rd., Upper Norwood.

6 h.p. Twin Rex de Luxe, magneto, Roc clutch, sp did condition; £15.—F. Piner, Colnbrook.

MOTO-REVE, magneto, lightweight, almost new; offer.—8, Barrett St., Manchester Sq., W.

2½ h.p. Antoine, light, low, good condition, suit ginner; £11.—26, Halstead St., Brixton.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

p. Roc and Sidecar, two-speed, new, tyres, Amac, handle-bar control; £36.—Jones, Crockenhill.

p. Kerry, re-enamelled, plated, new cylinder, piston; £12, offers.—461a, Green St., Upton Park.

p. N.S.U., twin, magneto, two-speed gear, new condition; £26 10s.—Green, c/o Eagles and Co., Acton.

09 Triumph, new, complete, ridden 50 miles; cost over £50, £45.—1a, Lyall Mews, Eaton Sq., S.W.

TOINE. 4h.p., repainted, new tyres, too fast for owner; £12 10s.—2, Ullswater Rd., Palmer's Green.

p. Rex and Sidecar, in perfect order; £16, or exchange.—C/o Townsend, 162a, Dalston Lane, N.E.

p. Noble, good condition, two accumulators, etc.; must sell; £9.—32, Newbury Rd., Bromley, Kent.

O 1907 4-cyl. Machines, splendid condition; £28 each (new magnetos).—Stas, 106, Gt. Portland St.,

p. Brown, genuine, splendid condition, fast, powerful, reliable; £14 cash.—17, Cranmer Rd., Brix-

GHTWEIGHT, 2½h.p., like new, vitals all 1909; £15, near offer.—2, Burne St., Edgware Rd., Lon-

p. Kerry, very little used, perfect condition; £14.—M., 89, Cromwell Rd., South Kensington, Lon-

You Want a bargain in a motor cycle you can get it at Wauchope's, 9, Shoe Lane, Fleet St., London,

p. Auto Moto, vertical, Chater-Lea, £5 15s.; 3½ h.p. Minerva, offers.—1a, Lyall Mews, Eaton Sq.,

p. Fafnir-Juno Motor Cycle, low, long bars, very good condition; £5 15s.—426, Hoe St., Waltham-

FNIR Motor Cycle, Raleigh, in good order; £13.—Rendell, Woodland Villa, Pembury, Tunbridge

p. Minerva, latest pattern, spring forks, two accumulators, as new; £16 10s.—Eagles and Co.,

p. Minerva, low, long bars, footboards, new tyre, fine condition; 18 guineas cash.—Jemery, Tring,

08 5½h.p. Brown, with sidecar, guaranteed; any trial; £24.—G.W., 47, Montague Rd., Dalston, lon.

O.—2½h.p., vertical, low, long bars, trembler, three accumulators, perfect order.—24, Cornwall Rd., ton.

p. Twin Minerva, adjustable pulley, spring forks, perfect condition; £25.—60a, Trinity Rd., Upper

WIN Antoine, footboards, all accessories, spares, perfect condition; £17.—29, Eccles Rd., Clapham

p. Minerva, Chater-Lea, Clinchers, spring pillar, very reliable, spares; £9.—33, Doughty St., Lon-

p. Phoenix Cob, two speeds, magneto, pan seat, H.B. control, as new; £20.—A. Symonds, Hemberton S.W.

p. White and Poppe, Chater-Lea, Brown-Barlow, excellent condition; £14.—12, Laundry Rd., Ful-

p. Chater-Lea, spring forks, re-enamelled and bushed, perfect; £9, offers.—Ross, 155, High Rd., atham.

S.U., 2½h.p., twin, 1909, Bosch magneto, geared pulley, slightly used; £30.—Eagles and Co., High Acton.

TRIUMPH, 1908, as new, perfect condition, all accessories; £32, no offers.—Taylor, 4, Rosemont Rd., upstead.

AT, 3½h.p. M.M.C., perfect condition, low saddle, new Palmer and belt; £12.—41, Ashford Rd., klewood.

RADBURY, 3½h.p., 1909, absolutely reliable; great bargain, £36.—Stanton, 619, Lea Bridge Rd., Ley-

You Want good second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet St., don, E.C.

EX London Agency, Store St., Tottenham Court Rd. Phone 13456 Central. All 1909 models, immediate delivery.

EX London Agency.—Exceptional advantageous cash, gradual, and exchange terms; free delivery within miles.

EX 1908 Twin, splendid condition; £24; magneto ignition.—Rex London Agency, Store St.

EX Twin, good condition; accept £14; trial arranged.—Rex London Agency, Store St., W.C.

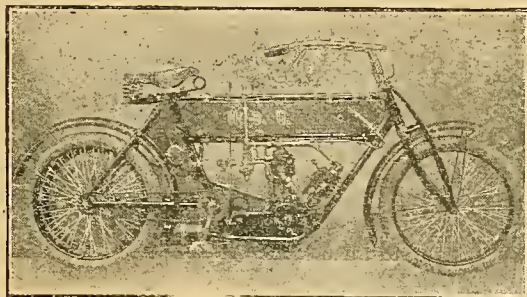
EX London Agency have for immediate clearance motor cycles from £4 10s.; write for list.—Store St.

EX Exchange our speciality. Best possible allowances made on Rex motors.—Rex London Agency, re St.

1h.p. P.M., magneto, two-speed gear, with rigid side-car, very reliable; £30.—R.C., 98, Robinson Rd., ting, S.W.

SALE.

We commence our Special Winter Clearance Sale to-day.
10% off all machines for spot cash only for 14 DAYS.
1908 N.S.U.'s.



SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.
WHEELS—24in. and 26in.
TYRES—Peter Union 2½in. section to singles, and 2½in. to twins.
CARB.—N.S.U. float-feed type.
BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.
EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits plugs, etc., all free.
GENERAL—We guarantee fully every machine sold.
PRICES:

	Maker's price.	Our price.	Deferred payments.
3½ h.p.	£40	£31	£33
3½ h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5½ h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

TO COLONIAL READERS.—We crate all machines free, and pay freight charges to nearest port (3 h.p. models excepted) at above prices.

TWO ONLY.

3 h.p. N.S.U. Motor Cycles to above-mentioned specifications:

We are in a position to offer these machines to the public at the unprecedented low price of

£25 5s. Od. (Nett Cash Only).

SECOND-HAND MACHINES (all fully guaranteed by us)

REX DE LUXE, 5½ h.p., Roc clutch	£25
ANTOINE, 4 h.p., very low, free engine	£16
KERRY, 5 h.p. Twin, 26in. wheels	£16
MINERVA, 2½ h.p., spring forks, 1907 model	£15
TRIUMPH, 3½ h.p., 1908, 1909 piston	£34
REX, 3½ h.p., 1908, two speed, perfect	£30
MINERVA, 3½ h.p., 1909, only done 100 miles	£25
BROWN, 2½ h.p., Bosch magneto, low, perfect	£16
M.M., 3½ h.p., 1909 model, h.b. control	£20
REX, 5 h.p., Twin, low, spring forks	£17
PEUGEOT, 7-9 h.p., low built, perfect order	£21
ZENITH Bicar, 3½ h.p., two speeds	£17
QUADRANT, 3½ h.p., spring forks, very low	£16
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WHITTLES.—Vindec Special, 5-6h.p. twin Peugeot engine, magneto, two speeds, and free engine spring forks; cheap, £26.

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CAMPSTEAD.—Twin Rex, magneto, and Montgomery flexible sidecar, 1909, only run 100 miles; £36; will sell rate.—Martin, Royal Parade, Chislehurst.

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BAT, 2½ h.p. De Dion, London-Edinburgh machine; £14; also 3½ h.p. M.M.C., Bat spring frame, P mers, £17, perfect order; giving up.—50, Manor R Brockley.

1908 3½ h.p. Rex, magneto, new December, lamp, horn stand, 1908 castor wheel sidecar, perfect condition, little used; £29 10s.—Powell, 56, Riverview Gro Chiswick.

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F.N., 4-cyl., 4½ h.p., absolutely perfect condition throughout, foot exhaust lift, footrests, spare tube, quantity of other spares; £25.—R.C., 21, Parliament H London, N.W.

F.N., 5-6 h.p., 4-cyl., 1909, only two months old, accessories and spare parts; a genuine bargain, £3 or near offer.—Apply, S. E. Hales, 14, Clifton Rd, Kingston Hill, Surrey.

1909 Tourist Trophy Triumph, complete with toolbags, spares, and tools, lamp, generator, horn, tyres as new; £38, or near offer.—F. Haslock, Fairmile Cobham, Surrey.

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3 h.p. Hobart, Minerva spray, Prested accumulator, complete and plugs, Palmer back, carrier-stand, horn, meter, all splendid condition; sacrifice £10.—Belmont Foxley Lane, Purley.

1½ h.p. Minerva, Longuemare carburetter, two accumulators, new tyres, lamp, spare parts, splendid running condition; £6 10s.—Kimberley Villa, Alexand Rd., Dagenham, Essex.

TRIUMPH, 1908, hardly soiled, Shamrock-Excelsior studded tyres, spare tyre, lamp, generator, horn, all accessories; £33.—A. B. Wookey, Chichester S Paddington, by appointment.

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MINERVA, 3½ h.p., compression and bearings perfect, good tyres, and belt, and general appearance, pedals, footrests, spares; £14 10s., or light bike parts. W. Smith, 71, Fox Lane, Palmers Green, London, N.

1909 3½ h.p. Humber, magneto, delivered June, ridden 350 miles, two-speed Roc clutch, live axle, lamp, horn, spares, spare cover, perfect condition, just turned up; £34 10s.; buying twin.—Marsh, Ingleside, Epping.

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2½ h.p. Kerry de Luxe, excellent condition, Brood B100 saddle, spring forks, belt rim brake, Price stands, new rubber studded tyre, Watawata belt, lamp, tools, spares; £12.—Goodlet, 4, Park Lane, Carshalton Surrey.

£28 10s.—6 h.p. 1909 J.A.P., magneto, H.B. control, Chater-Lea frame, spring forks, Bates rubber studded tyres, Autoclipse lamp, little used; cost £60, genuine bargain.—A. Russell, Light Oaks, St. James R Sutton.

LIGHTWEIGHT, 1½ h.p. Universal engine, special fitted to strong 22in. roadster, girder forks, tandems, new belt, very efficient, neat, excellent order £8 10s.; trial any evening.—E., 30, Wandle Rd., Upp Tooting.

THE MOTOR CYCLE

Vol. 7. No. 341.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

THE VALUE OF THE T.T. RACE.

By ROAD RIDER.

MOTOR cyclists as a body do not take a very keen interest in the T.T. Race, and make a poorish response to the appeal for subscriptions to defray its expenses. They do not understand its extreme value to them and the industry. The old proverb says "It's the speed that tells," and I have no hesitation in saying that this year's Tourist Trophy Race will do more good to the breed of motor bicycles than six 1,000 miles reliability trials could do, even if they were run off one on top of another. Almost any of the machines entered could gain a gold medal in a 6,000 miles reliability trial, if it had a good man on it, and met with ordinary luck; but barely a third of the entrants were equal to 158 miles at top speed. In my opinion, engines with overhead valves are too risky for ordinary touring conditions, as a broken valve usually spells a long delay, since if it breaks it is almost certain to go through either the cylinder or the piston. Owners of such engines on touring mounts should change the exhaust valve about every 2,000 miles to be on the safe side. Most makers learnt something, and I fancy the results will be seen next year in improved lubrication (leading to less frequent knocking) and in improved exhaust valves.

Lubrication the Main Problem:

The cognoscenti asserted weeks in advance that efficient lubrication was the main problem to be solved if success were to be attained. I have often complained that the standard lubrication of motor bicycle engines is highly unsatisfactory. We ride five miles with the engine over-lubricated, five miles with accurate oiling,

and then five miles under-lubricated. Racing speeds will not stand this makeshift practice. Hence many riders had fitted automatic lubricators, with the standard pump in reserve. Others conveyed a constant supply of oil into the top of the spray chamber; this is an old dodge of Garrard's, and, like the force pump, is merely a rough makeshift. Others, who had only the standard force pump to rely on, told me they were forcing in half and quarter pumpfuls at frequent intervals. Again, the standard lubrication wastes a good deal of oil. A novice friend of mine once seized up the big ends of a 5 h.p. twin engine on his first run. He got the engine in such a state that the big end bushes were practically reduced to powder, but the gudgeon pin bushes were left in good order, showing that a quantity of oil was collected inside the piston, where it could be of little use. Hence many of the racers drilled countersunk holes in the walls of their pistons, permitting this surplus oil to trickle through on to the walls of the cylinder, which is just the point where the modern high compression single-cylinder is generally short of oil. I am inclined to prophesy that we shall see many automatic lubricators and many drilled pistons on standard tourist mounts next year, and, if so, we shall have the T.T. Race to thank for it. It is possible designers may find they can safely lighten their pistons a trifle, which should spell higher engine speeds and increased efficiency per cubical capacity.

Probably it is only engines, carburetters, tyres, belts, and ignition which benefit by the race. If machines with standard fittings could be run, we should obtain

better spring forks and more reliable fittings throughout, with a consequent freedom from irritating minor troubles with the less vital portions of the machine. But it is impossible to force entrants to use standard fittings, and the present attempt is the merest farce; the rules in operation to retain some caricature of a tourist outfit merely hamper the entrants, and do the sport no good. The race is only a "Tourist" event in name, and it is doubtful if anyone used a standard touring mount, and only two spring forks (Druid and Truffault) were fitted. Several details fitted in accordance with these effete and useless regulations were responsible for serious trouble, *e.g.*, Stanley is alleged to have been outed by the light and narrow mudguard on which the rules insisted. I am inclined to think the race should have no limits other than cubical capacity, which will resolve it into a test of engines, carburation, lubrication, ignition, tyres, and belts (and, of course, men—we cannot eliminate the personal factor).

It is extremely doubtful if the experiment of racing singles and twins together on the same terms as this year will be repeated. Newsome and Godfrey deserve

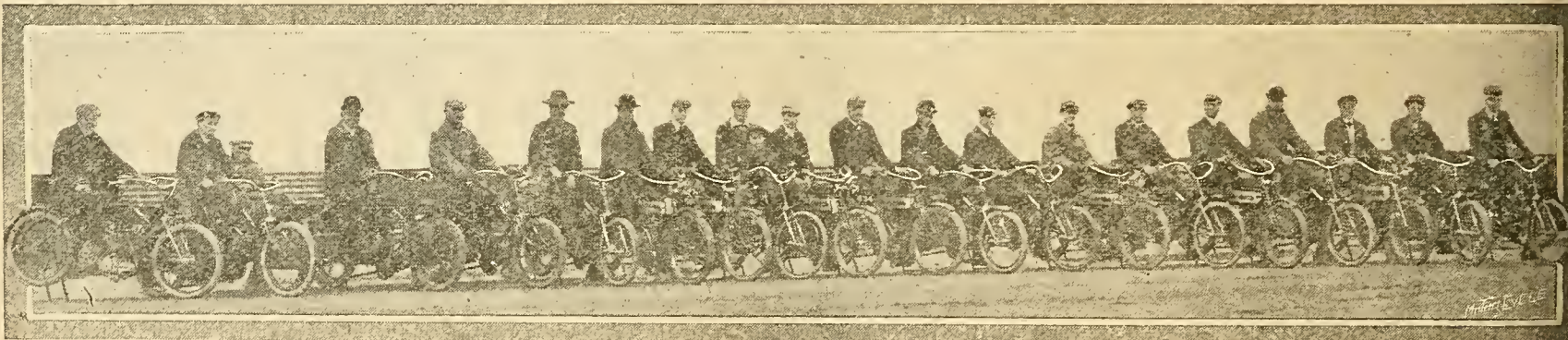
the credit of first and second places in a single-cylinder class, instead of ranking down a combined list. No single-cylinder of 500 c.c. had much chance of finishing first against twins of 750 c.c., unless all the best twins broke down; and if the course had been less tortuous the superiority of the twins would have been even more marked. However, the twins have been handicapped out of previous events on fuel consumption, so it was only fair that they should have been given a chance to show what they could do without such restrictions. Their reputation as a class has suffered as the result of their hopeless essays in previous years, and as a great believer in their all-round superiority, for dry road work at any rate, I do not complain that they were for once given a look in. I was especially pleased to see the small $3\frac{3}{4}$ h.p. Premier hold its own so manfully. There should be a very big future for this type of machine. It has all the merits of the big twin, without being hampered by undue weight, and it will appeal to many riders who now ride $3\frac{1}{2}$ h.p. single-cylinders, but prefer the greater elasticity and more even turning movement of the multi-cylinder engine.

THE MOTOR CYCLE IN SOUTH AUSTRALIA.

THE accompanying reproduction of a group of motor cyclists lined up in front of Messrs. Eyes and Crowle's garage, Adelaide, gives some idea of the popularity of the pastime in the Commonwealth. The machines represented are chiefly examples of the F.N., N.S.U., and Triumph

in S.A., and the numbers are increasing almost daily a most healthy and satisfactory state of affairs.

Several large firms in Adelaide, recognising the utility of motor cycles for the use of commercial travellers, have mounted their men on these handy machines. Among those who have availed themselves



The above serves to show the growing popularity of motor cycling in South Australia. The motor cycles are composed of three different makes only.

manufactures, and one or other of these makes have secured first, second, and third places and fastest times in the South Australian A.C.'s annual hill-climbing competition. The above named firm informs us that over 1,400 motor cycles are registered

of this method of getting in close touch with their customers are Elder, Smith, and Co., who have nine motor cycles, South Australian Farmers' Union (eight), International Harvester Co. (five), South Australian Government (five), and many others.

FRENCH AUTUMN GRAND PRIX.

THE Motor Cycle Club of Paris, a comparatively new organisation with headquarters at 34, Rue Marbeuf, held a 200 kilometres motor cycle race on the 26th ult., in the neighbourhood of Melun. The course was on the circuit known as Guignes-Lissy. The winning machine was an 8 h.p. René Gillet, ridden by Bloch, who covered the course— $124\frac{1}{4}$ miles—in 2h. 23m., equal to 52 miles per hour. The second was an Aquilon, rider Mouton, time 2h. 41m.; third, 6 h.p. René Gillet, rider A. M. Fay, time 2h. 49m. The last named competitor won a prize for the most consistent lap times. The winner of the race, Bloch, made the fastest lap—28.9 kilometres in 19m. = $56\frac{1}{2}$ miles an hour.

The race was a success both in the matter of attendance and results, and the club is enthusiastically joyous because the three first to finish are all club members. Grapperon, who rode a 12 h.p. Albatross, burst both tyres in practice during the morning and could not start; Pons, 8 h.p. N.S.U. (who started in the Peking to Paris ride), had belt troubles; King, 8 h.p. J.A.P. suffered tyre troubles; and Harding, 9 h.p. J.A.P. met with an accident at Troyes, and was unable to compete. The programme bears the name of Collier 9 h.p. J.A.P., who was expected to compete, but whose name must have been placed among the entrants through some misunderstanding, as neither C. R. nor H. A. Collier know anything about the race.



[Previous instalments appeared in our issues of September 15th, 22nd, and 29th.]

Putting on speed I was covering the ground very nicely when two carts loomed ahead drawn up on opposite sides of the road. There was just sufficient space for me to pass between, but the space was occupied by the two carters, who were chatting. As they appeared not to notice me, I sounded my horn twice when about fifty yards off. They saw me and each dodged behind his cart, so I slowed down to about eight miles an hour to pass between them, when the silly chap

Bolted Back like a Rabbit.

I leant towards him, and so only caught him with my left shoulder. But he spun round, and when I pulled up and returned he was on his back in the middle of the road with the other carter bending over him. We soon had him on his feet, and I was pleased to see he was practically unhurt, and he gave me the impression of shamming. Then began a string of voluble questions (on their part), of which I could not make any sense. He asked me my name, and I was just giving him my card when the Rolls-Royce car passed again, the occupants laughing at my *contretemps*. As I could do nothing further for the carter, and he appeared quite well again, I left them. Steering for Saulieu I came across a beautiful chateau at the foot of some steep hills, so I stopped to admire the lovely spot whilst I enquired the way of a "cantonnier." With a smile he pointed up a steep hill, a hill I could have made look silly if my bicycle had been in good trim, but as the engine had not been cleaned (inside) or tuned up since I started I knew I was in for some fun. I went down a by-lane to get a good run at it, and pushed up the first part of the hill. The road was greasy and heavy, and soon the pace decreased considerably, and as knocking manifested itself, first came back air and spark levers in quick succession. Still the hill continued, so I attempted to pedal, and gave a snort of disgust as I remembered there was no pedalling chain. So I halted to allow the engine to cool, and afterwards got going again, and finished the climb in the same style. I was near Beaune, but whether I had passed it I could not say.

Bump! bump! and a hurried dismount, and I was aware that I had picked up a nail. Whilst the patch dried firmly on to the tube I regaled myself with milk chocolate, large muscatel raisins, and a cigarette. I next passed through Saulieu, a little village, which I had good cause to remember, as it was here I encountered all the snow, slush, and sleet on my outward journey. As I rode along I compared the road to what it was on the outward run, and, although now it was swimming in water, it was perfect in comparison.

Unprotected Magnetos.

A mile or two outside Saulieu misfiring caused me to dismount and clean the magneto, during which

operation a village school was let loose and the children swarmed round me like flies. Then came Avallon, and afterwards Auxerre, where I stopped to refresh the inner man, putting up at the Hotel de l'Epée in the Rue du Paris. This hotel is built close to the cathedral at the back; in fact, some of the building actually joins. Auxerre, which is on the Yonne, is noted for its beautiful little churches, cloisters, etc.

My day's run totalled 150 miles—not bad considering the adverse roads. My only troubles were a puncture, wet on magneto, and choked carburetter. Next day Havre was my objective—a run of over two hundred miles. I accordingly made an early start. Through Joigny, Sens, and Montereau the road was easy to find, so I travelled at a good speed, especially where the road was "gritty" and not greasy. Although it must have been a few hours it did not seem long before I was approaching the Forest of Fontainebleau, with its beautiful road, which is extremely wide and perfectly straight. I had been averaging almost thirty miles an hour up to this point, but my engine suddenly ceased firing, and finding all compression had vanished, I guessed the trouble—a broken valve. After fitting the spare valve, I consulted my map, finding that I was only a mile or two away from Paris.

Trying to Avoid Paris.

It was not long after leaving the Forest of Fontainebleau that I got hopelessly lost in trying to avoid Paris. I eventually arrived at Versailles, with its horrible *pavé*, which is a disgrace to the town, as fully one-third of the setts are missing or sunk at least six inches. St. Germain possesses a similar stretch of road, and I was relieved to gain a better road to Mantes and along the banks of the Seine to Vernon, and from thence to Rouen. I had no time to loiter if I was to reach Havre by lighting up time, so hurrying forward through Rouen, I reached St. Malaunay with forty miles to go and an hour and a half to do it in. Putting on more speed I was making good headway when I felt an awful bump behind. Dismounting, I espied a sunken manhole which had proved my undoing, as the back rim in one place was almost dented to the belt rim; so bad, indeed, that the tyre would not stop on when properly inflated. To make matters worse, rain came down in torrents, so I wheeled the machine into Malaunay Station. The sudden shock had punctured the tyre in two places. There was a train for Havre due in forty-five minutes, so I mended the punctures and partially inflated the tyre. The fare was 2f. 10c. for the machine and 3f. 95c. for myself.

The journey to Havre was awfully slow. On arrival at the docks I watched my machine put on board under cover, and firmly lashed to the ship's side. The day's run totalled at least 175 miles, as I had missed

Harrogate to the Riviera and Back by Motor Cycle.—

my way on more than one occasion. I slept soundly during the crossing, and awoke early the following morning as we were steaming past the Isle of Wight.

The customs officers were soon satisfied, and after I had changed some money I looked out a place to get my rim straightened. Filling up with petrol, I wended my way out of Southampton most carefully, remembering the prejudiced local magistrates.

The English roads were muddy and the weather showery, but the scenery did its best to make up for the unfavourable riding conditions. Twice I was stopped by blobs of mud settling on the magneto.

This time I took care to ask my way more frequently than before as I approached London, and so lost no time in by-lanes. Arriving at Rickmansworth, I passed in quick succession St. Albans, St. Neots, and Biggleswade, putting up at Huntingdon again, after a run of 140 miles.

The Last Day's Run.

Next day (Friday, March 26th) was to be the last of my tour. The weather opened showery, and the roads were muddy, but I made good time through Stilton, Grantham, Newark, and Bawtry to Doncaster. Hereafter the road improved a little, and the sky brightened. Nearing Wetherby, I was almost within sight of home. Pools of water I dashed through, for after mudlarking for four days it is good to be within sight of home. And then the engine "pegged out," with a feeble snort now and then, as though loth to give up the ghost so near home. I found that the spark was perfect, plug in order, compression fair, but locate the trouble I could not. I cleaned the carburetter, but still it beat me, so, packing the tools, I started off, misfiring badly, no matter how the levers were set. One thing struck me as most remarkable, and that was on opening the cut-out the machine would slow down and stop. On arriving at Harrogate I put my machine in the shed, not without giving it a parting look of gratitude, for without this small relapse it had run splendidly.

For two days it remained in the shed whilst I puzzled my friends with its symptoms. Then I deter-

mined to locate the trouble, and removed the cylinder. The piston was fairly thick with deposit, especially at the valve side, also the cylinder head. Then I took out the valves, and here at last I discovered the cause. The head of the exhaust valve was loose, but still held on to the stem, although it would screw on or off, and this was the reason that on opening the cut-out the engine would slow down and stop, because there was no back pressure to hold the valve better on to its seating.

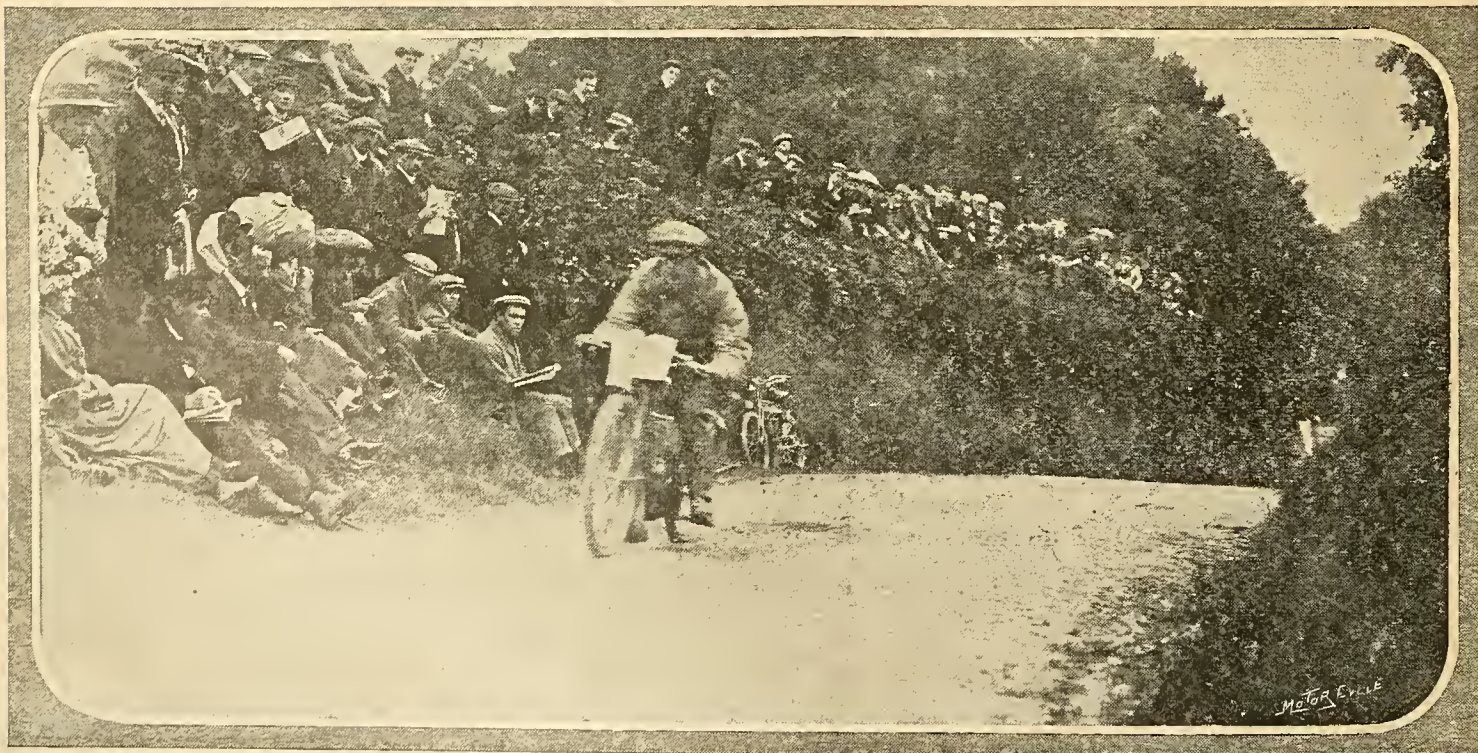
Some Running Expenses on the Tour.

My petrol bill was 27s. 9d. for the total distance of 1,650 miles and the oil bill (about $1\frac{1}{4}$ gallons of Price's A) roughly 6s. Petrol is very dear in France, varying from 1s. 8d. to 2s. 1d. for about $1\frac{1}{2}$ gallons, but the price was usually 2s. The 26 by $2\frac{1}{4}$ Michelin voiturette inner tube had cost me 18 fcs., and was well worth the money, for it was exceptionally thick red rubber. Although I had a spare belt on my carrier, the Dermatine I started with carried me through, and was only shortened once, whilst the Clincher rubber non-skids still had the studs on.

The Southampton-Havre arrangements for crossing the Channel are certainly open to improvement, especially the rule which forbids passengers by the midnight boat taking their machines on board before eight o'clock. Also you must be there to superintend the "slinging" of your machine, as nobody seems to know what portions are best able to bear the hauling strain. At Havre I was able to wheel the motor cycle off without any slinging at all, but I think this is all a matter of the tide.

The Triumph carried me beautifully, although I hardly gave it any attention. If I had cleaned the piston and cylinder head at Nice, and also ground in the valves and changed over the tyres probably no hills would have troubled me.

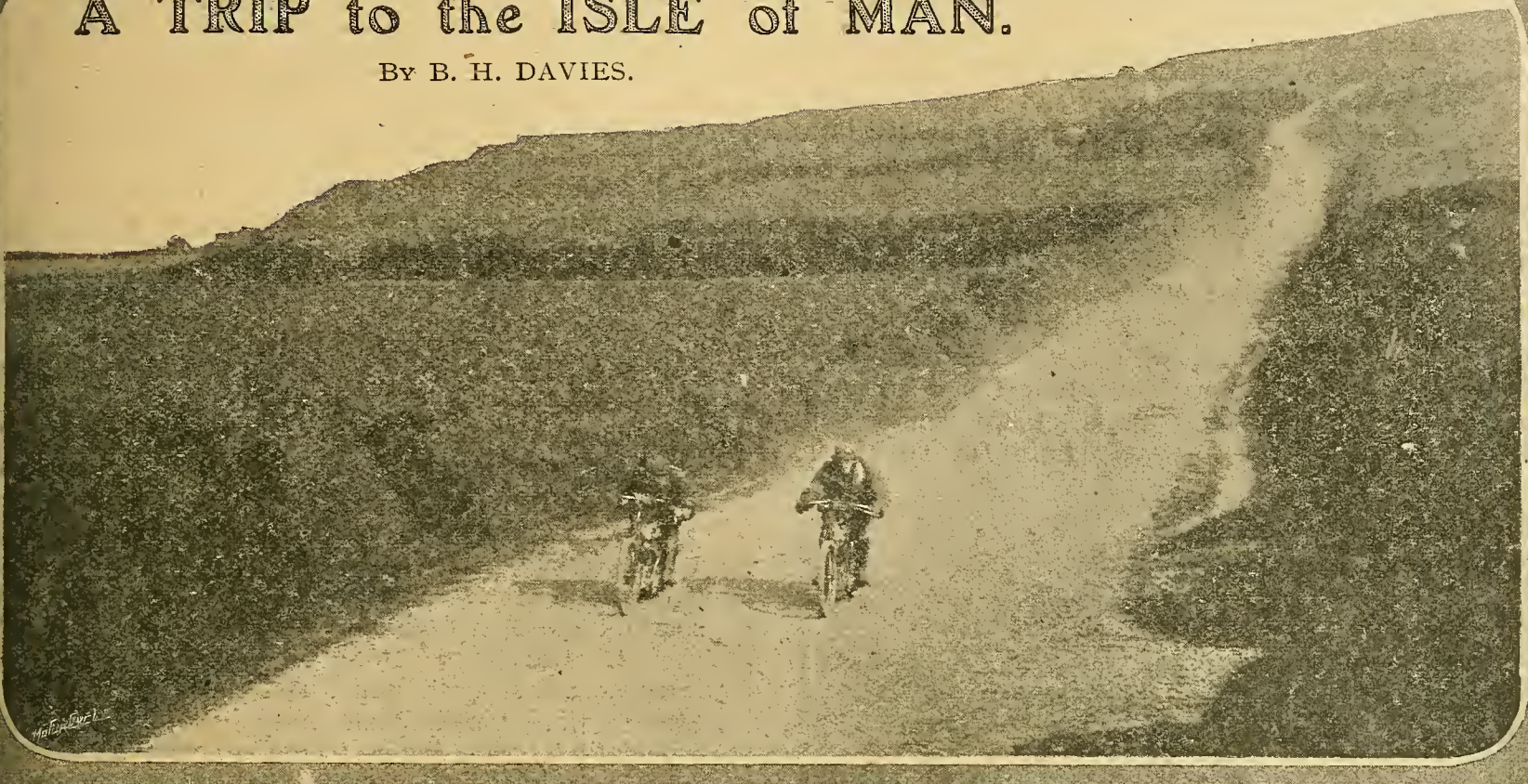
If any readers of *The Motor Cycle* think of undertaking a similar tour, I shall be only too pleased to give them any information I possess. I may add that the route is quite capable of being covered by an efficient $3\frac{1}{2}$ h.p. and sidecar with a good two-speed gear, provided the passenger does not object to an occasional walk or wait to cool down on a bad hill.



Crogga Hill, the venue of the morning hill climb the day following the T. race, was short but very steep. Scriven swept up the hill in 22 sec on a 5 h.p. Re The illustration shows G. Le Evans (5 h. Indian), who made the best combined time on Crogga at Snaefell in Class 3 A.

A TRIP to the ISLE of MAN.

By B. H. DAVIES.



Rem Fowler and R. Lord, on Rex machines, indulging in a neck and neck race between Kirk Michael and Peel.

FOR the first time since the T.T. Races began I was able to take a holiday and go over to witness the racing. I think I was rather ill-advised to burden myself with my motor bicycle, for, arriving in Douglas on the Wednesday and leaving on the Friday, I got very little use out of it, and was put to a good deal of trouble and expense in connection with it. To begin with, I had to hire a porter to push it across Liverpool, as Lime Street Station is a mile from Princes Landing Stage, and, being burdened with a heavy coat and camera, I could not ride it. Getting it on board at Liverpool was a simple matter, as at high water the s.s. *Mona's* deck is about level with the stage; but at Douglas I had to get two porters to carry it up a steep gangway and flight of steps. I had intended to spend the evening in riding right round the island, but found a petrol famine at its height. In fact, two of us arrived at what we were told was the only petrol store in the island, to find the last can just being divided amongst several riders. One of them was a Motosacoche owner, and we succeeded in persuading him that his tiny engine could run on the smell of the spirit, so that there was a quart or so apiece for us.

A Racing Garage.

Putting this in the Triumph's tank, I then rode over abominably bumpy roads to Ballacraigne, where I found the Rex riders had established a perfect little factory. Bentley was still tuning up, as he had smashed his frame early in the week, and I saw him doing a flying half-mile on a short straight stretch between the hotel and the railway crossing. Nearly all the Rex riders had a small copper pipe running from the crank case to the top of their spray chambers. This tube was to mix a slight infusion of lubricating oil with the petrol

vapour. It is also said to prevent all tendency to knock, and as it is provided with a tap which can be opened when knocking starts, it is fairly easy to prove that it has this desired effect. Bentley's machine had another pipe from crank case to carburetter which is alleged to maintain a constant pull upon the spray. Most of the riders were quietly putting a few finishing touches to their machines. Godfrey, for instance, had his piston out, and was polishing the grooves in it. Everyone has agreed for some time past that the race was largely a matter of efficient lubrication, and some of the pistons had been drilled out till, as one wit stated, their sides were composed of "wire netting." I have often seen a gudgeon pin bush in perfect order when the big end of the same connecting rod has been ruined, and so I applauded this drilling of pistons as utilising surplus lubricant. Several pistons were a mass of holes, countersunk on the outside to avoid scoring of the cylinder walls. Some riders after drilling the holes had adjusted the balance by removing metal from the flywheel bobweights; others had neglected this obvious correction. One rider told me he had so far failed in this adjustment that he could not combine good balance at all engine speeds, that when "all out" his engine was better than it had ever been, but that when running slowly, it was much more vibratory than before he started to fake it.

The Silencer Test.

Everyone I met was jeering at the silencer test, which was as complete a failure as such tests generally are. A very wide range of noise was accepted at the test, which was held on Wednesday morning, after which each rider had complete control of his machine till the start, affording him ample opportunity to fake the tested silencer, or substitute a new one. In the actual race, two or three machines, especially the



KNOWING that H. A. Collier could tell *The Motor Cycle* readers a good many interesting details about his splendid ride in the Tourist Trophy Race, we lost no time in paying him a visit at Messrs. Collier and Sons' well-equipped motor cycle works at Plumstead. Harry Collier, with the laurels of victory fresh on his brow, was busy tuning up the last Matchless to leave the factory, but he bravely left his task and meekly submitted to the ordeal to which we were about to put him. He took it all very modestly, this burly son of Britain, whose fame now rings throughout the motor cycle community all over the globe, and in his own mind considered his performance a very ordinary one.

After exchanging the usual courtesies and repeating our congratulations, we asked if the race had been a strenuous one.

"Certainly," replied Collier; "quite the hardest in which I have ever competed."

"We know well," we ventured, "you have had an unparalleled amount of experience on the track; when did your road racing really begin?"

"Curiously enough, in the Isle of Man in 1905, on the occasion of the International Auto Cycle Cup eliminating trials, in which Campbell came in first and I finished second. The same year I was one of England's representatives in the International Cup Race, and rode at Dourdan. The next year, 1906, I rode again, representing my country in Austria, and was fortunate enough to come in third. Nikodem being first and Obruba second, both mounted on Puch machines."

"But, to revert to the recent race, did you feel the strain at all trying?"

"No, not a bit; but, as you can imagine, I suffered a good deal from a stiff neck, owing to the cramped riding position."

"During the race did you at all realise the position you were holding?"

"No, I did not know in the least how I was faring until the ninth round, and I did not even recollect passing Lee Evans."

Collier Suffered No Falls.

"There were a good many spills," we stated; "were you ever unfortunate enough to have a tumble?"

"No, not even in practice. I think all good riders have come to the conclusion that it is better to take the corners slowly and keep in the saddle. Falling off wastes so much time, doesn't it?"

We agreed, and then asked if our gallant friend had pressed his Matchless to the utmost all through the race.

"No," he replied. "I kept a trifle in hand till the end of the first half, and then drove her all out."

"Did you experience any trouble?" we asked.

"Not the slightest, but once I came very near to stopping at Creg Willey's Hill. I had almost run out

of petrol, just halfway between the two depots, and had I not had a device for totally excluding the air from my carburetter I should have fared badly. However, I almost shut this off, and by dint of careful coaxing I saw her safely home."

"No," he replied, in answer to our query, "the hill never troubled me at all—not even then."

"Do you think a better course could be found in the island?" we suggested.

"No, I don't think so."

"A trifle rough?" we ventured.

"Yes, and that is its only fault. It has the advantage of being short, and short laps are always better from a spectacular point of view. The course in Austria was much longer, and certainly faster, but even there we did not do better than a 48 m.p.h. average."

"And you don't think the car course would be better?"

"No," replied our friend, "most emphatically not. It is too long, and then there are those unpleasant mountain mists, which we unfortunates with glasses do not appreciate."

The Highest Speed Attained

"We are well aware," we ventured, "that the present course is by no means a fast one, but," we queried "what was the best speed you think you attained?"

"That is, of course, a little hard to say, but riders on machines fitted with speedometers who were following me put it at about 68 m.p.h."

"Fast enough, in all conscience," we remarked. "And what about passing at this speed? Did competitors get out of your way, and did they give you plenty of room?"

"There was no difficulty at all. The men behave like true sportsmen; there was room for all; and if I did not get a chance to go by at once I waited my opportunity, and then nipped in the gap without trouble."

"And are you looking forward to another T.T. Race?"

"Yes, indeed I am. Having won the trophy I am naturally not too anxious to part with it."

"Your brother has more wins to his credit than you have, but," we pointed out, "he had really bad luck in the race, even though it was certainly your turn for success this time."

"Yes, it was very hard on him, and he ought to have won," modestly replied Collier, "as Charlie's machine was a good deal faster than mine, and he caught me up during the early part of the first round. His engine had a higher compression, which it is well able to stand, as he weighs a good deal less than I do."

"It is a long time to look ahead, but have you any suggestions for next year's race?" we asked.

"No, I don't think so. It was all so well carried out this time. I can only suggest that the St. John

Interview with the Winner of the Tourist Trophy.—

petrol depot should be moved further down the road. Ballacrairie would be a better place."

"And, as regards the cylinder capacity, do you," we queried, "think there can be any improvement in this respect?"

"This year," replied Collier, "I think the singles and twins were pretty evenly matched."

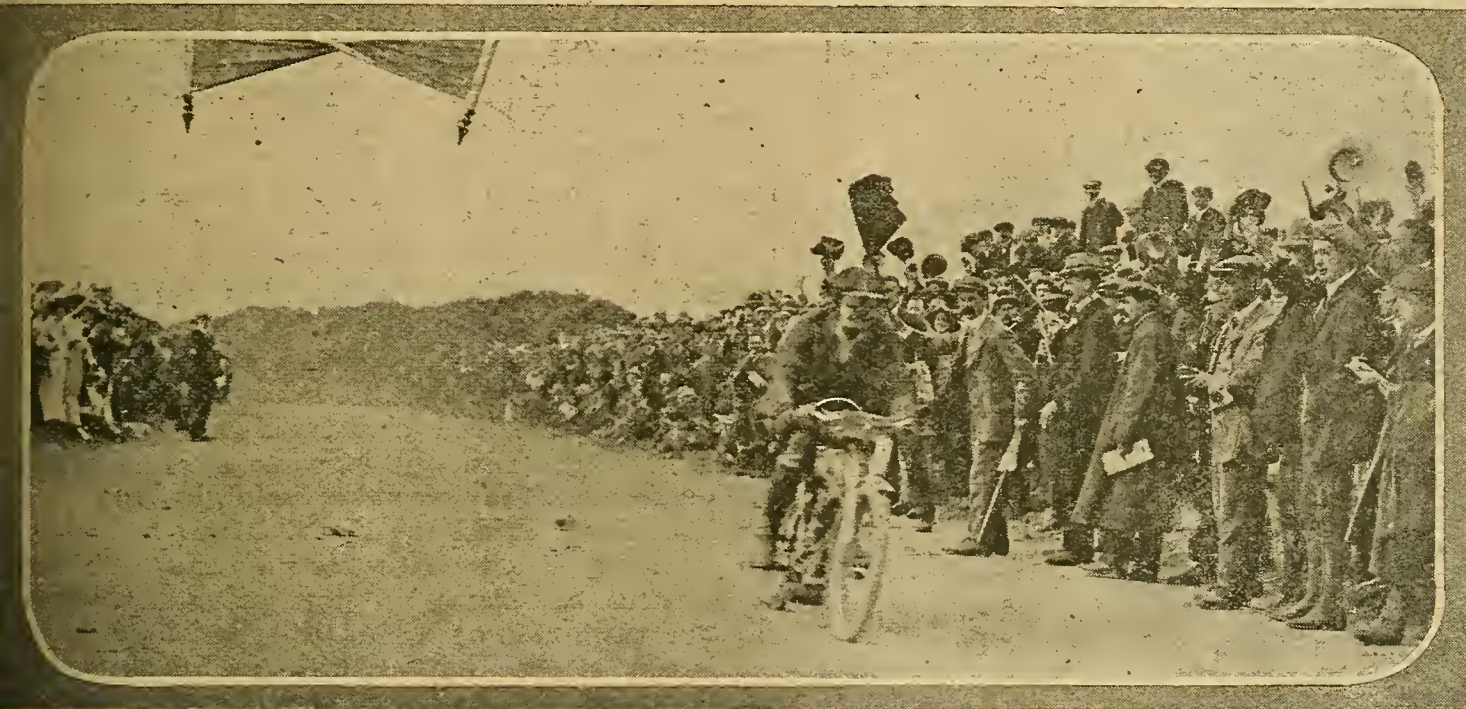
"No," in reply to a further query, "I don't think the twins had at all an advantage, as some of the singles during practice and in the race were almost as fast. You see, the efficiency of the twin has not been very highly developed up to the present, but next year you will have to reduce their limit slightly."

"Your machine seems to have served you well, as it carried you through without a stop. May we," we asked, "have a few details?"

"It was a 5 h.p. Matchless 85 x 65 mm. J.A.P.

engine, fitted with mechanically operated inlet valves, with the valves situated on the top of the cylinder, worked by overhead tappets. The ignition was by the latest V type Bosch magneto running on ball bearings, one of the first to be brought over here. The belt was a Shamrock-Gloria 1in. section, and the tyres 26 x 2 1/4 in. standard n.s. Dunlops. I also used Bowden control for the exhaust lifter, front wheel brake, and the model H Longuemare carburetter. All these fittings behaved splendidly, but I believe I should have got more flexibility but perhaps not greater power from another type of carburetter. The machine is now on view at Maude's Motor Mart, Great Portland Street. That is all I can tell you about it."

We could see Collier was longing to go back to the machine he was so carefully tuning up on our arrival, and knowing the importance of his presence to its successful running, we said good-bye.



The winner of the 1909 International Tourist Trophy Race.

H. A. Collier (5 h.p. Matchless-J.A.P.) passing the finishing post at St. John's. Collier finished 3 min. 58 1/2 secs. in front of **G. Lee Evans** (5 h.p. Indian), completing the distance—158 miles 220 yards—at an average speed of 49.002 miles per hour.

BROOKLANDS OCTOBER MEETING.

THE list of entries in the two events for motor cycles at the Brooklands October Meeting this afternoon (Wednesday) are as follows:

OCTOBER MOTOR CYCLE HANDICAP. 2.50 p.m.

- F. G. Andreae (two-cylinder King's Own, 85 x 85 mm.)
- J. T. Bashall (one-cylinder Bat, 85 x 85).
- W. H. Bashall (one-cylinder Zenith Gradua, 85 x 85).
- M. Krause (two-cylinder V.S., 75 x 76).
- A. G. Forster (two-cylinder N.L.G., 80 x 94).
- J. Forster (two-cylinder N.L.G., 80 x 94).
- H. G. Partridge (two-cylinder N.S.U., 75 x 90).
- A. Brunton (two-cylinder Rex, 76 x 80).
- P. V. Wallis (one-cylinder Cocks, 85 x 80).
- W. H. Wells (two-cylinder Indian, 71 1/2 x 89).
- W. H. Wells (two-cylinder Indian, 71 1/2 x 89).
- G. Schink (two-cylinder N.S.U., 80 x 99).
- R. T. Exshaw (one-cylinder Zenith Gradua, 85 x 85).
- F. A. McNab (one-cylinder Trump-J.A.P., 85 x 85).
- F. Toman (two-cylinder Laurin and Klement, 80 x 90).
- F. Arnott (two-cylinder Minerva, 82 x 85).
- H. H. Bowen (one-cylinder Bat, 85 x 85).
- W. Pollard (one-cylinder Quadrant, 81 x 88).
- H. V. Colver (two-cylinder Matchless, 85 x 85).
- C. R. Collier (two-cylinder Matchless, 85 x 65).
- H. A. Collier (two-cylinder Matchless, 85 x 85).
- E. B. Ware (two-cylinder King's Own, 82 x 86).
- H. Martin (two-cylinder Bat, 85 x 65).
- W. O. Bentley (one-cylinder Rex, 84 x 89).
- G. Aldington (two-cylinder Eland, 75 x 75).

AUTUMN MOTOR CYCLE HANDICAP. 4.55 p.m.

- W. H. Bashall (one-cylinder Zenith Gradua, 85 x 85).
- J. T. Bashall (one-cylinder Bat, 85 x 85).
- W. A. S. Rough (one-cylinder Triumph, 84 x 86).
- W. Chitty (one-cylinder J.A.P., 85 x 60).
- F. A. McNab (one-cylinder Trump-J.A.P., 85 x 85).
- A. G. Forster (one-cylinder N.L.G., 85 x 85).
- H. G. Partridge (one-cylinder N.S.U., 82 x 64).
- P. V. Wallis (one-cylinder Cocks, 85 x 80).
- W. W. Genn (one-cylinder Eland, 85 x 60).
- W. H. Wells (one-cylinder Indian, 82 1/2 x 89).
- G. Schink (two-cylinder N.S.U., 63 x 80).
- G. Schink (two-cylinder N.S.U., 52 x 74).
- R. T. Exshaw (one-cylinder Zenith Gradua, 85 x 85).
- H. H. Bowen (one-cylinder Bat, 85 x 85).
- W. Pollard (one-cylinder Quadrant, 81 x 88).
- H. V. Colver (one-cylinder Matchless, 85 x 85).
- H. Shanks, jun. (one-cylinder Chater Lea, 79 x 76).
- J. W. Draper (one-cylinder Minerva, 67 x 70).
- W. McMinnies (one-cylinder Triumph, 84 x 86).
- W. O. Bentley (one-cylinder Rex, 84 x 89).

Early this year we fitted a 26 by 2 1/4 in. R.O.M. cover to one of our 3 1/2 h.p. motor bicycles, and after it had been in use for 1,000 miles on the driving wheel it was transferred to the front wheel. In this position it has covered a further 1,700 miles, and even now there is not a stud missing.

The Tourist Trophy Race.

AN IMPRESSION.

By "IXION."

The Man.

JUST an ugly, dirty, oily, under-sized little rat of a man, nervously gripping the steering bar of an ugly, dirty, under-sized little motor cycle, all engine and tank? Ah, no!

A rare being, a human biped, slowly evolved by the selection of thousands of centuries, the king of his race. Physically, a compound of steel sinews and leather tissues; grey cerebral matter sucked from an age-long ancestry, stored with the lore of force and motion and matter; spiritually superb, compressed essence of infinite hope and infinite fear, the parents of infinite pluck. Full of the worst forebodings, seeing death and ruin waiting potentially at every corner as it leaps up to meet him and lightning-swift dashes past, only to yield to the next. Coward, trembling, full of dread; every nerve strung to the uttermost, seeing in imagination his red flesh stripped and torn, white bones protruding, shattered and jagged. Hero, daring, undaunted, laughing at death, challenging doom. Seventy miles an hour in the swoop down from Creg Willey! Let a slender spindle snap, delicate rubber part its fibres under the cruel strain, and he shall never know when or how or why he died; but never a flinch—nay, rather, his fingers creep cautiously to shift a lever without losing their catlike grip, that he may snatch fresh impulse from the unleashed spirits of speed. Pluck personified—the pluck that trembles to its very marrows, and yet faces that which it fears.

The Race.

Here are fear's spiritual forebodings translated into crude stone and steel and rubber. The coarse heave of the rude road destroys the imaginary poetry of motion. Every ridge and empty puddle hole catches his tiny, rigid, braced steed, and flings it violently to the next. Mazeppa's course was no such ride as this. The saddle jerks him upward and forward—the taut, stiff forks leap up vertically in front and cast him backward and downward—he cannot ease the shocks—there is nothing to do but cling, cling, cling for life itself. He sees his plump tyre flatten and squelch and roll, ready to hurl him to instant death or a cripple's lifelong doom—it flings the machine sidewise, twists it, sets up convulsive shudders through its length—cling, man, for life itself! Then comes the moment of curbing for Ballacrairie's cruel right angle, fenced in by hard, forbidding walls of stone—the treacherous tyre slings him bodily sidewise athwart the road—his steel wrists right the projectile he sits, and his thumping heart chokes breathing as he faces the long series of right and left-hand swerves through the twisting lanes to Glen Helen's foot. It is one perpetual S prolonged to infinity, in sickening succession of granite wall and solid earthen bank, first right, then left, swerve after swerve, skid after skid, giddy and appalling. Then the leap over the bridge, with a double twist to be executed

almost in mid-air—then more swerves and skids, and at last the appalling plunge up into the twisting rocking forest at Creg Willey's foot, shaving the bank and walls with never a foot to spare—will the wheel never come round?

The Excitement of Speed.

Another human projectile in front, blocking the very inch of road where he must pass if he is to pass alive, a second roaring a yard or two to the rear. Ah-h-h! The straight road again, the fierce soar to the summit, the leaping switchback across the plateau where each low ridge comes up swift as thought, swirls beneath, kicks the back wheel shoulder high, and is gone. Then the frenzied gathering of breath for the long swoop down to Kirk Michael, where the outraged air presses the cheeks flat and drives down the rising breath, where deep waters roar past the ears, and distant forests leap into view and pass ere seen. The grind and rattle of the brakes, the scent of hot fibre and rubber as they char against the rims, the slow jerk of the wrists as the machine is flung round the V, a brief stifled cheer, and hey! for another devil's dash into Peel, the intoxication of sheer speed sobered for one chilly second of awful, ice-cold fear, the front wheel shirks the double elbow two miles off. The roofs of Peel, the slow for the bends, the second of dreadful fascination to stop and stand, rather risk and rush, then on again, till at last there leaps up the green at St. John's, with its black walls and stationary humans, its second of raucous applause, and a lap is thrown behind.

The Procession of Roaring Projectiles.

On and on, passing man after man, till the procession of roaring projectiles grows thinner and streams out, till those who threaten danger are marked out, sighted, caught, passed, shoved away into oblivion behind, the exuberance of foreseen victory nerves him to wilder driving still. The petrol stoppage—the lead that felt so long is only a matter of seconds after all—on, on, on!

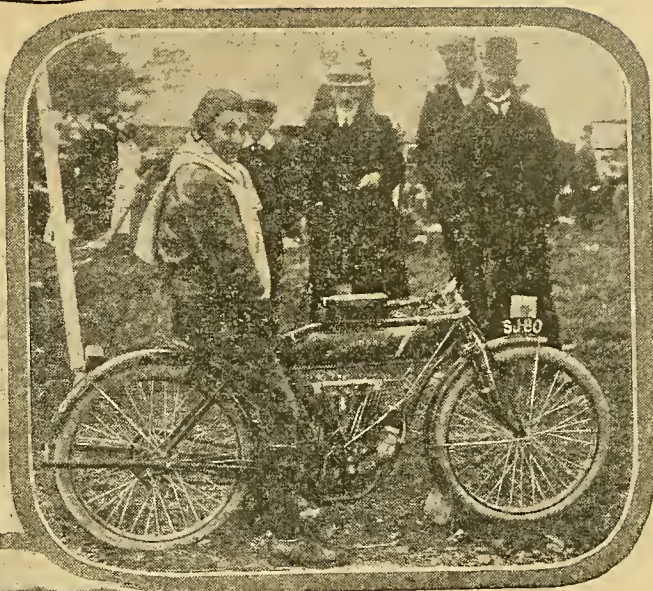
Lap after lap is covered, and cast away over his shoulder, over and over again the well-remembered perils leap up out of space in never-ending succession, lay their cold fingers on his heart-strings for a second and sink back into their lairs to wait his next appearance. The staunch engine grows a thought weary, and he with it. Valves of steel grow scarred and pitted, muscles cramp and ache, tissues soften and bruise, only the road remains unaltered, or do his weary faculties err when they credit the course with even harder lumpiness, ever sharper bends? Are not the malignant sprites who haunt the road busy behind him back as he flits round, digging new potholes in the twining fresh twists in the hedges, steepening the sudden grades? Oh the thirst to fling his tyrant steed

VICTORS

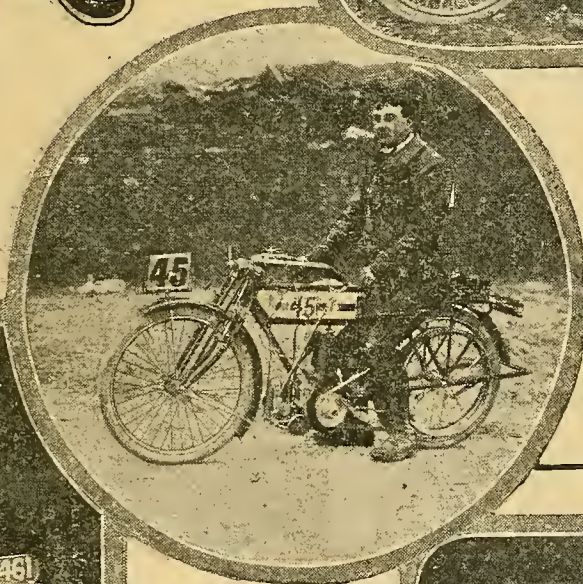
IN THE TOURIST TROPHY RACE



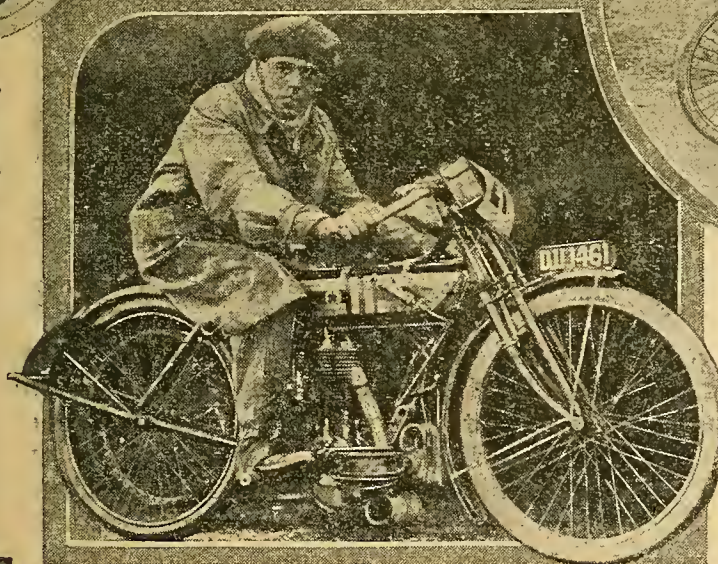
winner, H. A.
er (5 h.p.
hless - J a p).
3 hrs. 13
37½ secs.



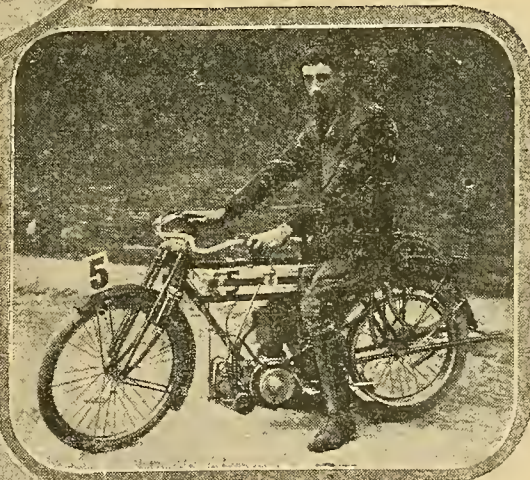
G. Lee Evans (5 h.p. Indian),
second. Time, 3 hrs. 17 mins.
35½ secs.



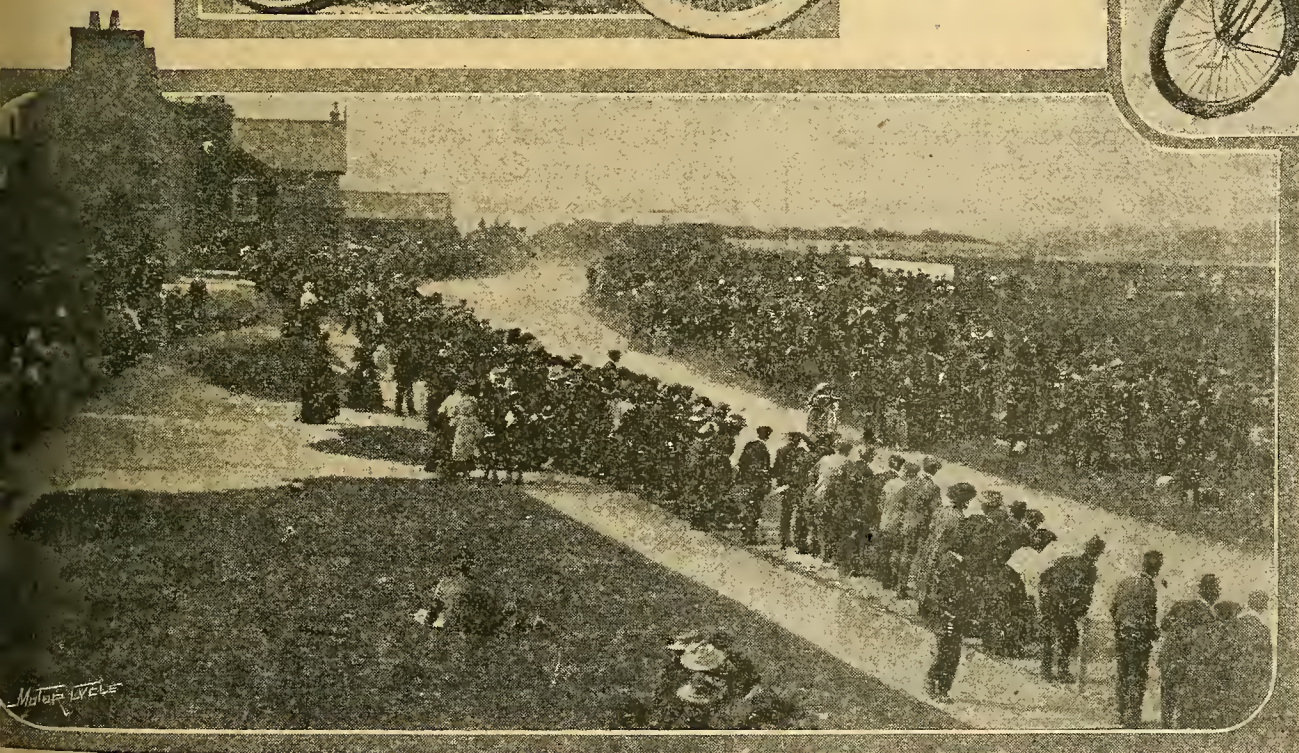
W. F. Newsome (3½ h.p.
Triumph), third in race,
and fastest single-cylinder.
Time, 3 hrs. 31 mins.
10 secs.



O. C. Godfrey
(3½ h.p. Rex),
fourth. Time,
3 hrs. 31 mins.
31½ secs.



C. B. Franklin (3½ h.p.
Triumph), fifth in the race,
and first private owner,
winning silver cup. Time,
3 hrs. 40 mins. 31½ secs.



St. John's, near Ballacraigne,
the starting and finishing
point. Several thousand spec-
tators congregated here.

The Tourist Trophy Race : An Impression.

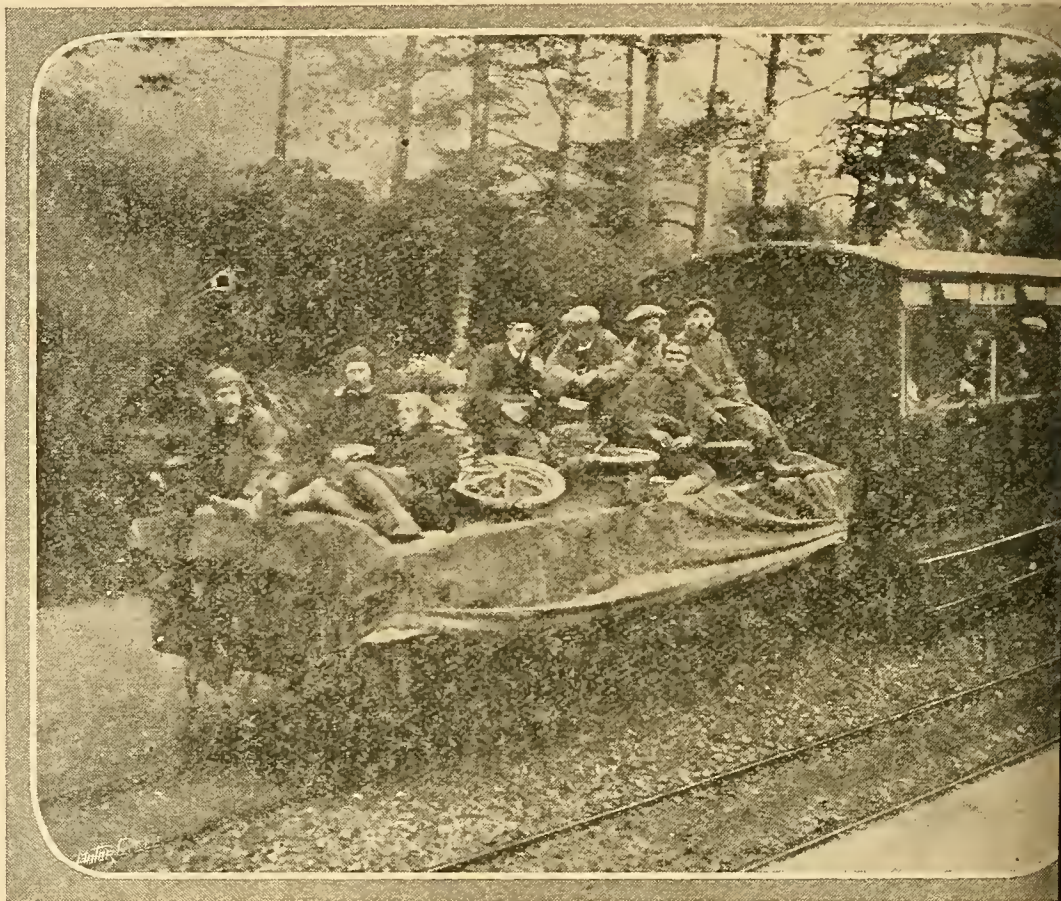
in some hedgebottom, to drain a tankard's depths, to lie plunged in the lush grass, and forget the race's ardours in the cool soft arms of sleep! With a wrench the indomitable will musters its weary powers to fresh mastery, more speed, and redoubled risks.

The Last Lap and Victory.

He loses count of the laps. He strives to mark the tiny digit on the dial of the watch strapped to his handle-bar, and forgets what it registered when he last left St. John's. Terror! Is he a lap behind that red-coloured racer which threatens to make his dreadful task in vain? Again Tynwald Hill swings up out of the distance. His trusty henchman signals the last lap, and victory if he can keep going for fifteen miles more. Fear is now cast to the winds, so far as the road goes. He tackles the bends and corners with a wild recklessness. The steed, too, is stimulated. Never was steering so simple, never did the front wheel cling so tight to its appointed course, never was the wrist so firm, the eye so true. But the machine! Slight quivers and rattles bespeak the fact that joints are working loose, parting asunder. The very tyres are scarred and worn, thinner and looser. The engine has lost a trifle of the fierceness of its bark—it is sounding muffled and tired to his anxious ears, though the pace still runs high. Creg Willey for the last time. A slower man baulking him on the widest sweep of the bend. With a roar and a rattle and held breath he cuts inside and is past. An ominous knock—what fear of over-oiling now? The pump piston rises and falls sharply—the knock is hushed—the engine roars anew, defying and triumphing over the gradient.

Now he haunches himself low in the saddle for the last dread swoop down to the V at Kirk Michael—

quicker than thought he is there, slowing, wrenching angrily, round, and on. Peel's roofs leap up out of the blurred horizon, cut themselves clear in his vision a second as he slows and swerves for the very last time. Then hell for leather into St. John's—will that gentle rise never come to tilt the wheel? Ah, here it is—the spire, the white gangway between the walls—black, the welcoming roar, the mark athwart the road, the yellow flag, the hands that madly clap!

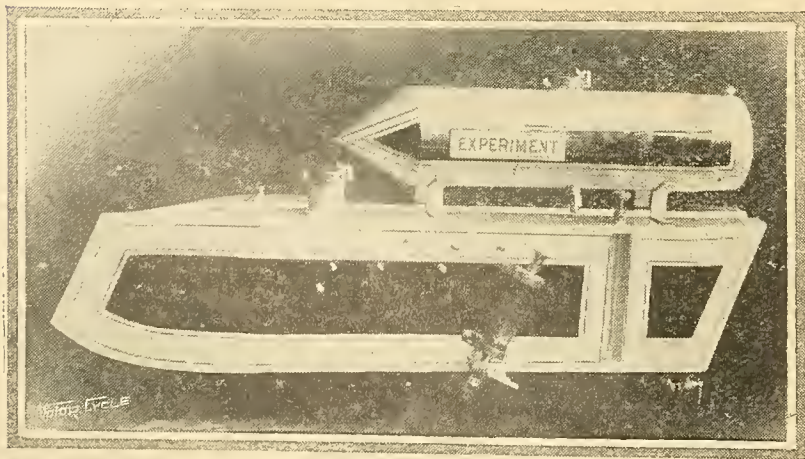


Returning to Douglas after the Tourist Trophy Race. The guard's van and carriages were so full that a number of competitors had to place their machines on an open truck and ride with them.

last the firm, masterful hands pin down the revolving wheels, they slow to rest, and, half smothered by the frantic crowd of friends, the victor drops his weight upon the road, and slakes his dusty throat. He ends the 1909 Tourist Trophy Race, won for the third time on a British-made machine.

A WELL-MADE PAIR OF TANKS.

THE tanks shown in the accompanying illustration were specially made to the design of Mr. F. V. Russell, chief of the locomotive department of the Great Eastern Railway, who is a



well-known motor cyclist and a popular member of the Essex Motor Club. Mr. Russell is, we understand, designing a motor bicycle for his own use, which will incorporate anything and everything to make it efficient and as perfect as possible in the eyes of the owner. Consequently he gave the order to build tanks to his specification to Mr. A. C. Davison, Pleasant Row, Camden Town.

The curves (which, unfortunately, the photograph does not very clearly show) were made accurately from a wooden model. Seventeen studs are carefully spaced out on the side of the larger tank for the attachment of various fittings. This tank is designed to hold petrol only, but the torpedo tank above is to hold oil, and in the illustration the union to the oil pump may be seen; there is also a gauge at the back to show the height of the oil. The petrol gauge, the hinged tank stoppers, which are Mr. Davison's specialities, are clearly visible.

With the A.C.L. Squad on Manoeuvres.

By H. A. Wildy.

The Auto Cycle Legion Squad, in the Directing Staff Camp at Faringdon.



From left to right—

F. G. Smith (3½ Triumph)
G. H. Pavey-Smith,,
J. R. Bedford,,
B. Pavey-Smith,,
R. Spender,,
H. Palmer (3½ Rex).
H. A. Wildy (4-cyl. F.N.)
J. E. Rees (3½ Midget Bicar.)

UNAUTHORISED persons are not allowed in the camp, sir," were the words addressed to me by the sentry on my arrival at the Directing Staff Camp at Faringdon. The difficulty was overcome by the production of a blue and white armlet, enabling the members of the squad to pass anywhere, and proclaiming their neutrality. The squad had orders to report at 4 p.m., or as soon after as possible, on September 18th. By that time half the squad had arrived, and I had previously drawn their gear—such as blankets and waterproof sheets—from the quartermaster. At 4 p.m. our work commenced; before midnight the whole squad had been put at different times with dispatches which all found their destination with ease and certainty, as also every other with which we were entrusted, although on one or two occasions the recipient had to be chased from one place to another. On these occasions the motor cycle showed up well, as it had an advantage over every other type of vehicle. Horses are slow, pedal cyclists only manage a moderate speed and get fatigued, cars get hopelessly blocked by artillery and transport on narrow roads. We could, therefore, make certain of overtaking our quarry no matter how he travelled, and could get a message through more quickly than by other means, except the telegraph and telephone.

Efficient Non-skids Desirable.

Our bugbear was the old difficulty of skidding. All but two of us had non-skid tyres in good or first-class condition, but on the thick buttery grease produced by transport and artillery, often two or three inches thick, they were only a little better than a smooth tyre. Fortunately, we were only seriously troubled on two days, but desperate efforts must be made before next year to find a detachable non-skid which can be put on in ten minutes. The ordinary non-skid treads wear down very soon, and leave a smooth tyre.

As regards my personal experiences, I found my four-cylinder F.N. splendid. Thanks to its steady drive and flexible engine I did not have a spill till encountering the Reading tramlines on my way home, although my Clincher non-skid was almost bald. On the other hand my back wheel often whizzed round in the mud and all but refused to drive me up a hill. I only felt the want of one thing—a two-speed gear and free engine clutch for jogging gently past troops

on a hill—but this would have to be dispensed with, if speed had to be sacrificed through the extra weight.

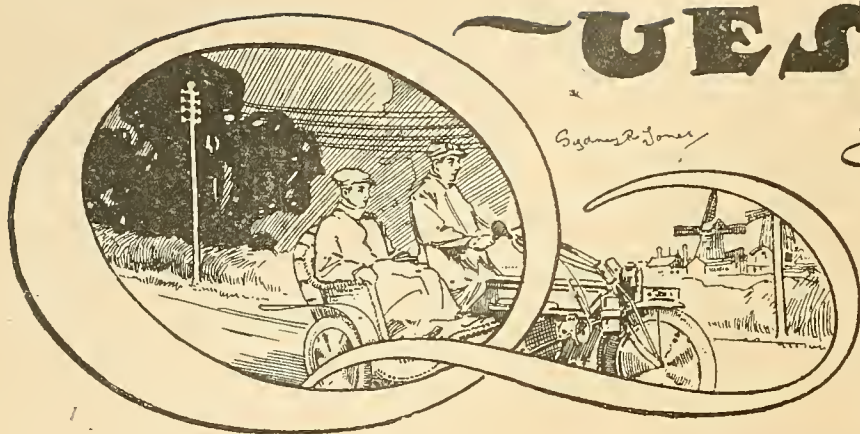
All the machines performed well, our only breakages being a fork spring on a Triumph and a control lever on the Rex. F. G. Smith had a bad side-slip through having to go into the gutter to avoid a cart.

I should here like to express my thanks to all the members for the loyal and good tempered way in which they worked under me. We were trying a new experiment which we found could only be successfully carried through by each man conscientiously doing his share. That we all parted excellent friends and with many words of approval from staff officers is, I hope, a sufficient proof that every man did his utmost. A word of special thanks is due to B. Pavey-Smith, who, although not a member, filled a breach during the absence of A. P. Howard (who is the only absentee in the above photograph) on staff duty.

The Experiences of the Squad.

Up to this point I have dealt largely with our difficulties, but it must not be supposed there were no compensations. Firstly, we enjoyed an absolutely new experience, which is good for every man's health and spirits. Secondly, we rode our machines for a definite purpose, and a good one to boot. Thirdly, we came across many of the men in the army whose names are household words, and some of us had interesting signatures in our books, showing the safe receipt of the dispatches with which we had been entrusted. Even roaring through the misty darkness was fraught with unexpected interest. Sometimes a sentry would leap out of the gutter into the beam of one's lamp with a lusty "Halt," and bar the way with his rifle at the ready, but as we were neutrals he always gave way at our cry of "Directing Staff." At other times one would find an outpost sitting round a blazing fire of logs with their billy tins steaming on the top, or discover a company snoring under the shelter of a hedge.

Riding as we were for the director of the manoeuvres, Sir John French, we got a very fair idea of the kind of work we might be expected to undertake whether attached to a cavalry force or to a General's staff. It is work that requires men of good education, pluck, and determination, and this will especially be the case when the pinch comes. But above all things it is necessary that we should have practice in peace time.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St. E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Gastight Joints.



Can you recommend me a method of making the joints of the valve caps and plug absolutely gastight? I have tried copper and asbestos washers, also asbestos string, but still the gas escapes at the joint.—S.E.A.

See that the surfaces of the joint are absolutely clean, smooth, and true, in which case a copper and asbestos washer will usually prevent leakage. If you are not able to make a gastight joint, try painting the surfaces with fish glue.

Are 5 h.p. Twins Too Powerful?



There is a question which rather puzzles me, and possibly many other novices like myself, on which it will be interesting to have your opinion. It is the oft-repeated complaint that, to some, 5 h.p. twins are "too powerful." I frequently see in your columns that a motor cyclist possessing a 5-6 h.p. twin is desirous of exchanging for lower power for the reason that it is "too powerful." Now as I am contemplating going in for a higher power than a 3½ h.p. it rather puzzles me to know what the disadvantage is. Is it vibration? Is it that the more powerful machine is more difficult to control, or what? I should rather like to know the general reasons for desiring the change. Could not the object be attained by blocking the induction pipe of one cylinder and running on the other, and so on alternately, thus giving the cylinders an opportunity of cooling in turn?—CORTESE.

The term "too powerful" is, we think, used in most cases by owners thinking it will attract buyers who have a craving for speed. Nervous or elderly riders may possibly find a 5 h.p. twin too powerful for them. A 5 h.p. twin in good going order is not difficult to control or manage, and if anything the vibration is reduced. There is not a great deal of difference in speed on the level or hills between first-class 3½ h.p. singles and 5 h.p. twins, and you will have no difficulty in managing one of the latter if you choose a good make. The weight is usually more than in the case of a 3½ h.p. single. Your suggestion to cut-out one cylinder alternately is impractical, the engine would not propel the machine for long on one cylinder owing to the extra work thrown upon it to compress the charge in the non-working cylinder.

Worn Engine Bearings. Tyres.



My 2¾ h.p. F.N. makes a slight mechanical knocking when wheeled with exhaust lifted. It never knocks when running, even up hill. I suppose this means that the bushes are worn, or rather (as there are no bushes on connecting rod) the connecting rod itself. Indeed, I know they are worn, for I tested them and found vertical play on both big and little ends. My idea is to ride on till the play affects the running. (1.) Will this harm the engine? (2.) Will bad running develop suddenly? that is, would it be safe to start a long tour in present condition? (3.) I have had a lot of trouble with tyre covers going at the bead. Is there any way to prolong the life of a cover which has just started to crack at the beading?—J.R.

(1.) It will not hurt to use the engine with the bearings worn for a short time. (2.) When the noise begins to make itself noticeable when running



Last year's winners in the T.T. race: J. Marshall (3½ h.p. Triumph) and H. Reed (5 h.p. Dot-Peugeot). Both were unlucky this year, for Reed was forced to retire in the third round, whilst Marshall had worked into second place, but a mishap to his machine in the eighth round put him out of the running.

on the road it will be time to send the engine back to the makers to have the bearings attended to. (3.) There is no way to prolong the life of a cover which has begun to crack at the beading. It would, however, be advisable before going further to make sure that your

rims are of the correct section for the make of tyre you select. Inflate the tyre until no depression is noticeable with the bicycle resting on the ground.

Overheating. A Motor Cycle for Queensland.



(1. I have a 2 h.p. single cylinder motor cycle, geared 8 to 1, which has always been inclined to overheat. I have had the machine overhauled several times, but without much improvement. Do you think this is due to the low gear? (2.) I should be much obliged for some advice as to the selection of a new mount. I will not attempt to describe the road here, but will simply state that the machines have often to be pushed through sand or mud, and carried over creeks, even occasionally pushed up steep hills, where the road surface is too thickly strewn with stones to admit of riding the machine at any speed. Under these conditions lightness (under 90 lbs.) is the most important consideration. Low speed and strength are also very necessary—a very difficult combination. Do you think that a gear drive would stand the road shocks as well as a belt?—SURVEYOR, Queensland.

(1.) The gear is very low, and if the carburetter is adjusted at all on the rich side the engine would quickly overheat. It should not overheat provided you can give plenty of air and throttle down to a minimum. In all probability the reason it overheats is because there is more gas being supplied to the engine than it requires for the work it has to do, and instead of this heat being dissipated in the form of work, it tends to heat the cylinder walls and burn the lubricating oil. If you try a first-class brand of oil and also a smaller jet you will find the trouble ought to disappear. (2.) One of the lightweights would suit you admirably. If you will send us a numbered list we will place the machines in order of merit. A gear drive will stand the road shocks quite as well as a belt if properly designed, but the shock of the explosions to the rider and mechanism is greater with a single-cylinder engine unless there is a good spring clutch between engine and road wheel.

In replying to "C. W." a fortnight ago, we gave an old address of Messrs. Richford and Co., who sell a special valve-grinding compound. Their present address is 153, Fleet Street, E.C.

Time to
light lamps

Special Features

October 6	6.27
„ 9	6.20
„ 13	6.11

CURRENT
CHAT

THE VALUE OF THE T.T. RACE.

A TRIP TO THE ISLE OF MAN, by B. H. Davies.

WITH THE A.C.U. SQUAD ON MANŒUVRES.

TOURIST TROPHY ILLUSTRATIONS.

The B.M.C.R.C. Meeting.

Owing to the inclement weather last Wednesday the British Motor Cycle Club's race meeting, which was to have been held at Brooklands, was postponed. The events may be included in the meeting on Saturday.

To-day's Meeting at Brooklands.

There are twenty-five entries for to-day's October motor cycle handicap at Brooklands and twenty for the Autumn Handicap. Details are given on page 751.

From Motor Cycle to Aeroplane.

Two air-cooled twin-cylinder 20 h.p. J.A.P. engines, fitted tandemwise and driving one propeller, are a feature of a light monoplane, somewhat after the lines of the Blériot, which is being constructed at Bromley, Kent. The designer is a well-known racing motor cyclist.

Sensible Road Widening.

Acting on the recommendation of local motorists, the Bromley Urban District Council are effecting road widening improvements at the dangerous bend entering Bromley, on the Lee to Bromley and Chislehurst road. The corner and the approach both ways for fifty yards are being widened twice the original width, and trees, a fence, and hedge removed.

A Good Ride.

For a motor cyclist in possession of all his faculties a ride from Norwich to London and back (225 miles) in one day on a modern machine is no great task, but for a rider who is both deaf and dumb to accomplish this performance on an old-pattern $1\frac{3}{4}$ h.p. machine is a real feat. The motor cyclist in question is an inhabitant of Norwich, and uses his machine daily to travel from his home to his place of business, a distance of thirty miles.

Snaefell.

When the Snaefell Hill-climb was first mooted many were the critics who declared that the six miles ascent would overheat any air-cooled engine, while the "Hairpin" bend at Ramsey and the "Gooseneck" higher up the hill were predicted as effectual stumbling blocks to single-gear motor bicycles. However, as events proved, C. R. Collier swept up the gradient as though it were non-existent, his average speed being 44.8 miles per hour. Two Triumph riders were also noticed climbing Snaefell each with a passenger on the carrier. It was only found necessary to slip the clutches on the two hairpin bends.

Six Days' Motor Cycle Race.

There is much talk in America about a six days' motor cycle race at the Brighton Beach (N.Y.) track, but promises of entries seem to be as far as the organisers can get.

Another Success for H. A. Collier.

Still more honours are due to H. A. Collier, for he has now been declared winner of J. W. G. Brooker's special prize for running most consistently throughout the T.T. Race.

Rochdale Motor Cyclists to Congregate.

Motor cyclists in Rochdale and the surrounding districts are requested to attend a meeting which will be held at the Wardleworth Liberal Club, The Butts, at 8.30 this evening (Wednesday), with the object of forming a motor cycle club for Rochdale and district.

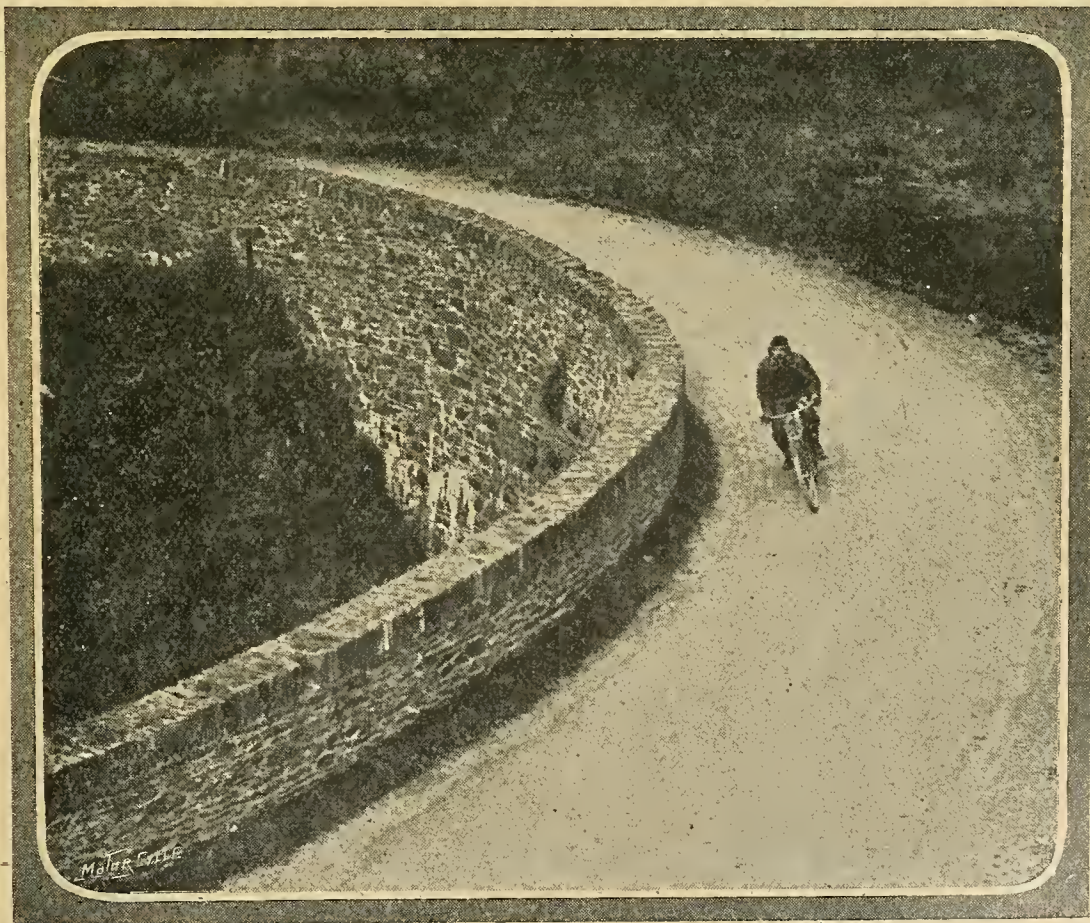
Great Care Required at London-Colney.

Whilst riding through London-Colney on the 27th ult., Mr. J. Wadham had the misfortune to run over and kill a beagle puppy. Being a considerate rider he immediately pulled up, and

after ascertaining to whom the dog belonged, offered his apologies and left his address. He has since received a most courteously worded letter from Mr. Ronald Mavor, Master of the Bushey Heath Beagles, thanking him for the courteous manner in which he behaved, and acknowledging that the fault did not lie with the motor cyclist. It may be as well to point out that all motorists should exercise care when driving through this district, as frequently twenty or thirty puppies are exercised in this neighbourhood.

A.C.U. Quarterly Trials.

The A.C.U. fourth quarterly trial of 1909 will take place on Saturday week, October 16th, over the usual 125 miles course—Uxbridge to Banbury and back. Additional interest will be taken in this trial, as the competition for the special prize, which will be awarded to the entrant of the machine which accomplishes the best aggregate performance during 1909, is very keen. Entries close Saturday next, October 9th, and should be sent direct to Mr. F. Straight, secretary Auto Cycle Union, 18, Down Street, Piccadilly, W.



The Devil's Elbow, included in the Tourist Trophy Race course. This particularly awkward bend occurs between Kirk Michael and Peel.

Winter Riding.

The issue of October 20th will contain specially-illustrated articles on winter riding.

Police Traps.

A police trap has been in active operation in the villages of Shere and Gomshall, Surrey, where there are ten mile speed limits.

M.C.C. Race Meeting and Gymkhana.

At the M.C.C. Brooklands race meeting and gymkhana at least one sporting match between members of the club has been arranged in addition to the advertised programme. Mrs. Charles Jarrott has kindly consented to hand the prizes to the winners. The entries up to last week-end already formed a satisfactory total.

M.C.C. Brooklands Gymkhana.

We have been asked to mention that tricar are eligible for the gymkhana events at the M.C.C. Brooklands meeting on the 16th inst. Readers can obtain an admission ticket to the track if *The Motor Cycle* is mentioned when applying. A good number of entries have been received, and the list finally closes on Saturday next.

Heavy Fine for a Trivial Offence.

A motor cyclist has been fined £5 and 5s. 6d. costs for exceeding the speed limit over a furlong trap in the Croydon ten mile limit. Such unfair treatment has already been commented upon sufficiently, and we think the only thing that motor cyclists can now do is to avoid Croydon altogether. This can be done, as an intelligent study of a local map will show.

Amulree Hill-climb on Saturday.

For the hill-climbing competition at Amulree on Saturday, the 9th inst., organised by the Edinburgh Motor Cycling Club, eighty entries were expected. Half that number of entries were in the hands of the club's assistant secretary, Mr. P. E. Tolfree, on Saturday last. The organising club regrets the scarcity of English trade entries. On Saturday there were but three in the total list—two Scotts to be ridden by Messrs. A. A. Scott and Eric Myers, and a Zenith to be ridden by R. T. Exshaw. The other entries are composed of riders of sixteen different makes of machines.

The Clashing of Competition Dates.

Regarding the paragraph on page 726 last week, Mr. Fry writes: "In fixing the date of our gymkhana event the Motor Cycling Club was compelled to take the earliest possible available date upon which it could hire the Brooklands Track, and it was pure inadvertence that the two events—our gymkhana and the Quarterly Trials—happened on the same day, October 16th. I would like to point out that the principal object of the M.C.C. committee was to provide 'a day out' for their private members, and as the Quarterly Trials are largely of 'trade interest,' ourselves and the A.C.U. are appealing to quite different classes. I am sure I am right in saying that we hope our fixture will not do the Quarterly Trials a halfpenny-worth of harm, whilst on the other hand I know of several entries lost to the M.C.C. event on account of members' preference for the A.C.U. fixture."

Speed Limit Inquiries at Warwick and Coventry.

On the 30th ult., at Warwick, the Local Government Board Inspector, Mr. F. J. Willis, barrister-at-law, held an inquiry into the application of the Warwick Town Council for a ten miles speed limit in practically all the main streets. Mr. G. Dean, solicitor, represented the R.A.C., M.U., and Coventry and Warwickshire M.C. In cross-examining the witnesses for the application, he observed that many of the roads to

motor cars in Warwick as compared with other towns, and said he did not consider there was any danger or difficulty in driving a motor car in Warwick. He compared the narrow and tortuous streets of Coventry with Warwick, and pointed out that in Coventry there were no speed limits, and practically no accidents occurred. He also referred to the informal four mile speed limit signs in Warwick, and pointed out that they defeated their own object. If proper warning triangles had been erected, motorists would have recognised them, but they could not be expected to obey signs which warned them to travel at a slower speed than horse traffic or fast walkers. Others who spoke against the suggested limit were Mr. J. Broughton Dugdale, and Messrs. A. Edwards and A. E. Gibbs of Leamington. We understand from an unofficial source that it is probable that a ten miles limit will be imposed from the junction of the Coventry and Leamington Roads to Westgate, which adjoins the Leicester Hospital.

An inquiry by the same L.G.B. Inspector was held in Coventry last week respecting the application of the Coventry Council to close Love Lane, Radford Road, to motor traffic. The recommendation of the inspector has not yet been issued, but it is believed that the application will be refused.

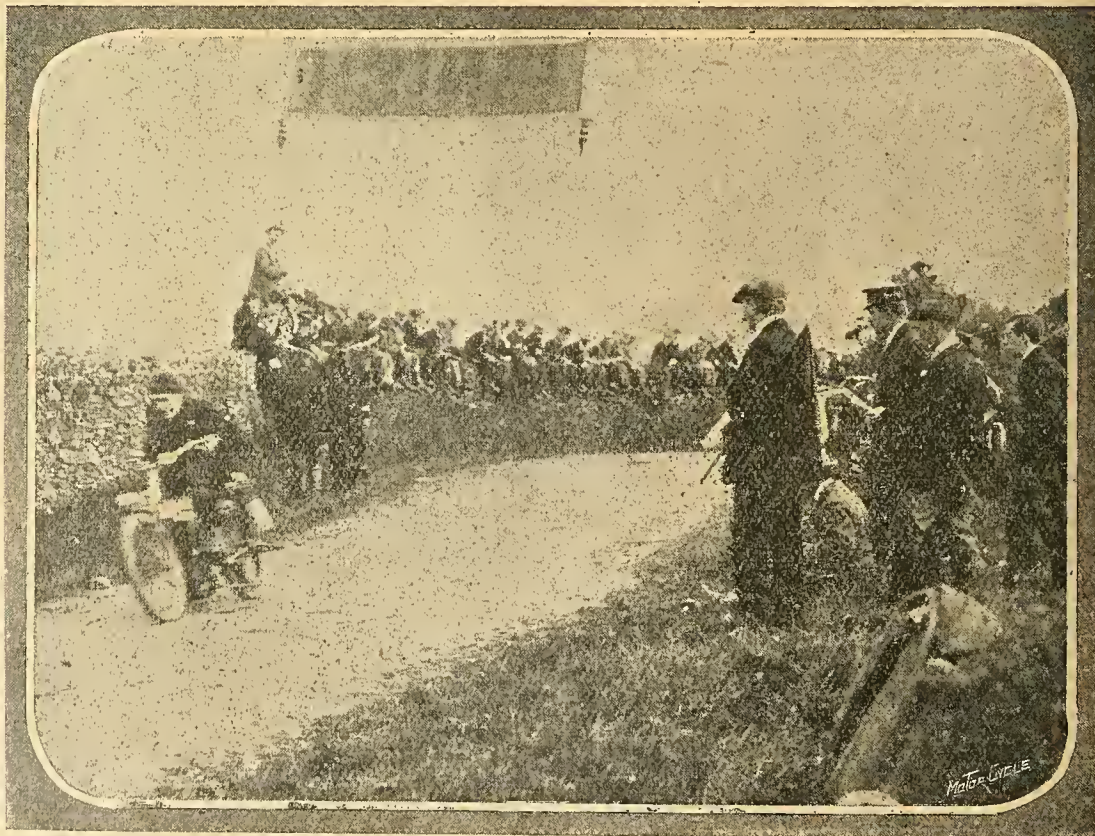
Is Brighton's Popularity on the Wane?

The number of fines which have been inflicted on all classes of motorists while driving on the Brighton Road seems to have had a considerable effect on the popularity of Brighton as a motorist's rendezvous. A correspondent writes that he was in Brighton last week, and although it was an exceptionally fine day, he was greatly struck by the scarcity of both cars and motor cycles in and about the town.

FUTURE EVENTS.

- Oct. 6—Race Meeting at Brooklands (two events for motor cycles).
 „ 9—Two Hours' Record Race at Brooklands, organised by the British M.C.R.C.
 „ 9—Edinburgh Motor Cycling Club Open Hill-climb on Amulree.
 „ 16—A.C.U. Fourth Quarterly Trial of 1909, Uxbridge to Banbury and back.
 „ 16—M.C.C. Private Race Meeting and Gymkhana on Brooklands track.
 „ 23—M.C.C. Closing Run to Brighton.
 Nov. 12-20—Olympia Motor Exhibition.
 „ 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, Islington, N.

which the council wished to apply the limit were quite safe, and that the application covered many spots where a reduced limit was quite unnecessary. Mr. Dean particularly mentioned the timing of trams and other vehicular traffic, referred to in *The Autocar* of February 6th, and asked the Mayor if he considered a speed of ten miles an hour dangerous for trams. Mr. E. W. Walford, hon. sec. of the Coventry and Warwickshire M.C., gave evidence detailing his experience of driving



The finishing point in the Crogga Hill-climb, showing a rider of a 3½ h.p. Bradbury crossing the tape. Mr. J. K. Starley, one of the chief marshals, is holding the flag.

ANNUAL OPEN HILL-CLIMB AT BARNESLEY.

THE Barnesley Motor Cycle Club's annual hill-climb took place on Thursday last, the 30th ult., on Stainborough Lowe. This hill is regarded locally as a stiff rise, combining as does 100 yards of 1 in 6, 330 yards of 1 in 7, and 3 yards of 1 in 9. The total length is 1,085 yards. The sky was bright, but, considering that most of the road surface was in a very greasy state, the times accomplished were good. The chief award, the Littlewood challenge trophy, finds a fresh holder in Jack Scriven, who climbed the hill in fine style; time, 59s. Last year's winner, J. Marshall, had to be content with fourth place this year. Eight riders had entered for the trophy, and of these only five started. The regulations make no restrictions whatever. The owner of the highest powered motor bicycle is encouraged to go to Barnesley



The Littlewood Challenge Trophy, presented by Henry Littlewood to the Barnesley M.C.C. annual competition.

and make fastest time, and he can then carry off the silver trophy for a period of twelve months. This accounts in a measure for the lack of entries.

In the class for touring machines R. T. Exshaw heads the list on formula, T. Dunk making fastest time. It will be noticed that Dunk, mounted on a full touring machine, was but $4\frac{2}{5}$ s. slower than Scriven, who rode a special machine of the same make, weighing but 135 lbs. The detailed results are given hereunder.

RACING CLASS.—For Tourist Trophy, Speed King, and other special models, and any other machines of any weight or capacity—single or multi-cylinders. Winner of Littlewood Trophy fastest time; second, gold medal.

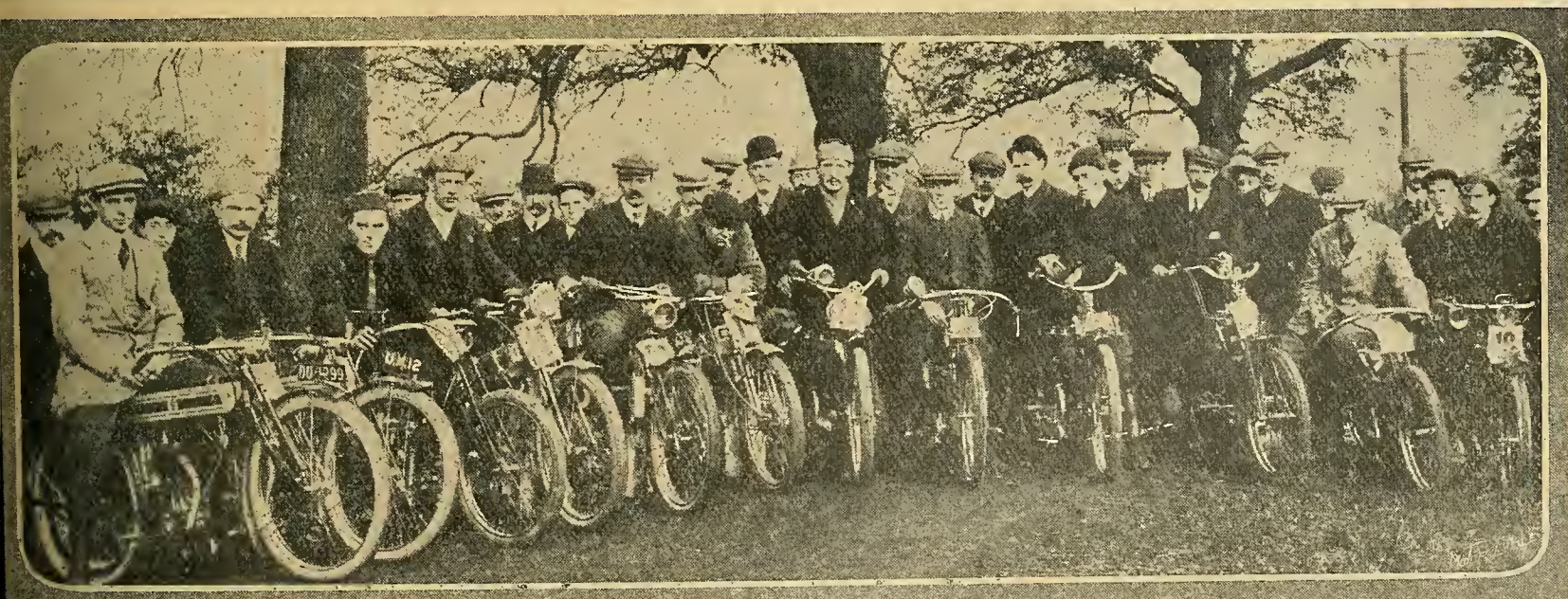
	Time in secs in excess of X
1. Jack Scriven (5 h.p. twin Rex) ...	X
2. F. C. Bagshaw (5 h.p. twin Rex) ...	3
3. P. H. Cockroft ($3\frac{1}{2}$ h.p. Triumph) ..	$4\frac{3}{5}$
4. J. Marshall ($3\frac{1}{2}$ h.p. Triumph) ...	$5\frac{3}{5}$
5. Clifford Wilson ($3\frac{1}{2}$ h.p. Rex) ...	$31\frac{2}{5}$

TOURING CLASS.—For machines of any weight or capacity, in full touring trim, conforming to the special regulations, and passing the scrutineers. For lightweights, single and multi-cylinders. Winner—first on A.C.U. formula, gold medal; fastest time, gold medal.

	Figure	Time in of secs in excess of X
1. R. T. Exshaw ($3\frac{1}{2}$ h.p. Zenith-Gradua) ...	86.95	$12\frac{4}{5}$
2. T. W. B. Durant ($3\frac{1}{2}$ h.p. Durant-J.A.P.)...	92.00	$8\frac{2}{5}$
3. J. Eastwood ($3\frac{1}{2}$ h.p. Bradbury) ...	101.62	$9\frac{2}{5}$
4. F. W. Barnes ($3\frac{1}{2}$ h.p. Zenith-Gradua) ...	104.78	21
5. P. Platt ($3\frac{1}{2}$ h.p. Bradbury) ...	106.28	$14\frac{4}{5}$
6. P. H. Cockroft ($3\frac{1}{2}$ h.p. Triumph) ...	117.00	$22\frac{3}{5}$
7. J. Morris ($3\frac{1}{2}$ h.p. Bradbury) ...	135.94	$30\frac{3}{5}$
*8. T. Dunk (5 h.p. twin Rex) ...	146.12	$4\frac{2}{5}$
9. F. Greenwood (5 h.p. twin Rex) ...	168.00	$23\frac{2}{5}$

*Fastest time in Class 2.

J. Haslam officiated as starter. The hon. sec. of the meeting was Friend Scorch.



Competitors in the Barnesley Motor Cycle Club's Open Hill-climb at Stainborough Lowe on Thursday of last week.

The Hartford Rough Rider grips are a pair of diarubber handles about 8in. long. Half the grip is on the end of the handle-bar in the usual manner, whilst the other half is allowed to extend, and acts as a spring or elastic connection between the rider's

hand and the steel bar. These grips were first introduced in America, where they are very popular. English riders can now obtain them from Brown Bros., Great Eastern Street, E.C. These special grips are not suitable for use with inverted brake levers.

CLUB NEWS.

Nottingham and District M.C.C.

This club regrets to record the death of its much esteemed hon. timekeeper, Charles Perry.

Southern M.C.

A hill-climb, held on the 26th ult., at Tilburstow Hill, near Godstone, resulted as follows: 1, T. E. Goodley (3½ h.p. Triumph), A.C.U. formula, figure of merit 97.572; 2, E. K. Davis (5 h.p. Auto), 99.456; 3, P. H. Windsor (3½ h.p. Minerva), 105.494. There were eleven competitors.

North-west London M.C.C.

This club intends holding a gymkhana at Aldenham, near Elstree, on Saturday next, the 9th inst. Four items are down on the programme—potato race, plug-changing competition, balloon race, and egg and spoon race.

Walthamstow M.C.

On Saturday last the above club held a paperchase, which was well supported. The trail was laid by the hon. secretary, J. W. Percival (who gave the prizes), assisted by G. Humphries and S. West. The course was twenty-three miles, and finished near Abridge. Result: 1st, C. W. Lee (3½ h.p. Rex), prize a case of fish knives; 2nd, A. A. Blanks (3½ h.p. Rex), prize a case of fruit knives. On October 16th a non-stop run to Clacton will be held.

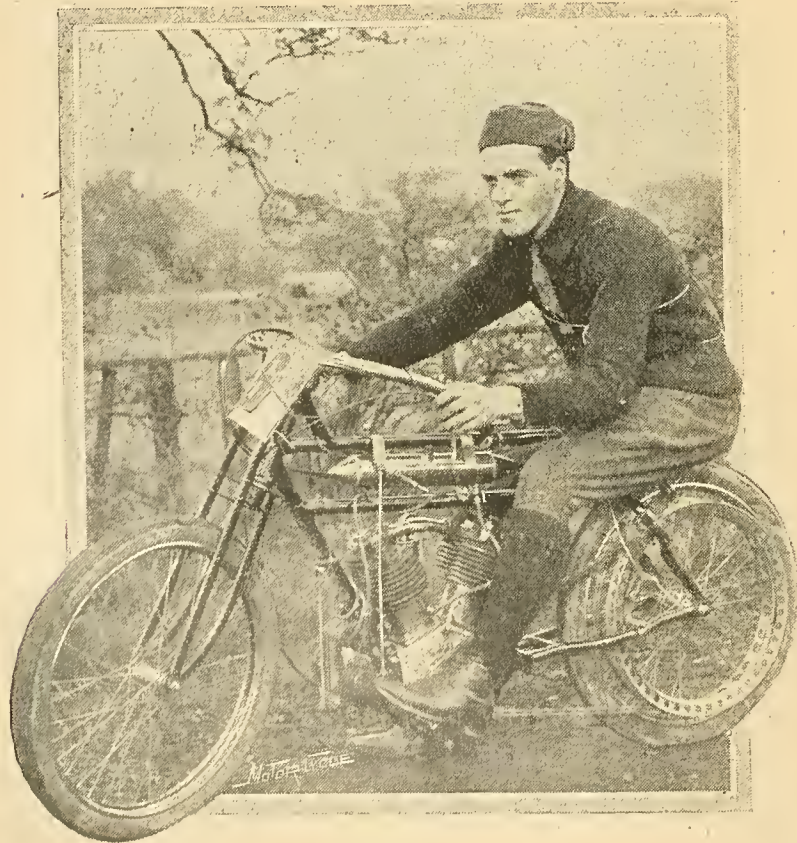
Coventry and Warwickshire M.C.

The closing run, in conjunction with a speed-judging competition, took place on Saturday last. A pilot car driven by E. W. Walford (hon. sec.), and with V. A. Holroyd on board, left the starting point at 2.30, and a paper trail was laid among the innumerable bylanes in the neighbourhood of Coventry and Warwick. Competitors had to dismount to open gates, and cross footbridges over water splashes. Sometimes the lanes were merely cart tracks with mud inches deep. Some tough hills were included in the course. At the finish, just outside Warwick, the distance indicator on the car registered twenty-two miles. Competitors had drawn for the speeds at which they were to travel, and those who adhered nearest to the speed stipulated were:

1. Geoffrey Smith (3½ h.p. Triumph) 3m. 25s. error.
2. A. B. Jepson (3½ h.p. Triumph) 3m. 41s. „
3. J. Beddell (3½ h.p. Triumph) ... 4m. 35s. „

There were twelve competitors in the motor cycle class. In the car class, the winner (Mr. J. K. Starley) was 4m. 17s. out in his reckoning.

Competitors afterwards, repaired to the Bath Hotel, Leamington Spa, for tea.



Jack Scriven (5 h.p. Twin Rex), one of Yorkshire's most successful riders. He is the present holder of the Littlewood Challenge Trophy (see previous page).

Hull and East Riding A.C.C.

A petrol consumption trial was held on Saturday, 2nd inst. from Hull to Driffield and back (thirty-six miles). The competitors were Mrs. Thomlinson, and Messrs. Mumby, Pearson, Raynor, Mallison, Johnstone, Akester, Halford, and Marver. The riders were started from Newland by the club's president, Dr. W. H. Coates. This is the first petrol consumption trial ever held by the club, and the prizes were



At the starting point of the Hull and East Riding M.C.C. Petrol Consumption Trial. Dr. W. H. Coates despatching the competitors.

given by the proprietors of Pratt's Spirit. Owing to the formula not being yet worked out the result cannot be announced till next week. Next Sunday (October 10th) an inter-club meet will be held at Driffield. The Scarborough and Pocklington clubs have promised their attendance. Dinner at the Keys Hotel at 1.30 to 2 o'clock.

Western District M.C. (London).

It has now been decided to hold the petrol consumption test (postponed from the 11th ult.) on the 17th inst. Members are asked to be at the Bull Hotel, Gerrard's Cross, not later than 10.30 a.m. The usual sporting circuit of Beaconsfield and Slough, a distance of seventeen miles, has been chosen, and competitors will be required to cover the distance once. Two classes will be arranged—Class I. for single cylinder machines, and Class II. for multi-cylinder machines. Results will be decided on the following formula:

Total weight of machine and rider

Amount of petrol consumed.

Entrance fee, 2s. 6d.

The run on Sunday is to Marlow, meeting at headquarters at ten o'clock.

Essex M.C.

The following have been awarded medals for having successfully accomplished the 200 miles ride for the club standard medal: A. Brassington, W. Cooper, G. Lee Evans, W. Pratt, G. E. Revill, and W. H. Wells. G. Fletcher and B. A. H. failed in consequence of their being too early on one section.

Members are reminded that a petrol consumption competition will be held on the 17th inst., over a circular course starting from the Blue Boar, Abridge.

Birmingham M.C.C.

The club held its opening smoking concert of the winter session on the 29th ult. Thirty members and friends were present, and a very enjoyable evening was spent. Messrs. Norton and Perryman gave short accounts of their experiences in the Tourist Trophy Race, and several members contributed to the evening's enjoyment with songs, while the captain gave several excellent gramophone selections. It was unanimously decided to hold more of these smoking parties during the winter season—at least once every six weeks, if possible—and short papers will be read by the members.

On Saturday next, the 9th inst., the flexibility hill-climb is to be held on Weatheroak Hill at 3.30 p.m. This year there will be a separate class for twins, otherwise the rules will be exactly the same as last year.

Club News.—

Hertfordshire County A.C.

A members' hill-climb was held on the 25th ult. In the motor bicycle class the result was :

Rider and machine.	Handicap placing.	Time.
G. S. Carter (3½ h.p. Triumph) ...	1 ...	X + 24½s.
E. A. Colliver (3½ h.p. Triumph) ...	2 ...	X
C. Maurice Down (3½ h.p. Triumph) ...	3 ...	X + 7½s.
T. G. Baxenden (4 h.p. N.S.U.) ...	4 ...	X + 12½s.
J. Seyfried (3½ h.p. Triumph) ...	5 ...	X + 20½s.

X denotes fastest time.

Sheffield and Hallamshire M.C.C.

The club's hill-climb in which machines were divided into five classes was run off on Mam Tor, Castleton, on the 18th September. The hill, which is very severe, is threequarters of a mile long and has three bad corners. The results were :

Class I.—1, J. Haslam (2½ h.p. J.A.P.); 2, E. Bourne (2½ h.p. J.A.P.).

Class II.—1, S. Sawyer (3 h.p. Kelecom); 2, J. Haslam (2½ h.p. J.A.P.).

Class III.—1, E. Dover (3½ h.p. Triumph); 2, T. Durant (3½ h.p. J.A.P.); 3, F. Dover (3½ h.p. Triumph).

Class V.—1, A. H. Bisby (7-8 h.p. Minerva); 2, L. E. Davidson (5 h.p. Antoine).

Class VII (for twin-passenger machines).—1, L. E. Davidson (5 h.p. Twin Antoine); 2, J. Oliver (5 h.p. Twin Peugeot).

For Triumph Medal on Formula.—1, J. Haslam (2½ h.p. J.A.P.); 2, T. Durant (3½ h.p. J.A.P.); 3, S. Sawyer (3 h.p. Kelecom).

The final for the club's shield offered in the reliability trial from Sheffield to Holyhead and back takes place tomorrow (Thursday), between T. Dunstan (3½ h.p. Rex) and J. Haslam (2½ h.p. J.A.P.). The course is circular, starting from the Peacock, Owl Bar, at 2 p.m.

Sutton Coldfield A.C.

The annual reliability trial of the above club for the Sutton challenge cup and other prizes took place on the 25th ult. The event proved a great success. A start was made from headquarters shortly after 2.30, and competitors had to cover each of the five circuits of twenty-two miles in 1h. 10m. The last two circuits following the tea interval had to be covered in the dark, which helped to make the trial more severe. Several heavy downpours of rain were encountered, making the course very treacherous in parts, and several competitors had to retire owing to side-slips. The results are :

1, L. Barnett (3½ h.p. Triumph), silver challenge cup and gold medal; 2, S. Jones (2¾ h.p. Ivy), Triumph gold medal; 3, N. Crozier (3½ h.p. Triumph), silver medal; 4, F. Mayell (3½ h.p. Triumph), bronze medal; 5, J. St. John (3½ h.p. Triumph), ex-valve cotter lost second circuit; 6, Howard Smith (3½ h.p. Triumph), ran out of petrol two miles from finish and filled up with paraffin; 7, T. E. Guest (3½ h.p. Ivy), lamp trouble, fourth circuit; 8, Seymour Smith (Twin

Norton), retired third circuit, side-slip; 9, H. S. Newman (2¾ h.p. Ivy), retired second circuit, side-slip; 10, G. T. Walker (2¾ h.p. Ariel), retired first circuit.

Motor Cycling Club.

Entries for the race meeting and gymkhana to be held on the Brooklands Track on Saturday, the 16th inst., are flowing in well. Entries at ordinary fees closed on Monday last, but will be accepted at double fees up to Saturday next, the 9th inst. Six events for motor cycles have been included, and four events for cars. The general regulations are as follow :

Competitors will be timed on a preliminary run of one lap of the track from a flying start, and the handicap will be framed for all events on this performance. Competitors improving more than five per cent. on their preliminary run will be ineligible for a prize.

The use of watches or speedometers will not be permitted. If carried on the machine or car the dials must be effectually covered.

Starters will not be allowed.

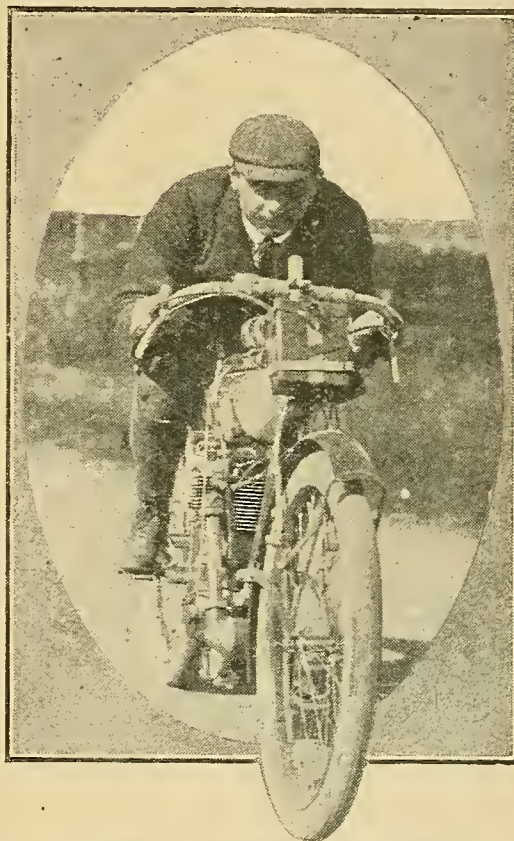
The machines in Classes 1 and 2 must be ordinary touring mounts in every respect, and such as are in everyday use, and to the satisfaction of the judges.

For the purpose of this meeting the meaning of the word "novice" is one who has never taken part in any race on Brooklands Track.

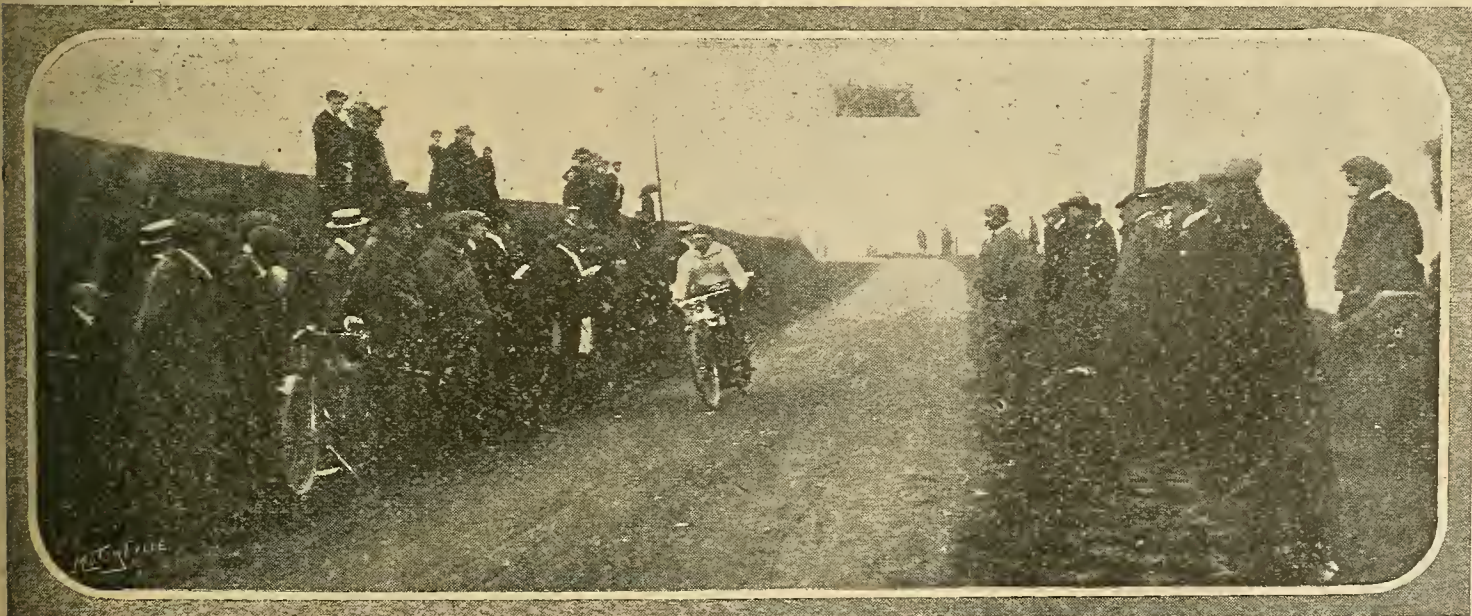
Competitors may only drive one motor cycle and one car throughout the day.

Competitors must be at the starting point in ample time for each event. All machines entered in Events 1, 2, 3, and 4 must be on the track at 11 a.m. ready to make the preliminary run for handicap purposes.

Racing will begin at 12 o'clock noon; the track will be open to competitors at 10 a.m.



J. Giuppone, who finished twelfth in the T.T. race, his average speed being 39.89 miles per hour. He rode a 3½ h.p. Peugeot entered by J. Taylor of Birmingham. Three days later, at the Paris Velodrome, Giuppone won the first round in a five kilometre voiturette race, and was second in the general classification.



Hugh Gibson (3½ h.p. Triumph) finishing the six miles climb from Ramsey to the foot of Snaefell. He was the winner of the private owners' class. Time 9 min. 53½ secs.

International Auto Cycle Tourist Trophy Race, 1909.

Lap Times of those who Completed the Course.

	Rider.	Machine.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.	No. 10.	Total.
			m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	h. m. s.
1	H. A. Collier	6 Matchless	19 25	19 15	19 9	21 2	18 9	18 59	18 39	18 46	21 23	18 50 ¹ / ₅	3 13 37 ¹ / ₅
2	G. Lee Evans	5 Indian	18 45	18 58	19 0	19 3	19 19	22 12	21 13	19 43	19 30	19 52 ¹ / ₅	3 17 35 ¹ / ₅
3	W. F. Newsome	3 ¹ / ₂ Triumph	20 34	20 15	20 15	20 49	28 26	19 51	20 38	20 50	18 51	20 41	3 31 10
4	O. C. Godfrey	3 ¹ / ₂ Rex	19 42	20 19	20 16	20 55	22 17	20 54	22 6	23 27	20 47	20 48 ³ / ₅	3 31 31 ³ / ₅
*5	C. B. Franklin	3 ¹ / ₂ Triumph	27 3	20 36	21 17	21 57	22 33	21 0	20 45	23 34	21 2	20 44 ¹ / ₅	3 40 31 ¹ / ₅
6	F. A. Applebee	5 Rex	25 33	19 45	21 52	22 3	21 17	22 16	22 3	21 28	22 5	24 2 ¹ / ₅	3 42 24 ¹ / ₅
*7	J. D. A. Munro	5 Bat	20 52	20 45	21 41	23 23	22 9	24 40	21 56	23 14	21 45	25 50 ¹ / ₅	3 46 15 ¹ / ₅
8	B. V. Jones	3 ¹ / ₂ Premier	22 20	21 36	21 36	28 35	23 58	21 24	21 15	22 40	21 12	21 40 ⁴ / ₅	3 46 16 ⁴ / ₅
*9	A. J. Moorhouse	5 Rex	21 43	24 33	24 34	20 41	22 18	20 59	23 58	22 55	23 20	21 53 ² / ₅	3 46 54 ² / ₅
10	H. V. Colver	3 ¹ / ₂ Matchless	21 52	22 47	23 40	22 27	21 38	21 27	21 32	21 52	22 15	35 38 ² / ₅	3 55 8 ² / ₅
11	Wm. Creyton	3 ¹ / ₂ Triumph	20 25	20 41	21 14	21 56	28 14	23 2	22 25	35 51	20 31	20 51	3 55 10
12	J. Giuppone	3 ¹ / ₂ Peugeot	21 59	24 29	21 40	22 9	29 55	21 45	21 38	21 57	23 30	28 47	3 57 49
*13	J. Lang	5 Tee-Bee	30 55	20 34	23 20	23 6	25 59	29 23	21 4	23 47	20 49	21 57	4 0 53
14	W. G. McMinnies	3 ¹ / ₂ Triumph	22 57	21 25	21 41	26 35	27 0	23 20	21 42	24 56	29 47	24 39 ⁴ / ₅	4 4 2 ⁴ / ₅
15	Jas. Stewart	3 ¹ / ₂ Triumph	23 22	23 20	22 58	23 16	22 18	22 29	22 13	24 26	22 42	43 41 ¹ / ₅	4 10 45 ¹ / ₅
*16	H. Rem Fowler	5 Rex	21 11	24 19	20 32	20 36	23 4	23 23	21 18	21 39	21 54	57 51 ³ / ₅	4 15 47 ³ / ₅
*17	T. Greer	5 Rex	24 14	24 1	24 5	23 25	23 18	24 47	48 30	23 33	24 54	29 12 ³ / ₅	4 29 59 ³ / ₅
18	A. J. Sproston	5 Rex	22 47	21 50	21 16	21 0	37 33	22 30	44 19	22 53	29 59	52 25 ¹ / ₅	4 56 32 ¹ / ₅
*19	P. Butler	5 Dot	26 35	25 4	23 7	22 47	25 59	24 51	24 13	26 56	31 3	68 15	4 58 50

Fastest lap, H. A. Collier (6 h.p. twin Matchless), 18m. 9s. Fastest lap, single-cylinder, W. F. Newsome (3¹/₂ h.p. Triumph), 18m. 51s.

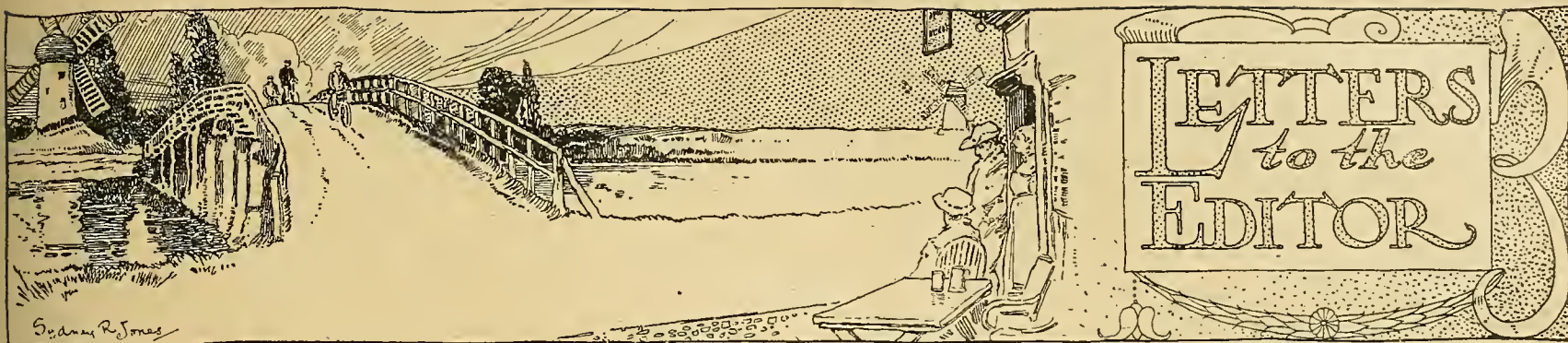
Growing Net Times for Circuits showing Position at the end of each Lap.

	Rider.	Machine.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.	No. 10.
			m. s.	m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
1	H. A. Collier	6 Matchless	19 25	38 40	0 57 49	1 18 51	1 37 0	1 55 59	2 14 38	2 33 24	2 54 47	3 13 37 ¹ / ₅
2	G. Lee Evans	5 Indian	18 45	37 43	0 56 43	1 15 46	1 35 5	1 57 17	2 18 30	2 38 13	2 57 43	3 17 35 ¹ / ₅
3	W. F. Newsome	3 ¹ / ₂ Triumph	20 34	40 49	1 1 4	1 21 53	1 50 19	2 10 10	2 30 48	2 50 38	3 10 29	3 31 10
4	O. C. Godfrey	3 ¹ / ₂ Rex	19 42	40 1	1 0 17	1 21 12	1 43 29	2 4 23	2 26 29	2 49 56	3 10 43	3 31 31 ³ / ₅
*5	C. B. Franklin	3 ¹ / ₂ Triumph	27 3	47 39	1 8 56	1 30 53	1 53 26	2 14 26	2 35 11	2 58 45	3 19 47	3 40 31 ¹ / ₅
6	F. A. Applebee	5 Rex	25 33	45 18	1 7 10	1 29 13	1 50 30	2 12 46	2 34 49	2 56 17	3 18 22	3 42 24 ¹ / ₅
*7	J. D. A. Munro	5 Bat	20 52	41 37	1 3 18	1 26 41	1 48 50	2 13 30	2 35 26	2 58 40	3 20 25	3 46 15 ¹ / ₅
8	B. V. Jones	3 ¹ / ₂ Premier	22 20	43 56	1 5 32	1 34 7	1 58 5	2 19 29	2 40 44	3 3 24	3 24 36	3 46 16 ¹ / ₅
*9	A. J. Moorhouse	5 Rex	21 43	46 16	1 10 50	1 31 31	1 53 49	2 14 43	2 38 46	3 1 41	3 25 1	3 46 54 ² / ₅
10	H. V. Colver	3 ¹ / ₂ Matchless	21 52	44 39	1 8 19	1 30 46	1 52 24	2 13 51	2 35 23	2 57 15	3 19 30	3 55 8 ² / ₅
11	Wm. Creyton	3 ¹ / ₂ Triumph	20 25	41 6	1 2 20	1 24 16	1 52 30	2 15 32	2 37 57	3 13 48	3 34 19	3 55 10
12	J. Giuppone	3 ¹ / ₂ Peugeot	21 59	46 28	1 8 8	1 30 17	2 0 12	2 21 57	2 43 35	3 5 32	3 29 2	3 57 49
*13	J. Lang	5 Tee-Bee	30 55	51 29	1 13 49	1 37 54	2 3 53	2 33 16	2 54 20	3 18 7	3 38 56	4 0 53
14	W. G. McMinnies	3 ¹ / ₂ Triumph	22 57	44 22	1 6 3	1 32 38	1 59 38	2 22 58	2 44 40	3 9 36	3 39 23	4 4 2 ¹ / ₅
15	J. Stewart	3 ¹ / ₂ Triumph	23 22	46 42	1 9 40	1 32 56	1 55 14	2 17 43	2 39 56	3 4 22	3 27 4	4 10 45 ¹ / ₅
*16	H. Rem Fowler	5 Rex	21 11	45 30	1 6 2	1 26 38	1 49 42	2 13 5	2 34 23	2 56 2	3 17 56	4 15 47 ³ / ₅
*17	T. Greer	5 Rex	24 14	48 15	1 12 20	1 35 45	1 59 3	2 23 50	3 12 20	3 35 53	4 0 47	4 29 59 ³ / ₅
18	A. J. Sproston	5 Rex	22 47	44 37	1 5 53	1 26 53	2 4 26	2 26 53	3 11 15	3 34 8	4 4 7	4 56 32 ¹ / ₅
*19	P. Butler	5 Dot	26 35	51 39	1 14 46	1 37 33	2 3 32	2 28 23	2 52 36	3 19 32	3 50 35	4 58 50

* Private owners.

Weights of Riders and Machines.

Rider.	Weight. sts. lbs.	Machine.	Weight. cts. qrs. lbs.	Rider.	Weight. sts. lbs.	Machine.	Weight. cts. qrs. lbs.
J. Marshall	10 0	3 ¹ / ₂ h.p. Triumph	1 1 25	J. C. Smyth	11 0	3 ¹ / ₂ h.p. Rex	1 1 22
H. Reed	12 6	5 h.p. Dot	1 2 12	R. Lord	11 9	3 ¹ / ₂ h.p. Rex	1 2 1
J. L. Norton	9 12	3 ¹ / ₂ h.p. Norton	1 2 17	G. E. Stanley	9 1	3 ¹ / ₂ h.p. Premier	1 2 6
N. E. Drury	12 3	5 h.p. J.A.P.	1 3 3	B. V. Jones	11 0	3 ¹ / ₂ h.p. Premier	1 2 0
C. B. Franklin	10 6	3 ¹ / ₂ h.p. Triumph	1 1 24	W. Heaton	10 1	3 ¹ / ₂ h.p. Rex	1 2 2
W. H. Wells	11 1	5 h.p. Indian	1 2 15	H. L. Cooper	11 3	3 ¹ / ₂ h.p. Triumph	1 2 0
G. Lee Evans	9 7	5 h.p. Indian	1 2 7	F. C. Bagshaw	10 8	5 h.p. Rex	1 2 10
S. C. Perryman	10 3	5 h.p. Norton	1 3 16	A. J. Moorhouse	13 2	5 h.p. Rex	1 2 6
R. Ellis	11 9	3 ¹ / ₂ h.p. Rex	1 2 1	H. R. Fowler	10 2	5 h.p. Rex	1 2 17
F. Applebee	10 3	5 h.p. Rex	1 2 1	T. Greer	10 9	3 ¹ / ₂ h.p. Rex	1 1 18
O. C. Godfrey	9 1	3 ¹ / ₂ h.p. Rex	1 1 19	R. J. Bell	10 7	4 h.p. N.S.U.	1 3 3
W. Grinstead	10 0	5 h.p. Rex	1 2 11	E. S. Myers	10 12	3 ¹ / ₂ h.p. Scott	1 1 16
W. O. Bentley	11 10	3 ¹ / ₂ h.p. Rex	1 1 20	H. H. Bowen	11 0	3 ¹ / ₂ h.p. Bat	1 1 22
C. E. Murphy	12 3	3 ¹ / ₂ h.p. Triumph	1 2 2	W. F. Newsome	9 7	3 ¹ / ₂ h.p. Triumph	1 2 11
J. Stewart	11 4	3 ¹ / ₂ h.p. Triumph	1 2 9	W. Creyton	10 2	3 ¹ / ₂ h.p. Triumph	1 1 26
H. A. Collier	11 0	5 h.p. Matchless	1 3 3	P. Butler	113 4	5 h.p. Dot	1 2 18
H. V. Colver	10 8	3 ¹ / ₂ h.p. Matchless	1 2 3	A. V. Blake	11 10	3 ¹ / ₂ h.p. Triumph	1 2 2
C. R. Collier	9 12	5 h.p. Matchless	1 3 8	W. G. McMinnies	11 10	3 ¹ / ₂ h.p. Triumph	1 1 20
W. H. Bashall	11 11	5 h.p. Bat	1 3 15	G. L. Fletcher	11 2	4 h.p. Indian	1 2 7
J. T. Bashall	10 12	3 ¹ / ₂ h.p. Bat	1 1 24	H. Martin	10 8	5 h.p. Martin	1 3 15
H. Gibson	9 13	3 ¹ / ₂ h.p. Triumph	1 1 25	F. W. Dayrell	12 13	5 h.p. Bat	1 3 26
T. A. Carter	11 4	5 h.p. Rex	1 2 12	R. O. Clark	12 3	5 h.p. C.F.N.	1 3 4
A. J. Sproston	10 5	5 h.p. Rex	1 2 7	J. Giuppone	10 12	3 ¹ / ₂ h.p. Peugeot	1 2 10
J. Adamson	12 11	3 ¹ / ₂ h.p. Triumph	1 2 4	J. Lang	10 11	5 h.p. Tee Bee	1 3 21
R. M. White	10 3	3 ¹ / ₂ h.p. Brown	1 1 26	F. C. Wood	12 5	3 ¹ / ₂ h.p. N.S.U.	1 2 24
R. M. Brice	11 7	3 ¹ / ₂ h.p. Brown	1 1 27	F. H. Maclean	10 8	3 ¹ / ₂ h.p. Triumph	1 1 26
J. Baxter	10 0	5 h.p. Rex	1 3 1	J. D. A. Munro	12 12	5 h.p. Bat	1 1 24



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A Tip for Lighting Damp Matches.

[4292].—Now that our rainy season is fast approaching it may be of interest to you, and the many readers of your excellent paper, to know how to light damp or even wet matches, whether they be vesta, lucifer, or safety matches.

Wet matches when rubbed in the hair of the head become dry enough to light. Anyone can prove this by dipping two or three matches into water and well wetting the heads of the matches, then rubbing in the hair for ten or fifteen seconds, it will then be found that they will light quite easily when struck on their box. This tip was shown to me by an Australian, and since I have proved it several times for myself. It also proves the old saying—"Two heads are better than one, even if they are wooden heads," for without both no light could be obtained. (Dr.) SELBY CLARE.

Lubrication.

[4293].—Referring to Mr. Pratt's letter in a recent issue, suggesting a demonstration of the efficiency of my lubricator on Brooklands or any other track, I shall be pleased to do so if a few interested riders would attend and vouch for the proper carrying out of the test.

Replying to his query as to whether water-cooled oil can be used, I may state that it is quite immaterial, but I found that air-cooled oil lubricated fifty per cent. further.

E. A. GLEN.

[4294].—In letter No. 4270 Mr. Frank Jameson advocates a gauge glass fitted to the crankcase to enable one to see the level of the oil while the motor is running, and if it worked no doubt this would be a very useful adjunct, but I have been wondering if it would really indicate even approximately the quantity of oil inside.

Of course, it is difficult to say exactly what takes place inside the crankcase, but I think it is generally understood that after the engine has got properly warmed up the oil becomes of about the same consistency as water, and a very important function of the flywheels is to splash this liquid about in all directions. While this miniature tempest reigns within the crankcase is it reasonable to expect the small quantity of oil in the gauge glass to remain undisturbed? Can it indicate outside in the gauge glass a state of affairs which does not exist within?

From time to time many interesting letters have appeared on the subject of lubrication, and in nearly all of them the oil "level" is mentioned, so perhaps I am wrong. Will someone better acquainted with the subject than I am let us have his view?

H. B. WILLOUGHBY.

Are Blinkers Necessary?

[4295].—In reply to "Horse Sense" on the above question, I will endeavour to explain why blinkers are used on horses when being driven in harness. The horse is really one of our most intelligent animals, and at the same time the most nervous until it has been handled and educated to noise and road traffic. In the initial schooling the colt loses all fear of man, and from that point is first taught to carry a person, and afterwards to pull a vehicle. There are two ways of breaking a colt for draught purposes, viz., with blinkers and without. The former method is the one generally employed, because it prevents the animal seeing to what it is attached, and also prevents any movement of the driver being noticed.

From long experience of driving horses I should much prefer to see the use of blinkers become universal instead

of blinkers; but unless a horse were first accustomed to seeing all objects on the road, to attempt to drive it without blinkers would be courting disaster, because nine out of ten would bolt and smash the conveyance to atoms. It is now very rarely one meets nervous horses, but young ones must have a start on the roads, and it behoves all motorists to use kindly consideration when they detect the slightest symptoms of nervousness either in the horse or its driver.

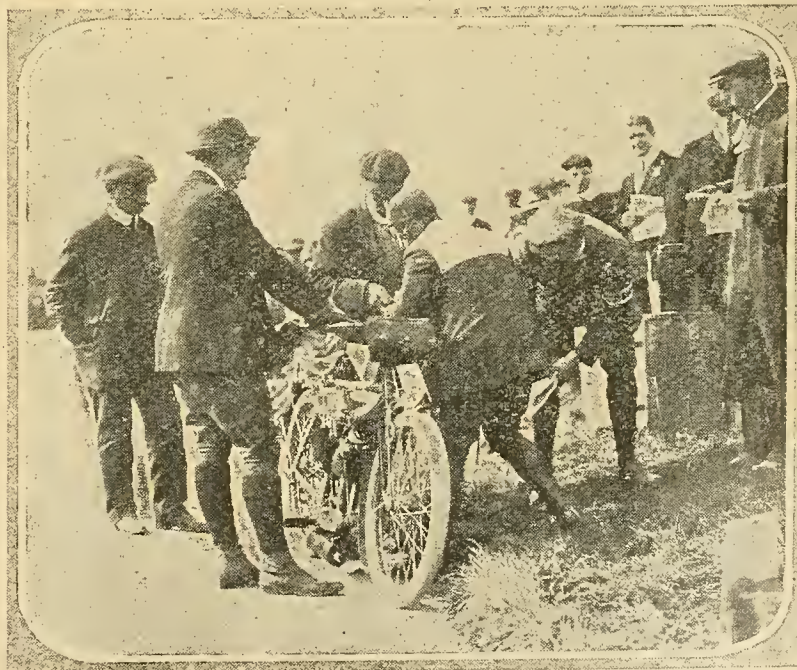
I have ridden motor cycles since 1904, and during one week passed through thirteen counties and never met one horse that showed fear of my machine. Horses were more afraid of ordinary bicycles twenty years ago than of motors to-day. Motorists on two wheels, or four, are anathematised and considered beings without commonsense, but I conclude, after some 16,000 miles' motoring, they do not form the only inconsiderate body of road users.

R. N. MORLEY.

The End-to-end Record.

[4296].—I feel that I should like to say a word or two in defence of my unfortunate ride from John-o'-Groat's to Land's End, unfortunate inasmuch that I have unwittingly offended a certain section of the motor cycling community.

"Own Bat" and Mr. Holmes have entirely lost sight of one important fact, i.e., training and preparation are absolutely necessary in any form of sport if you wish to excel. I have played some first-class Rugby football in my time, and always took pains to keep fit. I submit that the same rule applies in motor cycling; constant practice on corners and in traffic is necessary before one is able to ride "inside one's self," and whilst I am quite certain that there are many motor cyclists who can do as well as I did—and probably better—it is hardly fair to say that the End-to-end is purely a matter of capital and organisation. My first "twenty-four" (London to Edinburgh) tired me very much, but each long ride since has found me fresher at the finish,



W. Grinstead (5 h.p. Twin Rex) stops for petrol at St. John's during the progress of the T.T. Race.

and I candidly do not think that a man stands much chance of doing good time who has never ridden more than 200 miles in the day, let alone night riding. Not a word of complaint has been raised against the Tourist Trophy Race, where a special machine is absolutely necessary and the organisation perfect, the average speed being 49 m.p.h. There can also be no comparison between the danger to the public caused by a car at 30 m.p.h. and a motor bicycle at 40 m.p.h. During my seven years of riding I have never touched man, woman, or child, neither have I been ever summoned or stopped. I believe that the police are very fair, and mainly stop motor cyclists for one offence—driving to the danger of the public.”

In conclusion, I would point out the practical impossibility of doing this ride “without preparation.” No, a record is a record, and a man must go from point to point in the shortest possible time. How he does it is entirely beside the mark, so long as he does it fairly and can prove to the public that he has done so. Hence the necessity for checkers, etc. I believe that a thing if worth doing at all is worth doing well, and it was my intention to put the record as safe as possible. Perhaps this may account for a little soreness.

IVAN B. HART-DAVIES.

Hotel Accommodation and Charges.

[4297.]—With reference to the correspondence in *The Motor Cycle* respecting hotel accommodation, I think that the Motor Union or the A.C.U. is not of much use to the average motor cyclist in this respect, although I am a member of both the M.U. and C.T.C. The hotels on the former list are very high priced, and a long way beyond the means of the average motor cyclist.

During a tour of 1,200 miles from London to the Scottish Highlands, returning through the Lake District, with a 4 h.p. motor cycle and sidecar, my wife and I used the C.T.C. hotels throughout, staying at a fresh one nearly every night. We found them very reasonable and comfortable, and only at one place during the sixteen days was any large made for garage. Besides, the discount allowed, generally 2d. or 3d. in the 1s., very nearly paid the petrol bill.

C.T.C. members have a good list of reasonable hotels to pick from, and know exactly what the charges are beforehand. For those who want still cheaper places, there is the arm and refreshment house list. Many of these, although most modest in their charges, are really excellent and cheap places to stay in.

G. H. MOSS.

The Lightweight Question Again..

[4298.]—In reply to “Ex-Lightweight’s” and other letters in recent issues, I think he is quite right when he thinks there are many that will disagree with him. The 2½ h.p. lightweight he drove could not have been in proper order, otherwise he would not have had to run thirty yards to start it. I may say I have two lightweights, either of which will start with the first stroke of the pedals. One of these—2½ h.p. Douglas—I have ridden daily since February on my turnneys (being a traveller), several of which are on the Cotswold Hills, and I venture to say he has not ridden one of these lightweights, otherwise he would alter his opinion as to a heavyweight scoring over a lightweight. I have climbed Birdlip without the stroke of a pedal on this machine. It will do well over thirty miles per hour on ordinary roads, and will start at walking pace. I make on an average fifty to seventy calls per day, several being on gradients of 1 in 8, and I certainly should not like to start a single-gear 3½ h.p. of 160 to 180 lbs. weight on hills of this description many times in one day, and then sit still for several miles in cold weather, as he remarks.

Might I suggest to “Ex-Lightweight” before he condemns the lightweight to obtain a trial run on a 2½ h.p. Douglas, spring forks, comfortable footrests, and vibrationless, and I venture to say he will alter his opinion.

I have also a 5-6 h.p. heavyweight, but I use this chiefly for sidecar work, and although it is in every way satisfactory I should not like to start it on anything of a gradient with a fixed gear (I have a Nala two-speed and free engine on it) many times in a day.

I ride on an average 10,000 miles per annum, and can safely say there are very few who give a motor cycle a more severe grueling than I do summer and winter daily. The 2½ h.p. Douglas is the best lightweight I have yet ridden, and I have had several.

I suppose I must finish with the remark that I have no interest whatever with Douglas Bros., although I wish I had (financially), as I think the machine has a big future.

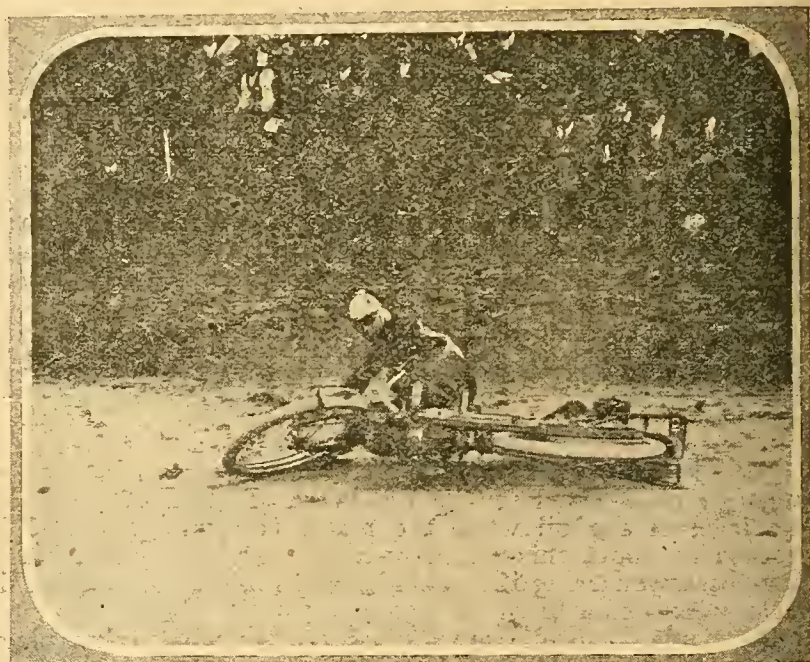
W. B. GIBB.

“Football Knee” and Motor Cycling.

[4299.]—In reply to Mr. Merrett’s letter [4278] in *The Motor Cycle*, I should like to say that I have on different occasions dislocated the semilunar cartilages of both my knees, first the left and then the right. That is the condition usually meant by “football knee.” Since doing this I have motored for quite three years almost every day, for I use my machine in medical practice, both with and without a free engine, and I can honestly say it has not affected either of my knees in the slightest. As Mr. Merrett is probably aware, it is rotation of the knee joint, not flexion that causes trouble.

On the other hand, if the knee has only recently recovered (during the last three months say) I should advise waiting till next year, as I can imagine that vibration might, especially if there were much “water on the knee,” or synovitis associated with the trouble, tend to recommence a trouble which has hardly subsided. I think one should have a handle-starting machine for preference. Mr. Merrett has a free engine he says; if he has not a handle I should advise him to start up on the stand and then declutch, and so start without violent running and pushing.

R 493.



Caught in the act! F. H. Maclean falling at the Ballacrairie Corner during the race for the Tourist Trophy. In most cases of spills, the footrests bore the brunt of the damage to the machines.

SUMMARY OF OTHER CORRESPONDENCE.

ZENITH MOTORS, LTD., write: “We are at a loss to understand the attitude of many riders who (since the Newnham Hill-climb mark you) say that variable gear machines should not compete against fixed gear machines in hill-climbing competitions. So long as the trade are welcomed to these events it is only just that they should be allowed to compete against one another, and not herded off into separate classes. Engine dimensions should be the sole dividing line between classes. We will instance the Scottish Hill-climb at Amulree; we are barred from competing against single-gear machines unless we fix our gear in one position. At the same time, we recognise that to be barred from competing is a direct admission that we need not further demonstrate the advantage we have.”

EXPERIENCES WANTED.

“A. L. B.” (Kirkstall) desires owner’s experiences of the 1909 Rex Triette.

“Tourist” (Liverpool) would be glad if any rider of a 2½ h.p. Douglas would give his opinion of the reliability of that machine for touring. Does the engine need frequent adjustment? Are parts difficult of access likely to need attention? Would hill-climbing powers be good when carrying rider and baggage weighing in all rather less than 13 st.? Is occasional trailer work possible?

SPLENDID.

Abbey Street, Crewkerne, Somerset, 22/9/09.

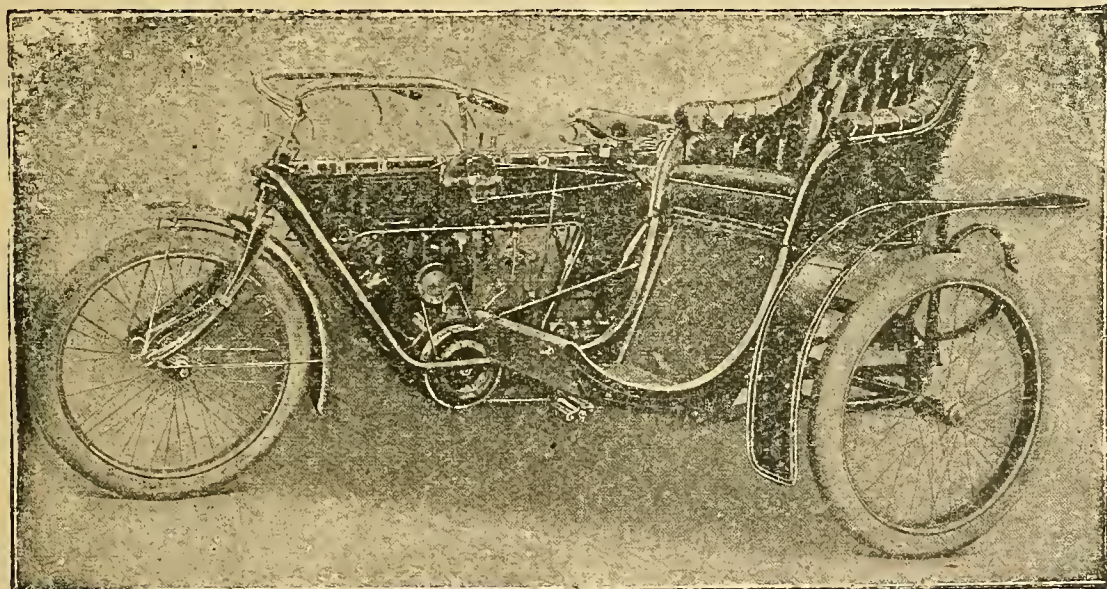
Dear Sirs,—Many thanks for your prompt attention to my letter, also for the information. I have never ridden a more comfortable machine, and it is a real pleasure to be able to start anywhere. The free engine and two-speed gear is splendid. I have had to stop and start several times lately on some very stiff hills, and have done so with ease.

Wishing you every success,

Yours faithfully, E. W. HILL.

CATALOGUE AWAITS YOUR REQUEST.

A. W. WALL, Ltd. (ROC MOTOR CYCLE WORKS), ASTON ROAD, BIRMINGHAM.



The 6 h.p. Twin
N.S.U.
and sidecar
attachment.

There's everything in this combination the seeker after perfection asks for. All the good points of every other sidecar are incorporated in the N.S.U., with the addition of many of its own. It was awarded the SILVER MEDAL in the London-Edinburgh trials; highest possible number of marks in the A.C.U. Quarterly Trials—the first sidecar to gain this distinction—and on Sept. 5 made fastest time in the Newcastle and District M.C.C. Hill-climb. So you see it's the combination with a unique record.

N.S.U. MOTOR CO., LIMITED.

Offices and Showrooms: 186, Gt. Portland St., LONDON, W.

Goods and Repairs: 83-85, Bolsover St., London, W.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, 3 lines. Name and address must be counted.

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of thirteen insertions is charged as twelve. All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what column the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going to the show.

The following showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Hamparvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Wales.

SECTION XI.
Ireland and Isle of Man.

PREMIER

MOTOR CO., LTD.

ALL BEST MAKES OF MOTOR CYCLES STOCKED.

EXCHANGES. DEFERRED PAYMENTS.

TRIUMPHS FROM STOCK.

£50 worth for £42

THE REX TOURIST

supplied only by the

PREMIER

MOTOR CO., has FREE ENGINE CLUTCH in back wheel, J.A.P. AUTOMATIC LUBRICATION, and BAND BRAKE on front wheel. Despite these valuable additions the price is the same as the ordinary Tourist Model.

— 40 GUINEAS. —

Why pay same price for SAME model without these desirable extras? DISCOUNT TO TRADE.

WRITE FOR ILLUSTRATION & SPECIFICATION.
GUARANTEED FOR 5,000 MILES.

1909 BRAND NEW N.S.U.'s

3½ h.p., List price £43 10s. Our price **£33**
4 h.p. de Luxe, List price £48. Our price **£37**

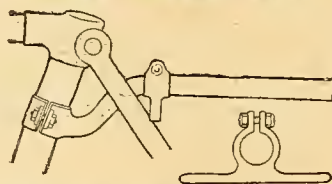
They are genuine 1909—not altered 1908 pattern.

PREMO TWO-STROKE IN COLLISION

On the eve of the T.T. Race the following telegram was received at our Works: "Had unfortunate accident this morning, Premo and N.S.U. in collision, no serious damage but must withdraw."

An early opportunity will be taken to demonstrate the capabilities of the Premo Two-Stroke.

THE PREMO LOW SEAT-PILLAR.



Price 5/6

FITS ALL MAKES.

A boon to riders of old high machines. Long handle-bars for use with above, if required, 6/6.

Discount to Trade.

BROWN & BARLOW CARBURETTORS.

Latest 1909, handlebar control. List price 30/-
OUR PRICE 26/6. Discount to the Trade.
Old Carburettors Taken in Exchange.

NEW ACCESSORY LIST JUST OUT.

SEND FOR LIST OF SHOP-SOILED ACCESSORIES.

Premier Motor Co., Ltd.,

ASTON ROAD, BIRMINGHAM.

Telephone 4310. Telegrams, "Primus, Birmingham."

NUMBERED ADDRESSES

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle." When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be forwarded for replies. Only the number will appear on the advertisement. Replies should be addressed to the Motor Cycle, Coventry; or if "Letters" are added to the address, then to the number given in "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt upon intimation of the arrival and acceptance of the goods, the money is forwarded less a charge of registration. The time allowed for a decision after the goods is three days. For all transactions exceeding 10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and money orders should be made payable to the Motor Cycle Limited.

SPECIAL NOTE.

Readers who reply to advertisements and request answers to their enquiries are requested to register their names as an indication that the goods advertised are already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

DOUGLAS, 1909, 2½ h.p., twin-cyl., condition as new, £27.—Bond, Billingham Av., Norton-on-Tees.

F.N. 4-cyl. Motor Cycle, magneto, just been hauled, re-plated, and enamelled; a bargain, Turvey and Co., The Motor House, Sunderland.

TWIN Rex, 5h.p., in grand running order, 15 g. another twin Rex, 6h.p., in magnificent special bike, £23.—Turvey and Co., The Motor House, Sunderland.

1909 New N.S.U., 4h.p., twin-cyl., magneto, two gear; clear at £40.—Turvey and Co., The People, Sunderland. Agents for Triumph, N.S.U. and other motor cycles.

TRIUMPH, 1908, perfect, Palmer cord, Au headlight, generator, Cowey speedometer, seat-pillar, Millar's mud shield, spares; £35.—B. Green Park, Darlington.

TRIUMPH, 1909, run 1,447 miles, perfect condition, like new, Palmer cord back, spare Continental Riche's detachable tube, valve, tools, lamp, horn, 1910; £39, no offers.—Osborne Blythe, at Ashington, Northumberland.

3½ h.p. Minerva, fast, powerful, winner hill-climb, tube, two Whittle belts, voltmeter, lamp, H.B. control, spares, £16; Montgomery sidecar, condition, right side, Palmer cord tyre; sacrifice £33. Angas, 20, Frederick St., Sunderland.

3½ h.p. 1908 N.S.U., magneto, spring forks, 2½ h.p. ental tyres, lamp, horn, carrier, three spare tubes, spare magneto parts, splendid hill-climber, in perfect condition throughout; bargain for Clark Walker, 84, West St., Gateshead.

SECTION II.

York and Lancashire.

3½ h.p. 1909 Rex, new; offers.—George, Prince of Wales, Goole.

DOUGLAS, 1909, in splendid condition. — G. Fallowfield.

BARGAIN.—5h.p. motor cycle for sale.—Loan Ardsley, near Wakefield.

CROSS for Triumphs in Rotherham; standard stock, Dunlops; £48, complete.

4 h.p. Noble, Chater-Lea; bargain, £12.—Scale, Western St., Rusholme, Manchester.

L.M.C., 3½ h.p., special tourist model, used for runs only; cost £50, accept £35 nett.—Bel.

WARNER, 2-cyl., 2½ h.p., in splendid order; £2. Lancashire Motor and Engineering Co., Preston.

8 h.p. Matchless—J.A.P., as new, racing engine offers?—8, Mellor St., Patricroft, Manchester.

1908 Phelon-Moore, as new, 3½ h.p., H.B. control, speeds; £36.—11, Strawberry Dale, Harrogate.

N.S.U., 5h.p., magneto, two-speed, free engine; Full particulars, 78, Middlewood Rd., Hill Sheffield.

MOTOR BICYCLES FOR SALE.

UMPH, August, 1909, engine stamped July by Triumph Co., lamp, horn, new belt, and rubber tyres, guaranteed faultless; £37 10s.; no offers; gelling; cash required.—3,274, *The Motor Cycle*, Coventry.

Twin Antoine, splendid condition, spring forks, Mabon clutch, B.B. carburetter, R.O.M. ignition, bar control, B100 saddle, spring footboards, car-and, Broadhurst head lamp and generator, mirror, £23.—175, Waterside, Chesham.

TOSACOCHE, 1908, N.A.B. spring seat-pillar, new accumulator, new back Continental non-skid, spare lamp, horn, voltmeter, numbers, all tools, just over, good running order; 16 guineas.—No. 3,269, *The Cycle Offices*, 20, Tudor St., E.C.

p. Minerva Motor Cycle, torpedo tank, spray carburetter, new tyres, low riding position, foot, fast machine, two brakes, fitted with Mabon disc handle starting; will sell £12, or exchange for and cash, or anything useful.—Barwell, Wheat-Privett, Alton, Hants.

SECTION VIII.

ford, Essex, Middlesex, Surrey, Kent, Sussex.

Rex, spring forks, low seat, very reliable; £9.—Curpin, Preston Rd., Brighton.

p. Rex, good running order; £6 10s.; cash wanted.—A. Fisher, Dublin House, Harrow.

UMPH, 3½ h.p., 1908, first-class order; £28.—E.W.G., 43, Romford Rd., Stratford, E.

p. Peibok, gear and chain drive, Peter-Union tyres, low frame.—Haven, 722a, Old Kent Rd.

U., 3 h.p., magneto, with sidecar; £16; will separate.—3, Victoria Rd., Holloway, London, N.

9 7½ p. Peugeot, No. 6 frame, Palmer cord and sidecar.—Write, 38, Sutton Rd., Southend.

N Rex Motor, 5 h.p., Clinchers, fast, nearly new; £18.—Bennett, 3, Morgan St., Canning Town.

p. J.A.P., nearly new, Palmer tyres, running order; £10.—Lemm, 14, East Pebody Sq., Chelsea.

p. Rover and sidecar, perfect order, clutch, spares; £7 10s.—near offer.—Geary, High St., Hounslow.

p. Antoine, low, light tyres, good, £11; also Excelsior, £7.—Copus, 26, Halstead St., Brixton.

Brown, in splendid condition; £10 10s., worth double.—Apply, 163, Forest Lane, Forest Gate.

UMPH, brand new, latest 1909 model, in stock.—Key, 5, Heath St., Hampstead. Tel.: 2678 P.O.

U., 3½ h.p., perfect order, reliable, new condition; bargain, £12 15s.—231, New King's Rd., Fulham.

Fafnir, footboards, Continentals, long bars, low seat, fast, reliable; £10.—234, Belsize Rd., N.W.

p. Minerva, sprung back and front, Palmer cord, new gas lamp; £16.—74, High St., Wimbledon.

p. Bradbury, good condition; £9, bargain; must sell.—Williams, 19, Park Rd., West Dulwich, S.E.

p. Rex, late 1907, grand order; must sell; going abroad; £11.—Bruce, 114, Brixton Hill, London.

p. White and Poppe, No. 6 Chater frame; £10 10s.; bought twin.—8, Mayfield Place, Eastbourne.

Raleigh, chain drive, splendid condition; £7 10s.; seen any time.—132, Hither Green Lane, Lewisham.

p. Peugeot, 26 by 2½ Dunlops, B100, nearly new; trial; sacrifice £10 10s.—1a, Northumberland St.,

Lightweight, in very good order, accumulator ignition; £7 10s.—1, Mornington Place, Hampstead

p. Excelsior, and Mills-Fulford sidecar, spares, guaranteed; £14 10s.—25, Langthorne St., Ful-

p. Bradbury, 1909, magneto, never ridden, condition as new; £35 10s.—21, Wood Vale, Forest

Imperi, M.O.V., long bars, 26in. wheels, generator, very fast; £13 10s.—165, Kempton Rd., East

9 Triumph, brand new, complete, as delivered; 38 guineas lowest.—7, Guildford Rd., Vauxhall,

U. Lightweight, magneto; cost £34; perfect for winter; £18, bargain.—1a, Lyall Mews, Easton Sq.,

U. Lightweight, latest, 1909, Bosch magneto, as new; £20; approval.—Eagles and Co., High St.,

—3½ h.p. Twin Werner, Chater-Lea frame, free engine, handle-bar control, perfect.—9, Avenue Rd.,

—Humber, 3½ h.p., Longuemare, long bars, running order; seen after 7.—30, Cricket field Rd.,

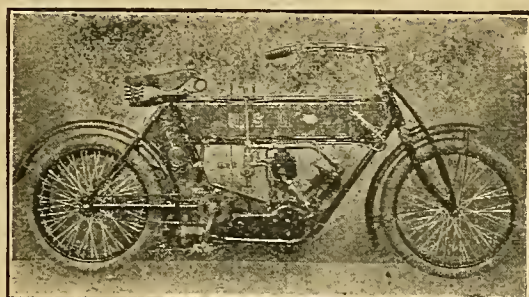
OWN, 3½ h.p., genuine, splendid condition, fast, powerful, reliable; £14 cash.—17, Cranmer Rd.,

HTWEIGHT 3½ h.p. Peugeot, splendid goer; £7 5s.—Private, 22, The Avenue, Bruce Grove, Tot-

SALE.

We commence our Special Winter Clearance Sale to-day. 10% off all machines for spot cash only for 14 DAYS.

1908 N.S.U.'s.



SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.
WHEELS—24in. and 26in.
TYRES—Peter Union 2½in. section to singles, and 2½in. to twins.

CARB.—N.S.U. float-feed type.
BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.

EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.

GENERAL—We guarantee fully every machine sold.
PRICES:

	Maker's price.	Our price.	Deferred payments.
3½ h.p.	£40	£31	£33
3½ h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5½ h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

1909 TRIUMPHS from stock. Standard models, £48. Not subject.

TWO ONLY.

3 h.p. N.S.U. Motor Cycles to above-mentioned specifications:

We are in a position to offer these machines to the public at the unprecedented low price of

£25 5s. 0d. (Nett Cash Only).

SECOND-HAND MACHINES (all fully guaranteed by us).	
REX DE LUXE, 5½ h.p., Roc clutch	£25
ANTOINE, 4 h.p., very low, free engine	£16
KERRY, 5 h.p. Twin, 26in. wheels	£16
MINERVA, 3½ h.p., spring forks, 1907 model	£15
TRIUMPH, 3½ h.p., 1908, 1909 piston	£30
REX, 3½ h.p., 1908, two speed, perfect	£30
MINERVA, 3½ h.p., 1909, only done 100 miles	£25
BROWN, 2½ h.p., Bosch magneto, low, perfect	£16
M.M., 3½ h.p., 1909 model, h.b. control	£20
REX, 5 h.p., Twin, low, spring forks	£17
PEUGEOT, 7-9 h.p., low built, perfect order	£21
ZENITH Bicar, 3½ h.p., two speeds	£17
QUADRANT, 3½ h.p., spring forks, very low	£16
ARIEL, 3 h.p., low, spray, M.O.V.	£16
SINGER, 3 h.p., Bosch magneto, new tyres	£16
PEUGEOT, 4½ h.p., twin-cylinder, low built	£15
FAIRY, 2 h.p., Twin, low built	£11

£3 DOWN SECURES:	
F.N., 2 h.p.	£10
HUMBER, 2 h.p.	£8
QUADRANT, 3 h.p.	£10
WERNER, 2 h.p.	£8
MINERVA, 2 h.p. ..	£8
HUMBER, 2½ h.p. ..	£10
SINGER, 2 h.p.	£6
BROWN, 2 h.p.	£7

SPECIAL BARGAINS.

Brand New FAIRY Sets. To convert your cycle to a motor cycle. All brand new and perfectly complete. 2½ h.p., twin cylinder, £10 only nett £10

£55 Nett. £55
TOURIST TROPHY WINNER.

The actual Matchless that won the Isle of Man Tourist Trophy, on Thursday, the 23rd Sept., 1909. 5 h.p., all complete, and exactly as when it finished. Averaged 50 m.p.h. To be seen here.

£55 Cash only. £55.

MAUDES' MOTOR MART,

136, GREAT PORTLAND STREET (off Oxford Circus), LONDON, W. Also at POWELL STREET, HALIFAX. Telephone: 552 Mayfair.

MOTOR BICYCLES FOR SALE.

3½ h.p. Chase, thorough condition, all accessories, 32 spares; £12, or offer.—Deane, 51, Bonham Rd., Brixton.

N.S.U., 3½ h.p., magneto, spring forks, footrests, spares, grand condition.—Seen, Clement, 106a, Fenchurch St., E.C.

3½ h.p. 1908 Brown, H.B. control, No. 6 Chater; £14; 32 tyres, belt, perfect.—Montrose, Melbourne Rd., Eastbourne.

KERRY, 2½ h.p., perfect, long handle-bars, spring pillar, all accessories; £8.—Curtis, 24, York Place, Marylebone.

MOTO-REVE, low frame, late model, Druid forks, excellent order, a little beauty; £21.—Bunting, Wealdstone.

3 h.p. Kerry, perfect, low, 26in. wheels; £8 15s.; exchange push bike and cash.—193, Garratt Lane, Wandsworth.

REX London Agency, Store St., Tottenham Court Rd. 'Phone 13456 Central. All 1909 models, immediate delivery.

REX London Agency.—Exceptional advantageous cash, gradual, and exchange terms; free delivery within 15 miles.

REX 1908 Twin, splendid condition; £24; magneto ignition.—Rex London Agency, Store St.

REX Twin, good condition; accept £14; trial arranged.—Rex London Agency, Store St., W.C.

REX London Agency have for immediate clearance motor cycles from £4 10s.; write for list.—Store St.

REX Exchange our speciality.—Best possible allowances made on Rex motors.—Rex London Agency, Store St.

6 h.p. Twin J.A.P., Chater No. 6, Palmer cords, nearly new, and sidecar; lowest £32, no offers.—129, High St., Croydon.

3½ h.p. Humber, Dunlops, thoroughly overhauled; £4 trial; £10.—W.A., 97, Malvern Rd., West Kilburn, London, N.W.

3 h.p. De Dion, splendid condition, long, low, handle-bar control; £18.—Chauffeur, Aldenham House, Elstree, Herts.

SIDECARISTS!—Twin Rex, magneto, perfect, gear, £17; also roomy sidecar.—Letters, or call, 209, Brixton Hill.

3½ h.p. White-Poppe, B.S.A., Matchless spring forks, 32 Palmer cords; £12.—Fawcett, 13, Conington Rd., Lewisham, S.E.

3½ h.p. Rex, low built, aluminium finish, Longuemare carburetter; £8 10s.; approval.—Eagles and Co., High St., Acton.

4½ h.p. 4-cyl. F.N., magneto, spring forks, just thoroughly overhauled, perfect; £24.—1a, Lyall Mews, Eaton Sq., S.W.

2½ h.p. Genuine De Dion, low machine, handle-bar control; £10.—Particulars, Pummell, 55, Mesdale St., Camberwell.

2½ h.p. Noble, B. and B. carburetter, low frame, 26in. wheels; bargain, £7 15s.—73, Church St., Camberwell, London.

BROWN, 2½ h.p., new tyres, footboards, Fuller, fine order, as new; £10.—Payne, Railway Cottages, Hayes, Middlesex.

2½ h.p. Alldays, good condition; no reasonable offer refused; seen by appointment.—28, Alkham Rd., Stoke Newington.

6 h.p. N.S.U., sidecar, 24in. wheels, two-speed, magneto; best cash offer.—Geverding, Cambridge Rd., Ashford, Middlesex.

VINDEC, 3½ h.p., Mabon clutch, Truffault spring forks, accessories, faultless; £17.—1, Cornwall Terrace, Baker St., London.

3½ h.p. Triumph, magneto, 1907, new Michelin studded tyres, spares, belt, lamp; £26.—Tolputt, Wivelsfield Green, Sussex.

TRIUMPH, 3½ h.p., beautifully fitted up, engine and magneto just overhauled, and equal new; £25.—Bunting, Wealdstone.

BROWN, 3½ h.p., good condition, Dreadnought back tyre, stand, carrier, spares, etc.; £14, near offer.—Jeffery, Radlett, Herts.

TRIUMPH, handle-bar control, Mabon clutch, recently overhauled, new condition; £26.—Whiteley, 8, Watling St., Chatham.

3½ h.p. Quadrant, magneto, £17; 3½ h.p. Quadrant, accumulator, £10 10s.; forecar, £3.—79, King George St., Greenwich.

2½ h.p. Ariel, new; listed £35; condition guaranteed; price 21 guineas, or offer.—Box 3,241, *The Motor Cycle Offices*, Coventry.

LIGHTWEIGHT F.N., last year's, perfect condition; no reasonable offer refused; cash wanted.—10, Hill-marten Rd., Holloway.

3½ h.p. Minerva, handle-bar control, spring forks, with accessories; £14, guaranteed.—79, Dartmouth Rd., Brondesbury, N.W.

MOTOSACOCHE, 1908, splendid condition, spare back tyre; £20.—Paine, Robin Wood Motor Garage, Anerley Hill, S.E.

BARGAIN.—2½ h.p. Minerva, low, fast, good condition, tyres new, free engine; £9.—Fairhead, Melville Rd., Walthamstow.

MOTOR BICYCLES FOR SALE.

908 6h.p. N.S.U. and Mills-Fulford sidecar, new tyres, lamp, spares; cost £80, accept £35.—63, Exbridge Rd., Ealing, W.

11h.p. Automotor, Chater-Lea, re-bored, re-bushed, tyres perfect; £11 10s., or lightweight.—Letters, call, 209, Brixton Hill.

4h.p. Twin-cyl. Werner Motor Cycle, tyres practically new, just been overhauled, very little used; £13.—Caffyn's Garage, Eastbourne.

WHITTLE'S.—Minerva, 4½-h.p., twin, late 1907, M.O.V., spring forks, 26 by 2½ Continental tyres, beautiful order; cheap, £21.

WHITTLE'S.—F.N., 4½-h.p., 4-cyl., 1908 model, magneto, spring forks, fast, powerful on hills, like new; £25.

WHITTLE'S.—Antoine, 6h.p. twin, with sidecar, Chater-Lea fittings, very powerful, excellent order; great sacrifice, £15 15s. cash.

WHITTLE'S.—Clyde, 3h.p., magneto, grand condition; sacrifice £11 11s.—Whittle's Motor Exchange, Earlsfield. Phone, 711, Post, Wimbledon.

24h.p. Clyde, magneto, in good condition; take first £5 and three-speed cycle for same, or exchange.—Motor, White Lion, Hitchin.

13.—Twin-cyl. Werner, 4h.p., low, reliable, perfect order and condition; bought higher power.—Robson, 1a, Blomfield St., London, E.C.

18.—3h.p. Kerry, with forecar, powerful motor, in good condition, tyres good; trials given.—E.G., 9, Queen's Rd., St. John's Wood.

11h.p. Kelecom Motor Bicycle, spare belt and tyre, all in condition equal to new; purchased car.—W. Feilson, Market Place, Enfield Town.

17, near offer.—3h.p. Daneville, No. 6 frame, Longuemare, Continentals, low, fast, and reliable; bought twin; any time.—160, Old Kent Rd.

5h.p. Twin-cyl. Rex, very powerful, just completely overhauled; £15, or close offer.—Seen at Wickham and Co., 620, High Rd., Leytonstone.

34h.p. N.S.U., 1908, magneto, two-speed gear and free engine, with Millford sidecar, new condition; £31 10s.; any trial.—Eagles and Co., Acton.

4-CYL. F.N., 4½-h.p., handle-bar control, new tyres and tubes (detachable), perfect condition; must sell.—Hewson, 10, Queen Sq., W.C.

If You Want Bargains in second-hand motor cycles you can get them at Wanchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

1h.p. Roc, free engine, two-speed, magneto, handle-bar control, Dunlop tyres; £18, or exchange lightweight.—T.E., 64, Mount Pleasant Rd., Tottenham.

MAGNETO Humber, 3h.p., low frame, long bars, Chater-Lea, footboards, Whittle, Palmer tyres; £14 10s.—Webster, 21, Albion Rd., Reigate.

N.S.U., 2½-h.p., twin, latest 1909 Bosch magneto, geared pulley, handle-bar control, slightly used; £30; approval.—Eagles and Co., High St., Acton.

P. and M., 1908, magneto, perfect, powerful, accessories, spares, including contact breaker; £35, quick sale.—189, Bowes Rd., New Southgate.

3h.p. Werner Motor Bicycle, sidecar, good running order, Whittle belt; bargain; must sell; £10, or near offer.—109, Broadway, Cricklewood, N.W.

P. and M., 1909, June, and Mills-Fulford castor wheel sidecar, same date, hardly used, climb anything; £50.—Palmer, 76, Bedford Hill, Balham, S.W.

24h.p. Kerry, No. 6 loop frame, torpedo tank, Brooks saddle, new belt, accumulator and coil, very low and fast; £11 15s.—Haven, 722a, Old Kent Rd.

TWO 5-6h.p. 4-cyl. Machines, one late 1908, and one 1909, very little used (splendid condition); what offers?—R. Stas, F.N., 106, Great Portland St., W.

11h.p., low, fast, Imperi motor cycle; £12, or exchange for ordinary cycle of good make and condition and cash.—25, Victoria Rd., Upper Norwood.

N.S.U., 7h.p., twin, new and unused, latest 1909 model fitted with coach-built sidecar; cost £110, what offers?—Matthews, Pawnbrokers, West Croydon.

CLEMENT, 3½-h.p., trembler coil, Chater-Lea, Brooks saddle, handle control, re-bushed and new piston rings fitted; £12; after 6.—64, Davies Mews, Davies St., V.

REX, 5h.p., fast and powerful engine, overhauled, also Montgomery sidecar, the whole in good condition; £20, or separate.—Woodhead, 26, Canonbury St., Islington.

3h.p. Triumph, magneto, spring forks, rubber studded, padded saddle, Brown and Barlow, enamelling good; £18, or offers.—Schlotter, 12, West Side, London Fields, N.E.

3h.p. Fafnir, R.O.M. non-skid tyre, spring forks, £15 10s.; also N.A.B. spring seat-pillar, 7s.; carburettor 2s. 6d.—Marjoram, 73, Sandmere Rd., Clapham, S.W.

1908 Rex Magneto Lightweight, practically new, perfect condition throughout, complete with lamp, horn, and bag; £16.—A. E. Wills, 130, Walworth Rd., London.

TRIUMPH, 1908, Roc two speeds and free engine, nearly new S.F. back tyre, good stand, lamp, generator, excellent condition; £38.—Pearsons, Wickham St., Portsea.

TRICARS.

SPECIAL EXCHANGE ALLOWANCES.
GARAGE ROOM REQUIRED

4½ h.p. W.C. LLOYDS, open frame, two speeds, wheel steering, Longuemere ..	£22 10
4½ h.p. W.C. BRADBURY, two speeds, open frame, wheel-steering, foot clutch	£29 10
Ditto ditto fine condition	£35 0
5½ h.p. W.C. REXETTE, two speeds, open frame, foot clutch, specially good	£35 0
5 h.p. W.C. HUMBER, two speeds, open frame, Longuemere trembler coil	£33 0
4½ h.p. PHENIX TRIMO, H.T. magneto, two speeds, chain drive	£27 10
4½ h.p. W.C. HUMBER, two speeds, Longuemare, chain drive, foot clutch	£16 10
4 h.p. Victor, two speeds, open frame, foot clutch, foot brake	£18 10
Cash offers considered to clear.	
5½ h.p. TWIN REX, H.B. control, spring forks, and brand new DE LUXE SIDECAR with art cane body, latest improvements and 26 x 2½ tyre, £22 10s.	

WE HAVE IN STOCK OVER TWO TONS of Brand New Perfect Motor Cycle Covers. Best makes. All sizes. 17/6 each. New Clincher A Won Covers 17/6, Tubes 4/11. Bargain list on application. Approval-against-cash.

1909 REXES. 1909.

All models in stock. Liberal exchanges.
OFFERS CONSIDERED.

"POPULARS."	
1909 3½ h.p. magneto REX, shop soiled....	Offers
1909 3½ h.p. TRIUMPH, new, Palmer Cords	£45 0
1908 3½ h.p. N.S.U., magneto, new	£29 10
1909 3½ h.p. REX Tourist, done 50 miles. Offers.	
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1908 3½ h.p. Magneto MINERVA	£22 10
1908 3½ h.p. Magneto REX Racer	£29 10
1907 4 h.p. Magneto ROC, Roc clutch	£24 10
4 h.p. ANTOINE, high tension magneto	£18 18
1908 3½ h.p. Magneto MINERVA, spg. fks.	£22 10
1907 3½ h.p. REX, magneto, spring forks	£21 0
3 h.p. HUMBER, spray, tree engine	£10 10
3 h.p. BRADBURY, low, 26in. wheels ..	£13 10
1906 3½ h.p. REX, spring forks, M.O.V. ..	£15 10
3 h.p. SINGER, belt drive, H.T. magneto	£19 10
1907 3½ h.p. REX, spring forks, M.O.V. ..	£17 0
3 h.p. CLYDE, magneto, long bars	£15 0
2½ h.p. KERRY, light and low, 26in. wheels	£9 10
2 h.p. M.O.V. MINERVA, spray, good....	£6 15
3 h.p. ROVER, M.O.V., Longuemare	£10 0
3½ h.p. REX, handle-bar control, Amac.	£10 10
3 h.p. HUMBER, spray, splendid climber..	£9 10
2½ h.p. WERNER, spray, light, low	£8 0
2½ h.p. Light ARIEL, low build	£8 15
2½ h.p. LLOYDS, vertical, spray	£6 0
Monster List on Application. Cash offers considered.	

SIDECAR MACHINES.

1909 7-9 h.p. T.T. DOT, magneto as new ..	£40 0
1909 5 h.p. REX DE LUXE, 100 miles only	Offers.
1908 5 h.p. Magneto, V.S., almost as new ..	£29 10
1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer Cords	£32 10
5½ h.p. Two-speed REX DE LUXE	£32 10
5½ h.p. REX DE LUXE, Roc clutch	£27 10
6 h.p. Twin ANTOINE and Sidecar	£18 10
5 h.p. Twin ZENITH, spring frame	£13 10
6 h.p. Twin REX and Sidecar	£20 0
4½ h.p. Four-cylinder F.N., magneto	£23 10

Five 5½ h.p. Twin REXes, spring 10.ks, long bars, low frames, aluminium finish, blue lines, 26in. wheels. £17 17s.
Grand Sidecar machines. EXCHANGES.

EASY PAYMENTS.

£3 DOWN secures any of these.
Balance 5/- per week.

2½ h.p. Bradbury	£8 10	2 h.p. Sarolea..	£6 0
3 h.p. Lloyd's	£13 10	2½ h.p. Kerry ..	£9 10
3 h.p. Clyde	£15 0	4 h.p. Coronet	£15 0
4 h.p. Antoine	£16 10	2½ h.p. Werner	£8 10
3 h.p. Humber	£10 0	3½ h.p. Werner	£13 10
3½ h.p. Rex	£10 10	2 n.p. Thomas	£8 0
2½ h.p. Lloyd's	£7 10	2 h.p. Humber	£8 10
4 h.p. Atelier	£13 10	3 h.p. Bradbury	£10 10

200 AMAC and BROWN & BARLOW Carburetters in Stock. Liberal exchange Allowances.

DE LUXE SIDECARS, 2½in. tyres, everything of the best, built by experts, 3-bolt attachment, 26 x 2½ Clincher A Won tyres £6 0

The Halifax Motor Exchange.
LARGEST REX DEALERS
Phone 745
16, Westgate, Halifax.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Sale, enormous reduction on machines, call and obtain great bargain.—Heath St.

HAMPSTEAD (£7 10s.)—Fafnir, 3½-h.p., Chater-Lea, good condition, with all accessories, Palmer bargain.—Below.

HAMPSTEAD (£23).—4-cyl. F.N., 4½-h.p., model, magneto, spring forks, with all accessories.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½-h.p., model, magneto, spring forks, with all accessories, late model.

HAMPSTEAD (£27).—F.N., new condition, 1908 model, 4½-h.p., magneto, spring forks, with all accessories.

HAMPSTEAD (£21).—Minerva, 3½-h.p., 1909 model, new condition, handle-bar control, all accessories, bargain.

HAMPSTEAD.—1909 New Triumphs in stock, Reves and F.N.'s at special reduction, models.

HAMPSTEAD (£22).—Moto-Reve, twin, magneto, spring forks, 1909 pattern, splendid condition, with all accessories.

HAMPSTEAD.—Sole London and district agents, Lincoln Elks, all models in stock; special trade.

HAMPSTEAD (£12).—Singer, 3h.p., magneto, non-skid on back, in splendid order, with all accessories.

HAMPSTEAD (£18).—F.N. 1½-h.p. Lightweight magneto and spring forks, with all new accessories, bargain.

HAMPSTEAD (£27).—V.S., two-speed gear magneto and spring forks, all accessories, bargain.

HAMPSTEAD (£13).—Pugeot, 3½-h.p., spring forks, with all new accessories, splendid bargain, Heath St.

HAMPSTEAD (£13).—Motosacoche Lightweight model, with all accessories, guaranteed gain. Tel.: 2678 P.O.

HAMPSTEAD (£14).—Lincoln Elk, 3h.p., model, new condition, with accessories, bargain, guaranteed.

HAMPSTEAD (£23).—Lightweight 1909 model Wolf, not run 100 miles, and guaranteed perfect.—Below.

HAMPSTEAD (£14).—Singer, 3h.p., magneto, condition; 4-cyl. F.N., £23, splendid order, bargain.

HAMPSTEAD (£12).—N.S.U., 3½-h.p., good order, all accessories; J.A.P., 4h.p., M.O.V., new condition, £21.

HAMPSTEAD (£6).—Whitley, 3h.p., good order, accessories; Kerry, 3h.p., good running condition, £8 10s.

HAMPSTEAD (£28).—V.S. Tourist Trophy model, with handle-bar control, quite new condition, all accessories.

HAMPSTEAD (£14).—Riley, 3h.p., vertical, low frame, Kerry, 3h.p., £6, in good order, bargain.

HAMPSTEAD (£29).—5-6h.p. F.N., late model, 4-cyl., special bargain, with all accessories, condition.

HAMPSTEAD (£16).—Triumph, 3h.p., accessories, bargain house.—Only address: 5, Heath St. 2678 P.O.

1909 7-9h.p. V.S., magneto, spring forks, 2½in. little used, condition almost brand new, guineas.—Stanton, 619, Lea Bridge Rd., Leyton, E.

24h.p. Minerva, Brown and Barlow carburettor, handle-bar control, absolutely sound; £8 15s., or exchange 2h.p. Minerva.—Phillips, 86, South End, C.

TRIUMPH, 1909, perfect condition, Palmer back and rubber studded front tyres, leather bag, all tools, horn, etc.; £37 10s.—30, Rd., S.W.

7h.p. Chater-Lea J.A.P. and Sidecar, dual ignition, two-speed, chain drive, perfect condition, cost £105, take £70.—Toynbee, Hazelwood, Haverhill, Worthing.

TRIUMPH, 1908, 3h.p., everything in good condition, complete with horn, Lucas King of the Road lamp, accessories; £32.—Geo. Cross, 14, High St., Bridge Wells.

BRIGHTON.—3½-h.p. Minerva, French grey, spring forks, good Dunlop tyres, Miller's searching rim foot brake, grand running order; £14.—L. Black Lion St.

5h.p. Twin Vindec, magneto, Truffault for almost new Montgomery sidecar; £32, or exchange for late single-cyl. magneto.—Motor, 64, London Southwark, S.E.

QUADRANT, 2h.p., Rex, 3½-h.p., guaranteed condition as new, many spares, new tyres, reasonable offer refused; bargains.—Hornsey, Sandwich, Kent.

1908 Triumph, excellent condition, 1909 clutch, also Triumph variable pulley, tyres, splendid condition, Shamrock non-skid back, Pulco lamp, generator, horn, Rich spoked tube, many spares, all tools; £32 10s.—John South Lambeth Rd., London.

MOTOR BICYCLES FOR SALE.

Eastern Garage Co. have the following shop-fitted 1909 models for disposal at considerably reduced prices:

Single Rex de Luxe, two-speed and free engine; £45.

Twin Rex de Luxe, two-speed and free engine; £48.

Minerva, magneto, spring forks, grey finish; £35.

and inspect them at 418, Romford Rd., Forest Gate, Phone No. 10 Stratford. Telegrams, "aco, London."

Triumph, not three months old, and quite as new, Shamrock rubber studded tyres; £39.—

MPH (late 1908), had very little wear, appearance perfect, and condition guaranteed; £32. —

Fafnir, Chater No. 6 frame, Druid spring forks, handle-bar control, rubber studded tyres, speed-Brooks B100, usual accessories, stand and carrier. —Above.

J.A.P., Chater-Lea frame, Druid spring forks, Bosch magneto, handle-bar control, studded tyres, many spares, a perfect machine, and almost 30.—Above.

Rex, 3½ h.p., spring forks, Palmer cord tyres, new belt, machine in thorough good condition, complete with accessories; £14.—Above.

Minerva, in very fine condition, new handle-bars, and Bowden control fitted; £12.—Above.

Triumph, 1907, guaranteed perfect in every part, tyres almost new; £23.—Above.

Noble, spring forks, Palmer cord tyres, Watawata belt, stand and carrier; any trial; £8. —

WEIGHT 2½ h.p. Gerrard, torpedo, 2in. tyres, buretter, accumulator, belt, new, fast, reliable; ride 40 miles; spares.—Mast House, Broadme Bay.

EC Special, 3½ h.p., spring forks, spring seat-lamp, horn, spares, splendid condition, up-lidecar, nearly new; £20.—C. Spanton, Chert-Woking.

SOILED 1909 Bradbury; £36; otherwise abutely brand new, carrying full makers' guarantee delay.—A. T. Stanton, 619, Lea Bridge Rd., London.

Down secures a 1909 Wolf lightweight, balance in eleven monthly payments.—Stanton, address

SPEED Motor Cycle (Roe clutch and gear), 3½ h.p. Dion engine, low, Chater-Lea fittings, handle-bar, spring forks; thorough bargain, £20; ex-win or single-speed and cash.—Stanton, above.

3½ h.p. Rex, practically brand new, not done 100 miles, automatic adjustable pulley, latest Chater-car, new; £38 10s. the lot, or sell separately.—619, Lea Bridge Rd., Leyton, London.

5 h.p. Twin Peugeot and Sidecar, Chater-Lea No. 6 frame, spring forks, two accumulators, ignition; £25; any trial.—26, Landseer Rd., Hol-london, N.

F.N., 5-6 h.p., 1909, nearly new, Palmer cords, ing seat, accessories, spares, magnificent condi-tion hardly used; £35.—Grace, The Cottage, Wood-ale, Epsom

Minerva, Chater No. 6, low, footboards, just built; particulars given; offers; E.I.C. trem-perfect, 8s. 6d.; seen any time.—11, Norfolk ex Rd., N.

F.N., 4 h.p., 1908, condition perfect, speed-ter, oil and petrol gauges, handle-bar control, e footboards, spares; £25.—47, South Lambeth xhall, S.W.

IPH, 1906, accumulator ignition, Triumph en-ge, as new, spring forks; any trial: bought car; going cheap; inspection invited.—134, High- Kentish Town.

ale, 5 h.p. twin Rex motor cycle, free engine, ndid condition, faultless, also sidecar fit same; 20, or close offer for immediate sale.—J.M., 7, are Rd., Herne Hill.

Triumph, magneto, B. and B., Mabon free en-ine, new Whittles' belt, new Palmer cords, d spares, as new; £32, lowest.—Jones, Crown or, Shoe Lane, E.C.

Rex, grey, brand new, 26 by 2½ studded Clin-ers, B. and B. handle-bar control carburetter, ad-pulley, 50 miles since overhauling; £12, or, Whitwell Rd., Plaistow.

J.A.P., M.O.V. overhead, Chater-Lea No. 6, dvance pulley; 2½ Goodrich tyres, new Stanley e stand, carrier, excellent condition; £14; offers. 9 Holland Rd., Kensington.

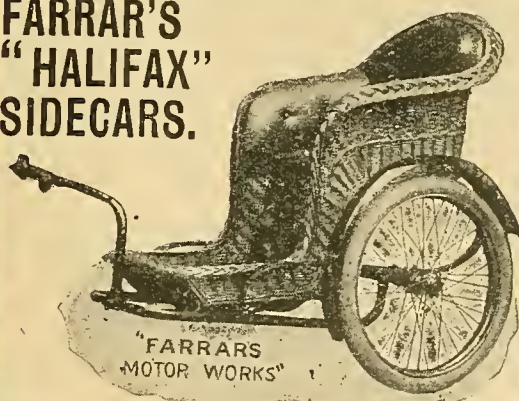
VA Motor Cycle and Chater-Lea sidecar, fitted No. 6 frame, and all the latest improvements, s make; take Sunbeam cycle in part.—C. Sulli-key House, Clapham Rd., S.W.

Chater-Lea, White-Poppe, Voltco ignition, Pal-er cords, 18in. frame, engine not run 200 miles, ther, as above, must be sold, £18; removing Sheens, Trafalgar Rd., Greenwich.

SPLENDID VALUE

is the verdict of all who have purchased

FARRAR'S "HALIFAX" SIDECARS.



BETTER THAN THE BEST, and HALF THE COST.

Each £4 17 6 Each.
An IDEAL WINTER ATTACHMENT. Quite Rigid.
No sideslip. Can be ridden without passenger. Detached inside three minutes, and fit either left or right-hand side of motor cycle.
Best weldless steel tubing, plated rims, luxuriously upholstered and beautifully sprung with double C springs. Any size wheel. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

£3 DOWN secures any of these. Balance 5/- per week.

2½ h.p. Singer, mag.	£6 12½	h.p. Stevens	£5
3½ h.p. Rex	£9 12½	h.p. R. and P. ..	£7
3½ h.p. Dux	£9 12½	Minerva, M.O.V. £8 10	
3 h.p. Fafnir	£9 12½	h.p. Humber ..	£5
3 h.p. Noble, M.O.V. £7 12½		h.p. King	£8
2½ h.p. Whiteley ..	£6 12½	h.p. Humber, 26" wheels.....	£9

1909 "PREMIER" Magnetos.
Absolutely the finest magneto. £3 15s. each.
DELIVERY FROM STOCK.

CASH OR EXCHANGE.

3½ h.p. Magneto REX, H.B. control.....	£17 0
3½ h.p. GRITZNER, 1908, magneto ignition	£17 0
1908 N.S.U. Lightweight, magneto.....	£22 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
3½ h.p. 1906 REX, M.O.V., spring forks ..	£13 10
REX DE LUXE, magneto, clutch	£26 10
5½ h.p. TWIN REX a beauty.....	£15 10
3½ h.p. REX, M.O.V., spray.....	£10 10
6 h.p. TWIN REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
3½ h.p. BROWN, magneto, H.B. control....	£20 0
3 h.p. MINERVA, champion condition....	£11 6
4 h.p. KING, Palmer tyres	£12 0
3½ h.p. 1907 REX, lovely goer	£15 15
1908 5½ h.p. REX DE LUXE, Roe two speeds, clutch, magneto	£34 0
4 h.p. ANTOINE, M.O.V., fine goer	£11 0

TRICARS.

5½ h.p. REXETTE, fine machine.....	£24 0
5-6 h.p. ROVER, newly enamelled	£17 0
4½ h.p. PHOENIX, two-speed	£14 0

1908 Magneto REXES.

Single-cylinder, 2.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £17 10s., or exchange.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. 33% cheaper than any other high-class belt.
3in., 9d. 3in., 1/-. 3in., 1/3. 3in., 1/6 per foot.

SPECIAL BARGAINS.

AMAC carburetters, handle-bar control, single or twin outlet	25/-
Brown & Barlow carb., H.B. control	28/-
3½ h.p. Quadrant engine sets	37/6
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6

Send for Price List of Accessories—Pounds Saved.

Clincher Rubber Studded Covers, 25/- each.
Tubes with valve. all sizes. 4/11.

High-class Machines Wanted. Cash Wailing.

E. FARRAR,

Albion Works, Square Rd., HALIFAX.

MOTOR BICYCLES FOR SALE.

3 h.p. Bradbury, 1906, just overhauled, running order, spring forks, foot brakes, boards, new lamp, two accumulators, new Whittle belt; £15; till 6 p.m.—Leader, St. Pancras Ironworks, Belle Vue, York Rd., King's Cross.

TRIUMPH, 3½ h.p., 1909, only ridden few times, equal to new, Palmer cord tyres, Autoclipse lamp, with Lucas generator; reason for selling, medically unfit to ride; accept £39; any trial.—Hickman, "Accarsane," Hook Rd., Surbiton.

A BARGAIN.—3 h.p. Simms (lightweight), Bosch magneto, plate and enamel like new, B. and B. carburetter, fast and reliable, Palmer tyre, carrier, stand horn, Lucas motor lamp; sacrifice £11 11s.—12, Market Sq., Horsham, Sussex.

TRIUMPH, 1908, splendid condition, nearly new, Palmer cord back complete, Shamrock-Excelsior front, new three-ply Watawata belt, two spare S.D. belts, N.A.B. spring pillar; £31 10s.—Want, 21, Richmond Crescent, Barnsbury, N.

1907 Triumph, adjustable pulley, handle-bar control, magneto, new rubber studded back tyre, butt-ended tubes, new piston and rings, new April, 1908; £25, or exchange lightweight.—Sibeth, 69a, Lexham Gardens, Kensington, W.

CHEAP, through illness.—Rex (luxe), 5 h.p., almost new, ridden 500, magneto, clutch, non-skid back, guarantee; trial; £24, no offers; exchange player-piano, good make, Auto-piano, Angelus preferred.—Treeburst, South Farm Rd., Worthing

GRAND Opportunity.—3½ h.p. Zenith-Gradua, ball bearing J.A.P. engine, overhead valves, the identical machine which won four prizes at Newham Hill-climb, complete for touring, in perfect condition; £45, or near offer.—W. H. Bashall, Ockham, Surrey.

5 h.p. V.S., two-speed gear, free engine and magneto, 1909 model, Truffault spring forks, including £5 worth of spares; this machine is in every respect as new, cream finish; 50 guineas; property of a private owner.—On sale at Wauchep's, 9, Shoe Lane, Fleet St., London.

5 h.p. Rex de Luxe, 1909 pattern, fitted with automatic lubricator, oil and petrol gauges, gradometer, with fixed wheel sidecar, very comfortable, with extra high back, £44, owner going abroad; Osborne four-speed and free engine pulley, never been used, £2.—Mitford, Dunel-low, Broadwater, Worthing.

TO Clear.—4½ h.p. Twin Minerva, low built, pan seat, excellent condition, cash bargain, £15 10s.; 2½ h.p. J.A.P., vertical, light, fast, £10 10s.; 3½ h.p. Peugeot, magneto, spring forks, Palmer tyres, £20; 2½ h.p. Phoenix, magneto, two speeds, grand machine, £15; 2½ h.p. Brown, vertical engine, excellent condition, £10 10s.; 3½ h.p. Excelsior, M.M.C. engine, excellent condition, £9 10s.; 2½ h.p. Kerry, £9 15s.; several machines, in perfect order, £5. We do exchanges.—128, High Rd., South Tottenham.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

WERNER, 2½ h.p., Vaux carburetter, Palmers, very fast; £10, bargain.—A. Tolman, Seaton.

5 h.p. Twin Rex, footboards, good tyres, fast, reliable machine; exchange w.c. wheel steering tricar, or sell £20.—Rose, Wareham.

3½ h.p. Kelecom, Chater-Lea frame, spring forks, long bars, Palmer tyres, lamp, spares, everything first-class order; £16 10s.—Goddard, 11, Fore St., Seaton.

SECTION X.

Scotland.

3½ h.p. Rex, bought June, 1909, ridden few miles only, £36; seen by appointment.—Thomson, 7, Hillside St., Edinburgh.

9 h.p. Twin Motor Cycle, with Montgomery sidecar, Roe gear; £45; exchange entertained for 1909 Triumph.—George Purdon, Girvan.

TRIUMPH, 3½ h.p. (late 1907), magneto, handle-bar control, Palmers, spare contact breaker, etc., perfect condition; bargain, £29.—Clark, 28, Paisley Rd. West, Glasgow.

5-6 h.p. 4-cyl. F.N., late 1908, R.O.M. rubber bar tyres, tools, plugs, valves, £33; Montgomery flexible sidecar, good condition, apron and cushion, £4 10s., or cash and lightweight twin.—Park, Draper, New Cumnock, Ayrshire.

£12 15s.—Low 3½ h.p. Minerva throughout, long bars, spring forks, spring rests, variable pulley, accumulators, one new, large silencer, cut-out, Dermatine, new Clipper back, easy starting device, carrier-stand, splendid order, rustless, spares, complete commutator, Druid valve, pulley, horn, numbers, bag; approval.—Robertson, 172, High St., Ayr.

TRICARS FOR SALE.

3½ h.p. Rover-Phoenix Tricar, convertible, reliable, fast; £21.—24, Old St., Ashton-under-Lyne.

6 h.p. Rex Triette, very fast, splendid machine, as new; sacrifice £22.—852, Garratt Lane, Tooting.

6 h.p. Excelsior Tricar, water-cooled, good going order, as new; £30, offers.—23, Albert Rd., Luton.

8-10 h.p. Rextette, 3 seats, two speeds, twin wheel, perfect order; £32.—255, Earlsfield Rd., Wandsworth.

EQUAL to new, twin Rex, fitted with forecar, free engine; sell cheap.—Lumb, Entwisle Rd., Rochdale.

TRICARS FOR SALE.

1 h.p. Tricar, splendid condition; £14, accept motor bike, with cash.—Ward, 57, Harrow Rd., Leytonstone.

HUMBER 3½ h.p. Tricar, perfect, free engine; cost £50, sell £20, or exchange.—White, Poulton-le-Fylde.

SEVERAL Tricars and Light cars; want twin or magneto motor cycles, cash.—2d, Potternewton Lane, Leeds.

3 h.p. Phoenix-Minerva Tricar, belt drive, good running order; £10 10s.—Murray, 37a, Charles St., Hatton Garden.

HALIFAX.—Seven water-cooled Tricars for sale or exchange. List free.—Motor Exchange, Westgate, Halifax.

6 h.p. Riley Twin, three speeds and reverse, splendid condition, spares; £45.—147, High Rd., Wood Green, N.

PHOENIX Tricar, Minerva engine, perfect condition; any trial; offers.—W. Jones, 64, Rhosddu Rd., Wrexham.

TRICAR, 3½ h.p. Humber, free engine, condition as new; 20 guineas; particulars given.—Sharpe, Milkenham, Suffolk.

5 h.p. Water-cooled Aster Engine, open frame, two speeds; sacrifice £15.—No. 3,275, The Motor Cycle Offices, Coventry.

£10 10s.—3½ h.p. two-speed tricar, chain drive, handle starting, very good condition.—Lewis, 23, Arden Rd., Handsworth.

RALEIGHETTE, water-cooled, open frame, two-speed, free engine, clutch, perfect condition; £25.—96, Duke St., Liverpool.

PHOENIX Trimo, coach-built, powerful, in good condition; must sell, cheap.—L. C. Ranson, 15, Sidney Rd., Homerton, N.E.

PHOENIX Trimo, 4½ h.p., magnificent machine; cost nearly £100; little used; 20 guineas.—Gleumaye, Hampton Rd., Teddington.

6 h.p. Twin Rex Tricar, 24 by 2, new tyres, new accumulator, all in splendid condition; £16 10s.—Davis, 37, Pentlow St., Putney.

4½ h.p. Tricar, water-cooled, M.M.C. engine, two speeds, clutch, wheel steering, good climber; £20, or near offer.—Dickens, Rosebery St., Loughborough.

THE Finest 10 h.p. Lagonda Tricar in England for sale, price £65; luxurious machine; 50 miles trial. Particulars, apply, R. Else, Leawood, near Matlock.

3½ h.p. Rex, Trimo forecar, brass tanks, Longuemare carburetter, splendid condition, fast; would separate; £18.—Jackson, 15, Folkestone Rd., Walthamstow.

TRICAR, Chater-Lea, coach fore seat, 3½ h.p. White and Poppe, new Palmer cords, light, fast, and reliable; 18 guineas.—Write, E.B., 68, Well St., Hackney.

RALEIGHETTE, 3½ h.p., water-cooled, free engine, two studded covers; any trial; £26; also 2½ h.p. De Dion, £9.—9, Hennicker Gardens, Boundary Rd., East Ham.

5 h.p. Rex Tricar, bucket seat, two speeds, handle starting, new Whittle belt, excellent condition; bargain, £22; only wants seeing.—Weatherill, tailor, South Ascot.

FAFNIR 6 h.p. Tricar; £35; small modern car, motor bike and cash, or shares to value; offers; prehistoric machines ignored.—Reiffer, Knighton, 35, Park, Sydenham.

TRICAR, 3½ h.p. Rex engine, cushion tyres, footboards, good order, £7, or engine, coil, carburetter, and accumulator, £5; trial given.—Prince, 169, Coldharbour Lane, S.E.

BARGAIN.—4½ h.p. Stevens, four speeds, Osborne, rear pan seat, perfect condition, climb anything, lamps, tools; £19 10s.; push cycle part.—D., 79, Camberwell Grove, Camberwell.

PHOLON and Moore 3½ h.p. Tricar, perfect order, new tyres, £35, or exchange for 1909 (low built) 3½ h.p. Phelon and Moore motor cycle.—Central Motor Garage Co., Cleckheaton.

6 h.p. Chater, open, three speeds, as new, £39 10s.; 4½ h.p. Rover, water-cooled, late type, bargain, £20; 4½ h.p. water-cooled Humber, overhauled; £25, lowest.—61, Denmark Hill, S.E.

FIRST-CLASS Tricar for sale, wheel steering, bucket seats, water-cooled, White and Poppe engine, 4½ h.p., perfect condition; £30, or near offer.—H. Roe, 266, Waterloo St., Burton-on-Trent.

9 h.p. Twin J.A.P., water-cooled, coach-built, three speeds, car tyres, Chater-Lea frame, strongly built, as new; trial run any distance; what offers?—Murphy, 790, Romford Rd., Manor Park, E.

£18 Cash.—5½ h.p. twin Rex Triette, handle started, four speeds, starts like car, steel non-skid back tyre, all in splendid condition; money wanted; must sell.—66, Grand Parade, Haringay.

REX Tricar, 7-9 h.p., twin engine, splendid condition, all accessories, two lamps, horn, etc.; £25; owner, Mr. Stanley Marsh, Ashford, Kent.—Garaged at Wanchope's, 9, Shoe Lane, London, E.C.

ROVER, 4½ h.p., water-cooled, sprung frame, bucket seat, wheel steering, perfect order, Phelon-McCre two-speed gear; trial given; £30, or offers.—Bell, Pentland House, Duddingston, Edinburgh.

REMEMBER!

We take your old machine in part payment for new or second-hand, and allow you best price.

N.S.U., 1908, 3 h.p., brand new, and perfect magneto, first cheque secures £25

REX, 1906, 3½ h.p., 26in. wheels, low built, spring forks, enamelling and plating perfect, practically new tyres to both wheels..... £15

ROVER, 2½ h.p., low built, handle-bar control, 26in. wheels, good tyres, cream finish, splendid condition £14

ALCYON, 5 h.p., 26in. wheels, Minerva spring forks, plated tank, first-class condition £17

Brand new 3½ h.p. N.S.U., 26in. wheels, magneto ignition, Peter Union tyres, will climb anything..... £31

3 h.p. BRADBURY, spring forks, low-built, long bars, handle-bar control, B. & B. brass tank, new tyres to both wheels, foot brake. An ideal mount £13

BRADBURY, 1908, 3 h.p., accumulator ignition, Bradbury latest pattern spring forks, vertical engine, not done 200 miles.. £22

TWIN REX, 5 h.p., spring forks, low built, aluminium finish, footboards, a beauty.... £17

N.S.U., 3½ h.p., 1908 model, magneto, low built, brand new, all latest improvements, Peter Union tyres, etc..... £31

MINERVA, 4½ h.p., 1907, twin; Minerva spring forks, low, 2½ in. tyres..... £22

CENTAUR, 3½ h.p. low built, belt drive, in good condition £12

BARTER, 2½ h.p., spray carburetter, geared pulley, a bargain £9

TRICYCLE.

DE DION, De Dion engine, perfect order, enamelling and plating and tyres in splendid condition £7 10

TRICARS.

3½ h.p. HUMBER, in splendid condition .. £15

REXETTE Tricar, 8 h.p., two speeds and reverse, open frame, foot clutch and brake, gate change, water-cooled, twin tyres, seats three £40

Beautiful FORECAR ATTACHMENT, 26in. wheels, Dunlop tyres 90/-

SCREWCUTTING LATHE, 6½ in. centres, 6ft. bed, back geared, compound rest, 22 change wheels, overhead reverse motion.. £15

CAR.

DARRACO CAR, 18 h.p., four-cylinder, live axle, three speeds and reverse, four-seater, tyres 880 x 120 back, 870 x 90 front, all practically new, £79, or exchange.

50/- DOWN and 5/- weekly secures the following:

QUADRANT, 2 h.p., spray..... £8

SINGER, 2 h.p., magneto £6

BARTER, 2½ h.p., geared pulley £7

MINERVA, 1½ h.p., coil and accumulator £5

REX, 3½ h.p., aluminium finish £9

DOWSON, 3½ h.p., long wheelbase £10

All machines guaranteed in good running order.

MISCELLANEOUS.

Amac Carburetters, handle-bar control, all guaranteed; our price 20/- each complete.

Brown and Barlow Carburetters, handle-bar control; 28/-; good allowance on old carburetters.

Several bargains in Clincher Dreadnought covers, studded, 26 x 2in. and 26 x 2½ in.

Genuine 26 x 2½ in. CLINCHER Rubber-studded tyres, 1st price 31/6; our price .. 25/-

CLINCHER 26 x 2½ in. Tubes, post paid 5/6

F.R.S. Lamp, brand new, a bargain 19/6

HELIA Searchlight, best plated, divided glasses, complete with generator 14/11

Trinote Horns, "What a noise!" 7/3

Treble Twist Horns, will shift a tram! 6/6

Double Twist Horns, heavily plated 4/6

Variable pulleys, heavily plated 12/6

Mudguards, well finished, 3in. 2/11

Mudguards, 4in. 3/6

Mabon Free Engine Clutch, nearly new 30/-

Brown and Barlow Carburetters, handle-bar control, latest type 30/-

Fuller plain Midget coils, 10/6; tremblers, 17/6; liberal allowance on old coils.

Fuller's Accumulators, 20 amp., 17/-; Rex, 16/-; Minerva, 16/-; Midget, 16/-; 5/6 allowed for old accumulators in part payment; all 1909 models.

Long Handle-bars, slightly upturned; dropped ends, 6/6; straight 5/6; swan neck seat pillars, 4/6.

Tubular Carriers, 4/11.

Note the address:

MAUDES' MOTOR MART,
POWELL STREET, HALIFAX.

Tels.: 433 Day, 904 Night. Teleg. "Petrol, Halifax."
Also at 186, Great Portland Street, LONDON, W.

TRICARS FOR SALE.

PERFECT, 4h.p. White and Poppe tricar, K speed gear, by side levers, 10in. foot clutch spares, tools, etc., guaranteed; £19 10s., or magneto cycle.—13, Sun St., Pitsmoor, Sheffield.

4½ h.p. Water-cooled Humber Tricar, coach-built, two speeds, free engine, foot bell, no chains, footboards, in first-rate condition; £24 ate sale.—N.C.P., c/o Line's Garage, Hurst St., ham.

AVON Trimobile, 5½ h.p., three speeds, water-coach-built, seats two or three side by side luggage accommodation, handle starting, wheel splendid condition, lamps, spares; £30.—Lane, Rd., Marlow.

7-9 h.p. Peugeot Tricar, Chater-Lea throughout built, Brooks bucket seat, two-speed, Ham chains, Dunlop car tyre back, Michels front by 2½, front axle sprung; £30.—103, Hunt, Peterborough.

3½ h.p. Beeston Humber Tricar, water-cooled engine, two speeds, climb anything, co tyres almost new, excellent condition; write particulars; open to offers.—Whithard, 172, A London, N.W.

OPEN Tricar, Chater-Lea fittings, wheel steer mer cord tyres front wheels, new Broo hind wheel, foot and hand brakes, tank, etc., less engine; sacrifice £8; owner going abroad.—Ottery St. Mary.

WHITE and Poppe 4½ h.p. Tricar, coach-built, free engine, wheel steering, foot Renolds chains, Palmer cord tyres, acetylene lamp spares, extra studded cover; £32, or nearest.—A Claygate Rd., West Ealing.

OBsolete Pattern Century-Aster, 6½ h.p. cooled, three speeds, climbs Porlock, 1 hills, Minehead to Ilfracombe, open frame, car new, exceptional running order; sacrifice £25.—Lees, Priory, Hardway, Gosport.

6 h.p. Water-cooled Chater-Lea, wheel steer speeds, coach-built, chain drive, perfect £34, or exchange magneto single or twin ey class only; must be sold before October 18th. Garage, Trafalgar Rd., Greenwich.

4 h.p. Simms Engine and Magneto, water-cooled speeds, worm drive, controlled same as car 65 Palmer cord and Kempshall, in first-class c trial and examination; price £33; motor cycl Page, 74, East Hill, Dartford, Kent.

TRICAR, must be sold, 5h.p., water-cooled, gine, wheel steering, open frame, two-spee did condition; would exchange good motor cy genuine car, or any saleable goods.—11, Dereh Norwich. Price £35. Or cash adjustment.

9 h.p. Singer, twin-cyl., water-cooled, three sp ward, one reverse, lamps, searchlight, 1 electric tail lamp, electric horn, two spare cha spare tyre, all spares, tools, and accessories, g ning order; owner going abroad.—Apply, Lieu bers, Torpedo Boat No. 115, Sheerness. Price near offer.

PHOENIX Trimo, late model, 6h.p. twin, fa open frame, coach built throughout, ca Michelin car tyres, R.O.M. ignition, wheel guaranteed perfect condition, spare tubes, spa two P.R. 40 amp. accumulators; owner goin in October; view and trial by appointment; p or near spot cash offer.—J.D.S., 584, High Rd. stone.

SIDECARS AND FORECAR

NEARLY New Montgomery Sidecar (Flexibl sell; £3 15s.—66, Grand Parade, Harrin

CHATER-LEA Sidecar, this year's, brand ne machine; £5 16s.—Maude, 6, Killarn Par ford.

MONTGOMERY £12 12s. Flexible Sidecar used; £7 7s.—Eagles and Co., 275, F Acton.

1909 Spring Wheel Rigid Sidecar (Crowlsey suit Vindec, C.L., Roc, F.N.; £6.—D Epsom.

FARRAR'S Halifax Sidecars are sent on guaranteed 12 months; immediate deliv any motor cycle.

HALIFAX Sidecars are superb value; £4 each; equalling others costing double. Motories, Square Rd., Halifax.

SIDECARS, two, second-hand; price £4 ea ones from £4 15s.—C. A. Edgar, 123, Rd., London, N.

SIDECAR, rigid, can be converted flexible, dition; £3; fit any machine.—Schoolmaste dower, St. Clears.

MILLS and Fulford Sidecar, 28in. wheel, holstered, complete; £4 15s.—Murray, 37a St., Hatton Garden.

SIDECAR, coach-built body, £3 10s.; forec ment, equal new, £4 10s.; trailer, 35s.; b 12, Bull Ring, Birmingham.

WHOLESALE and Retail manufacturers. springs, fittings.—Middletton and Co., W Newington Green, London, N.

STAMFORD HILL. — Our famous sideca 17s. 6d. are giving great satisfaction.—1 Rd., Tottenham. Deliveries from stock.

DECARS AND FORECARS.

GOMERY No. 1 Sidecar, upholstered green, on cushion, 26 by 24 Continental, as new; £6 berts, 32, Strafford Rd., Barnet.

inea Sidecar, this year's model, made throughout with genuine Chater-Lea fittings, fit any machine, 26 by 24, £6; art cane bodies, 15s. cheaper quality, as advertised, £4 17s.; second-hand cars taken in exchange.—Halifax Motor Exchange, Westgate, Halifax.

FAX.—Rigid de Luxe Sidecars, enamelled and plated, luxuriously sprung, everything of the best, machine, 26 by 24, £6; art cane bodies, 15s. cheaper quality, as advertised, £4 17s.; second-hand cars taken in exchange.—Halifax Motor Exchange, Westgate, Halifax.

If you seen our latest pattern sidecar, which will suit right or left hand without removing body, or wheel, simply by drawing the axle away; so simple, price £5 5s.; our ordinary type, £5; the car guaranteed not to sideslip; agents wanted.—Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

MOTOR TRICYCLES.

Ariel, water-cooled, two speeds, engine, gear, tyres, excellent condition, many spares; £12.—Hilmarion, Calne.

De Dion Motor Tricycle, water-cooled, two-speed, chain driven, perfect condition; £35.—Kemp, Buntingford, Sussex.

TANDEMS.

BACK Tandem, low built, thorough good condition, everything the best, tyres unpunctured, red; will exchange for motor cycle, not less than 30, King and Queen St., Walworth.

QUADCARS.

NIX Quad, 8h.p., 2-cyl., magneto, two speeds, five gears, tubes, two covers, and many other spares, like new, guaranteed great bargain, £60, or less.—R. Cripps and Co., Nottingham.

CARS FOR SALE.

IER.—15h.p. Darracq, 1906, 4-cyl., hood, screen, ignition, fully equipped, fast car; £125.

IER.—8h.p. Regal, tonneau, single-cyl., artillery wheels, light, reliable little car; £40.

IER.—12h.p. M.M.C., tonneau, seats five, 2-cyl., 2 by 90 tyres, wonderful condition at the price, £125.

IER.—8h.p. De Dion, genuine, seats five, engine der bonnet, solid tyres; £35.

IER.—12-16h.p. Panhard delivery van, 4-cyl., try about 25cwt., magnificent condition; £60.

IER.—16-22h.p. Gladiator, side entrance, 4-cyl., e lamps; great bargain, £125.

IER.—10h.p. Panhard, limousine, Centaure, areos carburettor; offered at clearance price, £85.

IER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen; bargain, £100.

IER.—12-14h.p. Humber, tonneau, 4-cyl., nearly w Moseley tyres, raked steering; £85.

IER.—18-24h.p. Prunel landaulet, side entrance, cyl., M.O.V., grand hire car; great value, £125.

IER.—17-21h.p. Mors limousine, 4-cyl., magneto der entrance, pressed steel frame, silent, reliable; £150.

IER.—40-50h.p. Lorraine-Dietrich, 1907, 4-cyl., magnificent vehicle; cost over £1,000, sacrifice for £1,500.

IER.—16-24h.p. F.I.A.T., side entrance, late pe, splendid touring car, fully equipped; £220.

IER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Garage one minute Rd. tram terminus, Tooting. Cars seen here y, Sundays before 2. Photos, details per return; rms arranged; exchanges.

IER.—Small 2-Seater, Aster engine, good order; £25. —9, Park Rd., New Cross, S.E.

IER.—STEAM Car, 10-20h.p., splendid going order, spares; trial; £50.—S. Vale, Walsall.

IER.—De Dion, 2-seater, perfect; £50, exchange.—17, Kenmore Rd., Mare St., Hackney, London.

IER.—p. Mors, 4-cyl., magneto, 4 and reverse, seats 5, equal 870 by 90 wheels, splendid condition; £50.

IER.—M.M.C. 4-seater, single-cyl., artillery wheels, three speeds and reverse, fine condition; £25, bargain.

IER.—p. Peugeot, 2-cyl., three speeds, reverse, magneto, 2-seater, extremely good condition; £50.

IER.—p. De Dion Phaeton Runabout, two speeds, equal wheels, good condition, perfect order; £18 10s.—High Rd., Tottenham. Exchanges. Photos, parcels by return.

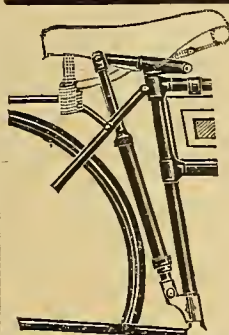
IER.—12h.p. M.M.C., 4-seater, good order, tyres good; 30 guineas.—84, Queen's Rd., Peckham. Hop

IER.—Argyll, detachable tonneau, in excellent condition; £35.—Write, 34, North Side, Clapham Com-S.W.

IER.—p. Clyde, Aster engine, guaranteed absolutely perfect, many spares; £45.—12, Belmont Rd., Clap-S.W.

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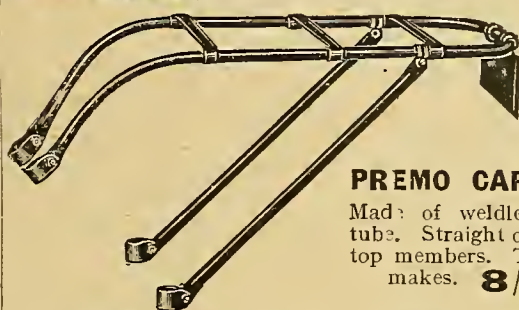


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Guaranteed to fit all makes. All users enthusiastic in its praise. Patent applied for—No. 5626.

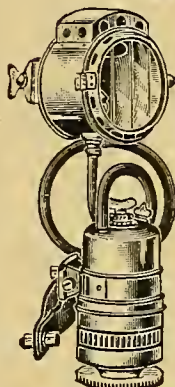
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Made of weldless steel tube. Straight or curved top members. To fit all makes. 8/6.



THE PREMO SEARCHLIGHT.

Recognised everywhere as the leading separate generator lamp.

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Workmanship, material, and finish beyond reproach. Sent on four days' trial.

Price 30/-, or without generator, 24/-

Generator only, 6/-

Illustrated and described in our new list, post free.

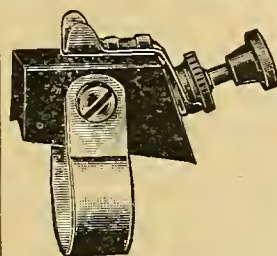
Second-hand lamp taken in exchange.

The PREMO MINOR Searchlight with same generator as above 17/6, approval.



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Price 2/- per pair. Fit over the ordinary handles and ensure a firm easy grip and perfect comfort.

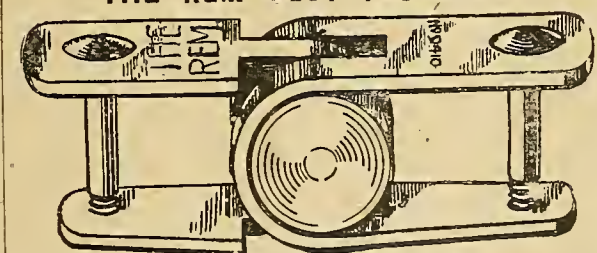


STRANGELY ENOUGH, it is comparatively rare to see a switch fitted to the modern magneto fired motor bicycle. Shorting is the only correct way to "switch off the magneto." Vide "The Motor Cycle," Sept. 8th, 1909.

THE PREMO MAGNETO CUT-OUT is the best and most reliable. 2/6.

Ordinary blade type cut-outs reduced to 1/6 Usual price 2/-

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1 each, 3 for 2/6.

Instantly detachable. Central roller removed by a touch of the fingers. BRITISH, and the best PATENT applied for.

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PREMIER MOTOR CO., LTD. ASTON ROAD, BIRMINGHAM.

CARS FOR SALE.

ECLIPSE.—12h.p. Aster, 2-cyl., side entrance, pressed steel, Stepnay, hood, screen, lamps, speedometer; absolute bargain, £65.

ECLIPSE.—20-30h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.

ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

ECLIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £42 10s.

ECLIPSE.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.

ECLIPSE.—14h.p. Brooke, tonneau, 3-cyl., three speeds in excellent order; £30.

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £57 10s.

ECLIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

ECLIPSE.—9h.p. Rex, tonneau, in good running order; £25.

ECLIPSE.—10-12h.p. Sorex Cab, 4 seats, in splendid order; £87 10s.

ECLIPSE.—5h.p. Beeston Humberette, two speeds, climbs anything; £28 10s.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 1135 Patney.

6h.p. Smart Little Car, usual speeds; bargain, or exchange twin and sidecar or tri-car. — Frisby's, Wells, Som.

6h.p. Eagle Runabout, in good order, De Dion engine, coil, tyres, almost new; £30.—W., 48, Coronation Rd., Bristol.

RENAULT, 4h.p. De Dion, bucket seats, average 18 m.p.h. spares; any trial; £38, bargain.—1, Townley Rd., Dulwich, S.E.

CAR, three speeds, reverse, chain driven, detachable tonneau, tyres, requires engine; £10.—Jones, Moorlands, Totley, Sheffield.

STIRLING Dogcart, Panhard engine, running order; sacrifice for best cash offer over £10, or exchange. —E. Smith, Bakewell, Derbyshire.

PANHARD, 7-11h.p. Centaure engine, Krebs carburettor, 5-seated tonneau, Cape hood, wind screen; £40.—Bailey, London Rd., Redhill.

5h.p., a smart little English made car, to seat three, just taken in exchange; dirt cheap, £20; trial with pleasure.—Bunting, Wealdstone.

£75.—10-12h.p. De Dietrich, twin-cyl., dual ignitions, detachable tonneau, lamps, etc., or small car and cash in exchange.—518, Kingsland Rd., N.E.

£24.—M.M.C. car, 8h.p., three speeds and reverse, good condition; trial; accept old car, engine, or motor cycle part exchange.—Carter, Heather, Ashby.

HALIFAX.—6h.p. Humberette, three speeds and reverse, seats two, artillery wheels; £30; splendid climber.—Halifax Motor Exchange, Westgate, Halifax.

CHENARD-WALCKER, 12-14h.p., four speeds and reverse, bucket seats, racing type; £60, or cycle exchange; seen by appointment.—119, Fawnbrake Av., Herne Hill.

EXCHANGE Bargain.—9h.p. modern type Oldsmobile, smart, powerful car, detachable tonneau, grand condition; £35, lowest; photo; sound exchange considered.—Write, 334, Clapham Rd., S.W.

10 GUINEAS.—3h.p. Renault, 2-seater, De Dion water-cooled engine, three speeds, live axle, running order, wants front tyres, this is not an old creak; photo.—18, Madison Av., Bournemouth.

FOR Sale, 5h.p. Humberette, 2-seater, two speeds, reverse, fast and reliable, climb anything, new tyres, spares, all in perfect order; free trial any distance; price £35, or exchange P. and M. magneto two-speed motor cycle and cash.—Rolf, Romsey, Hants.

1908 6-7h.p. Laurin and Klement (develops more), 2-cyl., magneto, thermo-siphon, hood, spares, equal new, three speeds, reverse, well kept, smartest, most reliable 2-seater on road; 100 guineas for immediate sale; convincing trial; motor cycle or tri-car part payment.—Stanton, 619, Lea Bridge Rd., Leyton, London.

INSURANCE.

PLEASE Send for full covering Motor Cycle Policy from 18s. 6d. per annum.—Bass, Insurance Broker, Dugard.

INSURANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance Broker, Norwich; fire, 2s. 6d.; third party, 7s. 6d.; accidents 15s.; inclusive policy 18s. 6d.; please write for particulars.

TUITION.

MOTOR Car Driving and motor tyre repairs taught in one month.—Particulars, Stimpson, Stratford-on-Avon

SITUATIONS WANTED.

SITUATION wanted as driver for small car, experienced, Bradford district.—Dawson, 222, Kensington St., Gillingham, Bradford.

CLERK (28) requires berth in provincial agency or garage, good general accountancy experience, accustomed to interviews, some experience motor trade.—Box 3,243, The Motor Cycle Offices, Coventry.

In answering these advertisements it is desirable to mention "The Motor Cycle."

BUSINESSES FOR SALE.

GENUINE Motor Cycle and Motor Car Business, in large provincial town, for sale, headquarters of a large influential club; price £100; rent £75.—3,280, The Motor Cycle Offices, Coventry.

MUST be sold at a great sacrifice.—Cycle and motor business (small), well established, doing a good trade; lease, stock, tools, fixtures, etc., at price of stock and tools only; goodwill free; this is genuine, and should be seen immediately.—Full particulars, 41, Rose-dale Rd., Forest Gate, London.

ENGINES.

3 1/2 h.p. White-Poppe, perfect; £4 15s.; must be sold by October 18th.—Below.

4 h.p. Twin, fitted Longuemare, silencer, pulley, Minerva, contact breaker, perfect; must be sold October 18th.—Sheen's, Trafalgar Rd., Greenwich.

QUADRANT Engine, 8h.p., perfect.—Apply, A. W. Page, Station Rd., Letchworth.

6 h.p. Antoine, £4 10s.; 2 1/2 h.p. Buchet, almost unused, £2 10s.—Bruce, Seaton, Arbroath.

SINGER, 80 by 80, equal new; lowest cash £9; take good twin engine part.—Walton, Queen's Rd., Fairfield, Buxton.

SIMMS, 3h.p., vertical, M.O.V., complete, magneto, pulley, as new; bargain, £5 15s.—406, Garratt Lane, Wandsworth.

QUADRANT Engine, 2 1/2 h.p., also Longuemare carburettor, Model B, 26 mm.—Aitchison, 59, Church Hill Rd., Walthamstow.

ENGINES for cycles, cars, aeroplanes, and motor boats.—Write for particulars to Advance Motor Mfg. Co., Ltd., Northampton.

ENGINE Sets.—2 1/2 h.p. Dennis, complete with cylinder, piston, crankcases, flywheels, etc., accept 17s. 6d. set.—12, Bull Ring, Birmingham.

2 h.p. F.N. Carburettor, exhaust lifter, in good working order and condition; 30s.—G. T. Hartwell, Fairholme, Napier Av., Hurlingham, S.W.

HALIFAX.—Three cars and seven tricars for magneto or Rex motor cycles of any description; list free.—Halifax Motor Exchange, Westgate, Halifax.

ALL New.—4 1/2 h.p. twin, £6 10s.; 2 1/2 h.p. Ariel, 70s.; 2 1/2 h.p. Automoto, 70s.; 2 1/2 h.p. Buchet, 70s.; 1 1/2 h.p. Minerva, 45s.; exchanges arranged.—Motor Accessories, Broad St., Coventry.

75 by 80 Fafnir, automatic inlet valve, altered to take magneto, beautiful condition; selling for no fault; carburettor included; getting larger engine of same make; £4 15s. cash.—Horswill, jun., 74, Brook St., Chester.

MOTORS, Motors, Motors, Motors.—First-class model petrol motors, air or water-cooled cylinders, 1 1/2 h.p., 9s. 9d.; these are part machined, and practical workers; we hold 30 sizes; full catalogue 4d.—Madison's, Little-over Dynamo Works, Derby.

IGNITION APPLIANCES.

IT is a fact.—Pure platinum is best for contact tips.—Meredith, G.O.M., Summer Lane, Birmingham.

TREMBLERS for all makes of engines, with solid pure platinum tips, 1s. 3d. each.—Meredith, G.O.M., Birmingham.

PREMIER Magnetos, brand new, 1909 model, single-cyl., £3 15s.; twin-cyl., £4 10s.—Farrar, Square Rd., Halifax.

ACCUMULATORS, good makes, all sizes, require little repair; 2s. 6d. each.—Rey, 5, Heath St., Hampstead, London.

ACCUMULATORS, 15 amp., Prested, also 15 amp. Lithanode; 5s. 6d. each; as new.—Myers, Cadogan Terrace, Homerton, London.

JEBRON. Registered 291-289, vastly superior to platinum, cures mis-firing; best contacts for blades, screws, rockers, magneots, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmers, 9d.; Jebron screws fit Bosch magnetos DA2, DAV, contact breakers 5a, 5b, 5c, 5d. pair; old screws Jebronised, 2s. 6d. each. Over 10,000 fitted. Try it.

JEBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent: Liberal trade terms.

JEBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Harry Martin, when making their recent world's records.

IRIDIUM Champion Contacts.—Any parts fitted returned same day, 1s. 3d. each, warranted pure; special iridium trimmers, 9d.; magneto screws refitted 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.

R.O.M. Synchronised and Ideal contact breakers, strongly recommended by "The Motor Cycle" Catalogue free.—Continental Motor Co., 32, Rosebery Av., London, E.C.

MAGNETO Repairs.—Send your Bosch magneto for repairs to the makers only. Report and estimate submitted. Repaired machines guaranteed equal to new.—The Bosch Magneto Co., Ltd., 23, Store St., London, W.C.

MAGNETOS.—Bosch, Simms, and all other makes of magnetos supplied; useful accessories of all descriptions accepted in part or whole exchange.—Continental Motor Co., 32, Rosebery Av., E.C. T.A.: Bromitch, London. Phone. Holborn 1513.

COLLIER'S MOTORIES,

37, Park Cross Street,

(Facing Town Hall.)

LEEDS.**CASH OFFERS and EXCHANGES**

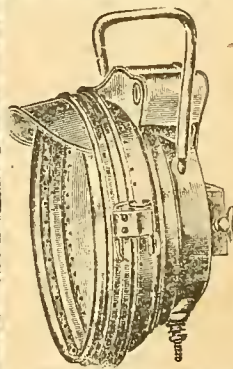
receive every consideration.

Brand New 1909 V.S. : good stuff....	from £48 0
Brand New 1909 N.S.U.'s	£27 10
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MOTO-REVE, Druid forks, magneto & belt ..	£25 0
N.S.U., 1907, 3 1/2, two-speed, low built.....	£21 0
N.S.U., 3 1/2 magneto, spring forks	£20 0
3 1/2 h.p. ARIEL, M.O.V., 26in. wheels, recommended	£15 15
F.N., 2 1/2, vertical, 26in. wheels, magneto....	£15 5
REX, 3 1/2, 1906, spring forks, M.O.V.	£15 0
4 h.p. ANTOINE, M.O.V., spray, vertical ..	£15 0
M.M.C., very low Chater-Lea, vertical	£12 15
REX, 3 1/2, light low model, M.O.V.	£12 10
REX, 3 1/2, John-o'-Groat's model, 22in. frame ..	£9 10
KERRY, 2 1/2, spray, 26in. wheels	£10 10
BUCHET, 2 1/2, long low mount	£9 10
REX, 3 1/2, spray, vertical; very cheap.....	£7 0
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REX, 3 h.p., long bars, dropped seat	£7 10
REX, 3 h.p., good value, vertical engine....	£6 15
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Full list on application.

"BIRDLIP" BEATERS.

1909 Twin ROC, two speeds	£57 15
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Four-cylinder F.N., 1908 model	£27 10
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Twin REX DE LUXE, two speed	£32 10
6 h.p. Twin ANTOINE, ROM	£16 0
5 1/2 h.p. Twin REX, spring forks	£17 17

**The BRITELITE.**

Best generator lamp on the market.

Perfect in every detail, complete with clip and extra large generator, 17/6.

Approval against cash.

£3

deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

BROWN AND BARLOW and **AMAC** Carburettors, with handle-bar control. B. and B., 30/-; Amac, from 20/-. **BIG EXCHANGE ALLOWANCES.**

£6

is more than some dealers ask for a sidecar, but it's cheap when you see what you get. We will send on appo. on receipt of cash. 2 1/2 tyre.

5 1/2 h.p. REX DE LUXE, magneto, spring forks, handle starting, and new art cane sidecar, 26 x 2 1/2 Clincher tyre, £29 10s.

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The Latest in Headlights, The BRITELITE ..	17/6
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Lever Belt Punches	2/3
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BOSCH Plugs, post free	3/-
Second-hand XL'ALL Spring forks	11/6
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New XL'ALL Spring Forks	17/6
Swan-neck Seat-pullars	4/-
Separate Generator Headlights	8/6
Rex Pattern Handle-bars, heavy gauge ..	6/6
Enamelled Mudguards, complete with stays: 3in. 2/11, 3 1/2in. 3/6 per pair.	

TYRES TYRES

ALL NEW AND PERFECT.

All except 26 x 2 1/2, 19/6.

24 x 2 1/2 and 26 x 2 1/2, 20/6.

ALL BEST MAKES Send for Lists (free).

CONTINENTAL TYRES BY RETURN.

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HOLDTITE Patches, the absolutely only sure on the market.

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HOLDTITE Patches, small size, 1s. per dozen; free on receipt of 1d. stamp.

SURRIDGE'S Indianrubber Magneto Covers, each, post free.

HOLDTITE Solution, splendidly made; 6d. a per tin.

SURRIDGE, 58, George St., Camberwell, I.S.E.

TO N.S.U. users.—Brand new Clipper-Reflex cover by 2 1/2, 15s. 6d.; tubes, 5s. 6d.—Hodgson, dealer, Bradford.

26 by 2 1/2 Model de Course Continental Cover, used; what cash offers?—Dee, 41, Hertford Lower Edmonton.

BASTONE for Covers and Tubes.—See last advert.—215 and 217, Pentonville Rd., Cross, London, N.

2,000 Clincher Tubes, 28 by 2, 2 1/2, 2 1/2, 3s. 11d. by 2, 2 1/2, 4s. 11d.; 26 by 2 1/2, 5s. 6d.; all new.—Booth's Motories, Halifax.

1,000 Clincher Covers, 17s. 6d.; Clincher studded, 25s.; 26 by 2 1/2 Peter-Unions, 17s. Booth's Motories.

5,000 Old Covers and Tubes wanted in part payment for new Continentals, R.O.A.L., Palmers, rocks; gratifying allowances; right place for Booth's Motories, Halifax.

MOTOR Cycle Trailer, etc., Tyres Retreaded and equal new, non-skid bands fitted, bursts repaired, best work; lowest charges.—Fredwal Co., 2, Jacks Holloway, N.

LUCKY Farrar.—Bought two tons tyres before advanced; Clincher covers, 17s. 6d.; tubes, 4s. all sizes; Continentals and other makes equally cheap. Square Rd., Halifax.

700 by 85 Stepany, complete, £3 15s.; 800 new cover, 25s.; 760 by 90 Michelin non-skid, 47s. 6d.; wired covers, motor cycle, 11s. 6d. beaded, 13s. 6d.—128, High Rd., S. Tottenham. approval.

RUBBER Studded Covers, 26 by 2 1/2 by 3in. thick, 6d.; ditto, 7-16in. thick, 27s. 6d.; ditto, 37s. 6d.; best value obtainable; sections free known size made; re-treading, 12s. 6d., or heavy only, from James Fox, 136, Suffolk St., Birmingham.

NON-SKID Bands of all makes from 11s., in vulcanising to your own cover; retreading 15s.; repairs according to extent; new illustration of non-skid bands, re-treading, etc., sent Continental Motor Co., 32, Rosebery Av., E.C. Holborn, 1513. T.A.: Bromitch, London.

HALIFAX.—Clincher tubes, all sizes, with valve 11d. each; Clincher A Won covers, 17s. 6d. have in stock over two tons of brand new perfect cycle covers, any size per return; approval against 17s. 6d. each; 24 by 2 1/2, 14s. 11d.; rubber studded by 2 1/2, 25s.—Halifax Motor Exchange, Westgate, fax.

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ACER, Ltd., for repairs.—64, Grosvenor Rd., Ealing. W. Tel.: 438 P.O., Ealing.

COMPRESSION Restored, cylinders ground to guaranteed; pistons fitted.—Acer, Ltd.

ENGINE Repairs in all branches.—Overhaul, bushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges.—List—Acer, Ltd.

MOTO-REVE Repairs a speciality; Hellesen's services, 6s. 6d.—White's, Brooks Alley, L. Royal, 3782.

CLEMENT-GARRARD Interchangeable Part makers, Garrard-Maxfield Motor Mfg. Co., Rd., Birmingham.

OXY-ACETYLENE Welding.—Broken cyls., cracked water jackets, valve seatings, pistons any broken castings.

OXY-ACETYLENE Welding.—Aluminium and a speciality, overhauling, cyls. ground, new fitted, all work guaranteed.—West London Welding, Essex Place, Chiswick. Tel.: 536.

CRACKED Water Jackets of Motors successfully repaired by Lea's metallurgical process.—Lea, Soa, Engineers, Runcorn.

CYLINDERS re-bored, and duplicate parts made, all makes of engines; moderate terms; delivery.—Advance Motor Mfg Co., Ltd., Northampton.

RELIABLE Repairs.—Cylinders re-bored, new fitted, to 80 mm., 15s.; pistons, 7s. 6d.; 2s. 6d.—Gas Engine and Motors Works, Forest Hill.

TO West of England Motorists.—Car and motor repairs, prompt and reliable; cylinders, new pistons and rings fitted; don't hesitate straight to us.—Hamlin, Motor Wks., Bridgwater.

REPAIRERS.

GENOUS Welding.—Send that broken casting the Alvaston Motors, Derby, to be welded by process; metal re-united; work guaranteed.

GENOUS Welding.—Costly castings saved from scrap by our process. Cracked valve seats, sockets, liners, and a thousand other things.

GENOUS Welding.—Wonderful results. Broken lugs, brackets, etc., all amenable to our send part to-day; quotations on sight.

GENOUS Welding.—Alvaston Motors, Derby.

CCCCC.—Compression means power; cyl. re-bored and new piston fitted; guaranteed fit in. bears 13 stone on pedal; write for list.—Machine Co., Compression Specialists, Stafford.

INGHAM.—Overhauling, tuning-up, re-enameling and plating, cylinders re-bored, re-bushing, pulleys, any size; frames cut down and altered; ideas out; prompt attention.—Priest and Co., 66, St. ...

NETO Repairs.—Bosch magnetos repaired in two hours at half makers' prices; work guaranteed; acc. and coil repairs a speciality; Mayfair accu-15 amp., 10s. 6d.; guaranteed.—Fellows, 49, St., Mayfair.

PRISTS save money, secure highest efficiency by sending repairs, any kind, here. We are specialists. Cylinders re-bored, ground, and new fitted from 12s. 6d.—Tennant Engineering Co., ... St., Birmingham.

EXCHANGE.

Riley; exchange low lightweight, or sell £14.—4, Stannary St., Kennington, S.E.

1 4h.p. Antoine for a 1908 3½h.p. Rex, or sell 5.—Chapman, King's Row, Earl Shilton.

Light 2-seater Car, for twin, or magneto motor cycle.—14, Zermatt St., Chapelton, Leeds.

'S Cycle, and leather lined motor coat, for old driven Werner.—36, Tonbridge St., Leeds.

Lightweight, also a rigid sidecar, for lathe or engine.—Chevers, Lyte St., Cambridge Heath.

£2 10s., gent's push cycle, almost new, for good motor cycle.—129, Hampstead Rd., Newcastle-on-

0, equal to new, lovely tone; exchange for dern motor cycle.—22, The Avenue, Bruce Grove, m.

ANGE 3½h.p. 1908 N.S.U. and £5 for 1908 umph, in good order.—Cross, Triumph Agent m.

'S Racer, new, 22in. frame, and lady's second-nd, for motor cycle.—57, Harrow Rd., Leyton-sses.

Fafair, splendid order; £15, or exchange good cycle and £10.—Motorist, Knowl Cottage, Light-alfax.

J.A.P., or Peugeot engine, for 4h.p. J.A.P., gneto, new condition, and cash.—Seeman, St. Ealing.

ANGE, new 11-guinea three-speed cycle for and motor cycle.—Hutchinson, Apsley Villas, S.W.

RS Invited for 6h.p. tricar; lightweight motor, r ordinary cycle wanted.—Cartlidge, Park Grove, ough.

10 Splendid Camera, cost £35; exchange r ters, Drummond lathe, offers.—20, Potternew-2, Leeds.

Motor Tricycles, good condition; would ex-ge for good motor cycle.—Apply, Robb, Marl-Rd., Coventry.

Water-cooled Tricar, two speeds, Fafair en-ine, for single or twin motor cycle.—1, Hebron-Thomas, Swansea.

Minerva-Triumph and 3in. back-gear lathe for no, or sell £11.—Particulars, E. Culley, 31, Wes-2, Wokingham, Berks.

ANGE 7-9h.p. Bat, two-speed, and sidecar, for ood 2-seater, or sell; no rubbish considered.—Longinoor Camp, Hants.

Guinea 20 Amp. Rotax Accumulator, new, 15s.; ltmeter, 4s.; exchange for 1in. Whittle belt.—Gardens, Hylton, Sunderland.

ABLE Paintings, water colours, proof en-avings, furniture, etc.; motors wanted; offers. ftesbury Av., Roundhay, Leeds.

new rubber belt for X'pall spring forks, or other essory. Give new treadle lathe for air or water-ngine.—Booth's Motories, Halifax.

ANGE 3½h.p. low touring Rex, guaranteed per-2, and new lady's 6 guinea cycle, for good tricar. er, Academy Art, Mill St., Cannock.

ubbish Required.—Exchange 3½h.p. guaranteed or cycle and cash adjustment for A1 forecar ; would consider neat car.—Phelps, Sandhurst,

N.S.U. Motor Cycle, magneto, low build, 24 by wheels, new condition, guaranteed perfect order, or car, modern.—F. W. Jermy, Frimley Green,

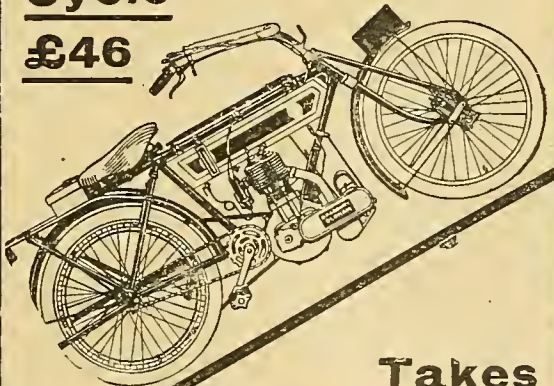
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3½h.p. White and Poppe, Chater 6 frame, long, low; **2½h.p. J.N.**, good order; exchange both for tri- car, or offers.—Davis, sculptor, College Rd., Cork.

EXCHANGE for motor cycle, latest Triumph, a stamp collection, catalogued £60, Waltham watch, photo- graphic lenses, cost £7.—MacGregor, 42, Chichester St., Belfast.

12 Second-hand Cycles, all fair condition, hired this season; exchange lot for good motor cycle (offers); suit agent doing hiring trade.—Melvin, Stonehouse, Lan- arkshire.

NEARLY New 6h.p. Powerful Twin N.S.U., magneto, two speeds and free engine, for 3½h.p. Triumph preferred, or sell £38; also sidecar for sale.—299, Vic- toria Rd., Aston, Birmingham.

EXCHANGE tricar, 5h.p. Antoine, fitted two-speed gear and free engine, and cash, for 5h.p. Riley; exchange F.N., 1½h.p. magneto, like new, for good 3½h.p.—Hodgson, Motor Dealer, Bradford.

CHATER-LEA Sidecar, fitted 26 by 2½ Clincher, Rothschild coach-built body, all latest improve- ments: wanted, Sunbeam or similar cycle.—B. Sullivan, 14, Alford Rd., Wandsworth Rd., S.W.

PHENIX Tricar, 5-6h.p., gears, tyres as new, R.O.M. contact breaker, B. and B. carburetter, in splendid order; exchange for 1909 Triumph and cash adjustment.—Bowles, Pratts Mews, Camden Town.

EXCHANGE for good motor cycle, tricar, or reliable small car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manu- facturers, 9, French Place, Shoreditch, London.

NEARLY New 10 Guinea Inlaid Musical Box, with chimes and drum, and new gent's cycle, unriden, for good motor cycle; would give small cash adjustment if necessary.—Short, Spread Eagle Yard, Chesterfield.

EXCHANGE camera, complete with two cases of utensils, books on photography, etc., cost 12 guineas; gramophone, 70 records, case, etc., nearly new, cost 14 guineas; and gent's new cycle, unriden, with accessories and cyclometer; all above for modern motor cycle.—Millward, Creswell, near Mansfield.

EXCHANGE 3½h.p. 1908 N.S.U., magneto, in new condition; the following recently fitted—H.B. con- trol, spring forks, adjustable pulley, footrests, new belt, Kempshall heavy non-skid back (unpunctured), and spares, for 1908 or 1909 5h.p. twin, magneto, or sell £30.—Denham, Castlebar, St. Winifred Rd., Teddington.

WANTED.

WANTED, Brooks padded saddle, B150.—88, Grange St., Derby.

A **SIDECAR**, must be roomy, to suit stout lady.—Fred. Moss, Stanton Rd., Ilkeston.

WANTED, 3½h.p. motor cycle, magneto; cash waiting.—22, Victoria Terrace, Leamington.

2½h.p. F.N., with two-speed bevel gear drive; lowest price.—D., 148, London Rd., Lowestoft.

M.M.C. 2½h.p. Head, cheap, or exchange sundry motor accessories.—Hill, St. Johns, Bungay, Suffolk.

WANTED, sidecar, to fit Triumph, good condition.—No. 3,271, *The Motor Cycle* Offices, Coventry.

WANTED, 1909 Triumph, standard pattern.—Full particulars to Ernest J. Waddon, Bridgwater.

WHITTLE Belt, ¾in. by 8ft., must be in good con- dition.—J. Werry, Rock Lea, Dalton-in-Furness.

WANTED, Orient Buckboard.—Photo and particulars to No. 3,270, *The Motor Cycle* Offices, Coventry.

3½h.p. Motor Cycle, magneto, low seat, perfectly sound, belt driven.—C. H. Smith, Hudson St., Rochdale.

HIGH Tension Magneto, in good order, wanted, cheap, for a 2-cyl. engine.—More, Langdon House, Dover.

WANTED, motor bike; will give £5 cash and good typewriter.—Dymchurch, 190, Mellison Rd., Toot- ing.

9h.p. J.A.P. Engine, with carburetter, wanted.—Price and condition, Ross, 101, Mildmay Rd., Chelms- ford.

MOTOR Cycle, 2½ to 3½h.p., outward appearance no object if engine good.—Knight, Maypole House, Bexley.

26 by 2½ Clincher or Palmer beaded edge cover, also wicker sidecar body.—15, West St., Pimlico, London.

WHITTLE Belt wanted, second-hand, ¾ or ¾in., for cash.—Slocombe, 1a, Aubert Park, Highbury, London.

WANTED, 4h.p. Antoine, Coronet, Minerva, Rex, or other good engine for cash.—Booth's Motories, Halifax.

£1,000 waiting for magneto motor cycles, any quantity. Wanted, water-cooled Coronet engine.—Booth's Motories, Halifax.

WANTED, 26 by 2½ new tyre; give electric torch (cost £1 1s.) in part exchange.—T. Cooper, Bakery, Farnham.

4½h.p. Water-cooled De Dion Cylinder; Chater light car fittings, and gear box.—Sutcliffe, Atlas Works, Horsforth.



IMPORTANT.

Having considerably increased our plant for the production of motor cycle belting, we have pleasure in announcing that all orders can now be executed from stock, same day as received.

$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"	1 $\frac{1}{4}$ "	per
1/1	1/4	1/9	2/4	3/6	foot.

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WANTED.

OSBORNE 4-speed Gear; cash, or exchange phonograph, 40 records.—G., 26, Matthews St., Battersea, S.W.

WANTED, any quantity of motor cycles for spot cash; £500 waiting.—Spivey and George, Princess St., Goole.

TWO-SPEED, free, for 1908 Triumph; cash, or exchange 1909 Mabon clutch.—111, Grove Lane, Camberwell.

FIRST-CLASS Forecar or tricar for A1 motor cycle and cash adjustment. No rubbish.—P'helps, Sandhurst, Berks.

WANTED, Engines, especially multiple cylinders, also magnetos; good prices given.—53, Trafford Rd., Salford.

WANTED, tricar frame, wheel steering, wheels and tank, without tyres and seats.—Barling, Hollingbourne, Kent.

WANTED, Michelin cover, 650 by 65, good condition essential; state price.—Sawtell, 6, Richmond Place, Brighton.

WANTED, Phoenix Cob, or other good make, cheap; also tricar, condition immaterial.—20, Brunswick Sq., Camberwell.

MOTOSACOCHE wanted, late pattern; state engine number and lowest price.—Banmore, Park Rd., Norbiton, Surrey.

WANTED, 1909 3 $\frac{1}{2}$ h.p. twin Peugeot, Chater-Lea, magneto; give 2 $\frac{1}{2}$ h.p. Pebok and cash.—Elcock, Porthcawl, Glam.

WANTED, reliable modern motor car, any condition; good price paid.—L. N. Palmer, 190, Mel-lison Rd., Tooting.

ELEPHANT Motor Mart.—Wanted, engines, motor cycles, sidecars, etc., for cash or exchange.—Elephant Rd., London.

WANTED, Phoenix quadcar, or Singer tricar; state price, condition of tyres, etc.—N. McIntyre, Northfield, Bickley, Kent.

WANTED, 1909 Motor Cycle, complete, in first-class condition; Triumph preferred; no dealers.—Field, Oakleigh, West Bromwich.

WANTED, Twin Engine, two or three-speed gear; also old Singer motor cycle, cheap.—A. Symonds, Hemberton Rd., Stockwell.

WANTED, rigid sidecar, in good condition; Millford preferred, to fit Triumph motor cycle.—Chas. F. Smith, Erin House, Knaresborough.

WANTED, good sound motor cycle lamps; will purchase for cash, or exchange.—Continental Motor Co., 32, Rosebery Av., London, E.C.

TRIUMPH, 1908-9, wanted; Governess car, rubber tyred, value £12, remainder in cash.—Sunnyside, Loxley Rd., Bearwood, Birmingham.

WANTED, modern magneto motor cycle, for sidecar use; exchange 10h.p. tricar.—Full particulars to Child, 6, Normandy Rd., Birchfields, Birmingham.

HALIFAX.—Wanted, 1908 and 1909 Rexes for spot cash. Also new 1909 Triumphs; £38 given for first few offered.—Motor Exchange, Westgate, Halifax.

REX Motor Cycles wanted for small cars or tricar; list on application; liberal terms for good machines.—Motor Exchange, Westgate, Halifax.

WANTED, good condition and make speedometer, silencer, Clair, or equal, 3 $\frac{1}{2}$ h.p.; non-skid, 26 by 2 $\frac{1}{2}$, beaded, cash.—Langford, 37, St. Andrew's Sq., Surbiton.

WANTED, Old Motor Tyres, scrap metals, job motor parts, new tyres, etc., and motor cycles, good prices paid.—Fredwal Metal Co., 2, Jackson Rd., Holloway, N.

DRUMMOND or other screw-cutting lathe, carburetter, 26 by 2 $\frac{1}{2}$ beaded cover; for disposal, lady's cycle (new), sidecar, high tension magneto.—172a, Earlsfield Rd., Wandsworth.

WANTED, a 4h.p. Stevens air-cooled engine, Roc two-speed gear, chain drive, pressed steel tricar and tubular chassis, front axles with brakes, and any kind of motor stuff.—65a, Rosendale Rd., West Dulwich.

CONSTABLE and Co., Kingsway, Coventry, pay good cash prices for old and disused motor cars, lorries, cycles, etc. Don't let them stand and rot to pieces. Write us, and our representative will call and quote you.

NYE'S!—Wanted, immediately 20 more good machines for cash, and on sale. No charges; free advertising. Register published monthly! Send your name, or call.—69, Leather Lane, Holborn, London. Phone, 6299 Holborn.

SMALL 2-seater Car, 6-8h.p. Rover, Phoenix, or other good make; exchange twin Bat-J.A.P., 8h.p., M.O.V., Phelon and Moore two-speed, dual ignition, handle starting, 1in. Whittle belt, 2 $\frac{1}{2}$ in. tyres, R.O.M. back, Continental front, with Lowen patent sidecar, carry two persons, new June last, in first-class condition, as new.—No. 3,277, The Motor Cycle Offices, Coventry.

WANTED, tyres, carburetters, lamps, horns, or any other useful accessories in full or part payment for new tyres, for motor goods of any of the best makes. State your requirements; quotations by return. New illustrated price list, giving prices and particulars of every make of tyre, sent free.—Continental Motor Co., 32, Rosebery Av., London, E.C. Tel.: Holborn, 1513. T.A.: Bromitch London.



ACCUMULATORS

AND

SPECIALITIES

FAMOUS "RICHFORD GRINDING COMPOUND"



POST FREE 8d.

**A sure remedy for sluggish running
 Brings increased power to every engine
 Makes valve grinding a pleasure.**

One of the most tiring and uninteresting of connected with motor cycling is the grinding of valves. Hitherto it has been necessary to spend a tremendous amount of labour and energy in order to obtain a smooth surface on a badly-pitted valve. But since the introduction of our famous "Richford" Grinding Compound, this is entirely obviated, and a badly-pitted valve can be ground into a gas-tight fit in a remarkably short space of time. It is exceedingly clean to handle, as already mixed to a paste. It is supplied in handsome enamelled tin suitable for carrying in a toolbag.

It is now universally used by all the leading motor manufacturers and garages, and can be obtained locally of any retailer.

Messrs. Ellis, Cycle and Motor Depot, Heron-Thames, write:

"We have used the paste since its earliest introduction, as we consider it the best on the market."

Messrs. Martin's Motor Garage, Lewes:

"We have been using your grinding compound for some time, and find it quite satisfactory."

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In answering these advertisements it is desirable to mention "The Motor Cycle."

THE MOTOR CYCLE

Vol. 7. No. 342.

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Subscription Rates: Home, 6s. 6d.; Canada, 8s. 8d. Foreign, 10s. 10d. per annum.

Agents for Australasia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

CLUB COMPETITIONS.

SHOULD HANDICAPS BE MADE ON RIDERS' FORM IRRESPECTIVE OF MACHINES?

THE time has arrived when this question should be seriously considered. Competitions promoted by clubs for their own members, or in conjunction with rival clubs, are always increasing in number. New clubs are being formed in various centres, and the officials and members quickly realise that interest is best sustained by the frequent promotion and carrying out of friendly and in-

teresting meets and competitions. Therefore it becomes absolutely necessary for these events to be conducted in such a manner that every member may not only be induced to enter, but that he should possess a fair sporting chance of success.

The Nature of the Contests.

Club competitions seem to have settled down to the following distinct forms: (1) Hill-climbing contests, (2) reliability trials, (3) petrol or other fuel consumption tests, (4) speed judgment tests, (5) gymkhanas (all kinds of trick or fancy driving), (6) and last, but by no means least, racing on prepared tracks. Of course, in some club competitions, several of the above forms may be combined in one contest, such as a reliability run, in which points are awarded for hill-climbing, speed judging over a given distance, or on maximum and minimum times of arrival at given controls, and the lowest fuel consumption on the ton-mileage or engine power basis.

How often do we hear club members say, "What is the use of entering? I have no earthly chance against ——— and ———. They are experts at this kind of thing." The result is that the majority of members abstain from entering or competing. "Look at So-and-so and So-and-so," said one clubman to me a few weeks ago. "They have won at least a dozen prizes each this year, and they score in every contest they enter. They are in the trade, and can tune their machines up to a nicety to suit varying conditions, while I have only my touring mount and have not the time if I had the knowledge how to get the best or abnormal results from it."

Six Entries with a Membership of Two Hundred

There is no doubt in my mind that some clubs are suffering disintegration because the above conditions prevail, and nothing is done to remedy matters. Recently I have attended several club events of such a simple character that one would imagine an entry could be secured of at least a 100 out of a total club membership of 200 or over. Yet what were the facts? An entry of half a dozen or so all told, the competitors in each case being the men who have shared between them all the prizes of the last two or three years. Is there any wonder why the bulk of members leave these events severely alone? Some will not even turn up to witness them, eventually losing all interest in the club and resigning their membership. This is a strong indictment, but it is true in connection with clubs with which I have had some experience. The officials of such clubs should, therefore, realise the facts and set their houses in order.

Club Competitions.—

Clubmen will not continue to pay subscriptions and present valuable prizes (as many do voluntarily, it is pleasing to note) for the benefit of a few experts, particularly if they happen to be trade riders. No! the essence of every handicap—and motor cycle competitions must necessarily be handicaps—is that every competitor should at least possess a fair chance of success. I know of one or two expert riders who have refrained from taking part in their club competitions this year on account of the number of prizes they have won in previous years. All honour to them as sportsmen, but such a condition of affairs ought not to be rendered possible.

In some cases speed judgment competitions have been reduced to a farce. Clocks and speedometers have been seen on motor cycles and cars in front of the drivers' eyes by which the required speed could be judged to a nicety, and seconds only divided the performances of winners and the runners up. To make the bald statement that the honour of the competitors is relied upon under such circumstances savours of hypocrisy and a childish belief in the probity of human nature.

Trade and Non-trade Competitors.

Petrol consumption tests offer a fine opportunity to the trade expert and those with plenty of time on their hands. Some clubmen will spend hours in trying different sizes of jet holes in the carburetter and adjusting the level at which the petrol lies within the jet tube. They will drive over various distances trying a given quantity of petrol at slow, fast, or medium speeds, experimenting with throttle, air, and ignition levers, and generally learning all there is to be known before the event. Others have neither the time nor inclination for these things, or do not possess the requisite knowledge to make minute experiments. They perhaps go to the starter with the machine in the condition they have run it for months. It may be argued that riders who take the trouble to have their machines adjusted perfectly deserve to win, and all credit should be accorded them. Perfectly correct, but they should in after events be handicapped accordingly.

The handicapper of athletic events—such as foot racing—would not dream of placing two men on an equal mark if one were known to get away quicker than the other to the extent of gaining a yard in the first five, or if he had a known reputation of beating the starter to the extent of a fifth or two-fifths of a second, even though the speed of the two men were equal in all other respects. No, men are judged and handicapped on their previous performances.

In my opinion the time has arrived when in all forms of motor competition the merits of competitors must be taken full account of as shown by their previous performances, and they must be handicapped on form in addition to engine power, weight, and other formulæ.

The majority of clubmen now recognise the terms "trade" and "non-trade" riders to be synonymous with "professional" and "amateur" definitions. They should not be allowed to compete together in the same competitions for the same prizes, or, if they do, there should be two distinct sets of prizes for trade and non-trade competitors. It is pleasing to note that in some cases this has been done. In other cases it is only half done, for it is not sufficient to state on an entry form, "In case the first prize is won by a trade com-

petitor, a similar prize will be presented to the most successful non-trade competitor." There should in all cases be offered first, second, and third prizes in each class separately, or at least first and second prizes. Another point is that no competition should be limited to one prize only unless there should be less than six competitors start. The very fact that three prizes are offered should induce large entries, always supposing the entrants are given a fair and equal chance.

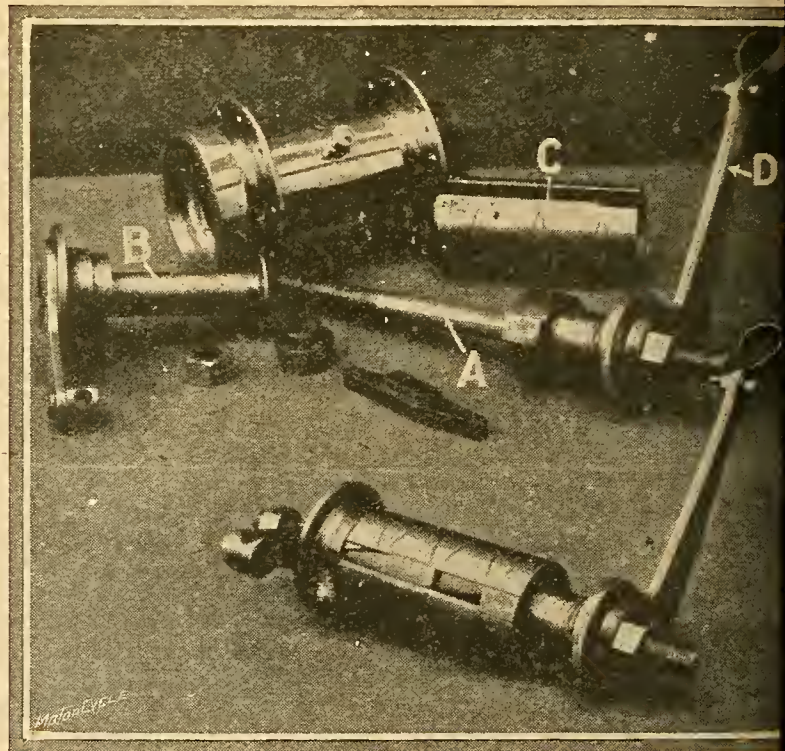
Special engines and machines should always be in a class by themselves, whoever rides them, and machines are sometimes loaned to well known riders who are not engaged in the trade, the only remedy to disqualify machines that are known to vary from standard. It is distinctly unfair to pit special machines against the average club member, many of whom are novices at competition.

Handicapping the men as well as the machines is the only way to give all club members a fair and equal chance. When this fact is recognised and acted upon we shall see practically every member take part in his club events.

J. T. WARD.

HUB BRAKES.

THE recent controversy respecting the fitting of brakes to one or both wheels of a motor bicycle has led to the introduction of a hub brake of somewhat novel lines, illustrations of which are reproduced herewith. The hub shell is of the ordinary type with large cones on which run the balls for the bearings at each end. The spindle A is fixed in the usual manner, and over it is fitted a tubular sleeve by means of which the brake ring C is expanded



against the interior of the hub shell. To prevent the spindle from turning in the fork ends a lever D is attached to the tubular chain stay. The hub is suitable for front or back wheels, and by means of Bowden wire and cable the front brake can be used on a machine fitted with spring forks. The lower of the two views shows the braking arrangement assembled complete apart from the hub shell. The hub is made by Chamberlain's Patent Syndicate, S. Lane Works, Great Wigston, Leicester.

BROOKLANDS OCTOBER MEETING.

THE TWO MOTOR CYCLE RACES.

RIGHT, sunny weather favoured the last meeting of the year of the Brooklands A.R.C. on Wednesday last, and a large crowd of spectators was present. As usual, the two motor cycle

es attracted a great deal of interest, and people thronged round the machines when they were drawn up before the start. There appears to be an irresistible fascination about a motor cycle race at Brooklands in which there are a large number of entries, and though, owing to the small size of the competitors on the gigantic track, it is most difficult to follow the racing except through powerful field glasses, the crowd was, and, in fact, always is, wonderfully enthusiastic.

The handicapper for these events is Mr. F. Straight. Mr. A. V. Blewhite acted as starter, and Messrs. A. G. Reynolds and J. W. Brooker were marshals. The keeper was Captain R. K. Gignall-Wild, R.E.

The October Handicap.

The third event on the programme was the October Motor Cycle Handicap, the entrant of the winner to receive 10 sovs. or cup at option, the entrant of the second 5 sovs. or cup at option, and the entrant of the third 3 sovs. or cup at option.

The race was open to motor bicycles the capacity of the engines of which exceeded 450 cc. but did not exceed 1,000 cc. The distance was about eight and a

half miles. The following are the names of the riders who started and their machines:

W. E. Cook (two-cylinder N.L.G.), G. Lee-Evans (two-cylinder Indian), and H. A. Collier (two-cylinder Matchless);



Competitors in the Autumn Motor Cycle Handicap at Brooklands last Wednesday lined up in the paddock.



Matchless-J.A.P. motor cycles performed the "hat trick" in the October Handicap. H. A. Collier was first, C. R. Collier second, and H. V. Colver third.

scratch; C. R. Collier (two-cylinder Matchless), 10s. start; H. V. Colver (two-cylinder Matchless), 20s.; L. W. Bellenger (two-cylinder Indian), 20s.; H. E. Parker (two-cylinder N.L.G.), 25s.; H. Martin (two-cylinder Bat), 30s.; R. J. Bell (two-cylinder N.S.U.), 35s.; H. G. Partridge (two-cylinder N.S.U.), 1m.; E. B. Ware (two-cylinder King's Own), 1m.; F. Toman (two-cylinder Laurin-Klement), 1m. 10s.; A. Brunton (two-cylinder Rex), 1m. 20s.; W. O. Bentley (one-cylinder Rex), 1m. 30s.; H. H. Bowen (one-cylinder Bat), 1m. 30s.; F. A. McNab (one-cylinder Trump), 1m. 30s.; F. C. Wood (one-cylinder Bat), 1m. 30s.; R. T. Exshaw (one-cylinder Zenith-Gradua), 1m. 38s.; W. H. Bashall (one-cylinder Zenith-Gradua), 1m. 38s.; M. Krause (two-cylinder V.S.), 1m. 45s.; W. Pollard (one-cylinder Quadrant), 2m. 45s.; and J. R. Wild (two-cylinder Eland), 2m. 45s.

There were only three non-starters. As the competitors filed out from the paddock to the starting point near the fork Toman was early in trouble. He was unable to get the machine to fire properly, though it ran apparently satisfactorily on the stand, and he had eventually to retire. Evans made a fine start, but Cook soon lagged behind, owing to a chafed ignition wire causing misfiring. The result was as follows:

Position.	Rider and machine.	c.c.	Start.
1.	H. A. Collier (Matchless-J.A.P., twin)...	964 ...	scratch
2.	C. R. Collier (Matchless-J.A.P., twin)...	738 ...	10s.
3.	H. V. Colver (Matchless-J.A.P., twin)...	964 ...	20s.

Won by about fifty yards. Winner's speed, 70 m.p.h.

The remainder finished in the following order: W. Pollard, H. G. Partridge, H. E. Parker, F. A. McNab, F. C. Wood, G. Lee-Evans, R. T. Exshaw, E. B. Ware, W. O. Bentley, G. R. Wild, and A. Brunton.

Brooklands October Meeting.—

The starting prices were: Wild, 4 to 1; Pollard, Evans, and Bell, 6 to 1; the rest 8 to 1.

The eighth event was the Autumn Motor Cycle Handicap (the entrant of the winner to receive 8 sovs.



W. Chitty, whose first appearance on the Brooklands track proved successful. He won the Autumn Handicap.

or cup at option, the entrant of the second 4 sovs. cup at option, and the entrant of the third 2 sovs. or cup at option). The race was open to motor bicycles fitted with engines which did not exceed 500 cc. The following were the starters:

W. E. Cook (one-cylinder N.L.G.), G. Lee-Evans (one-cylinder Indian), and W. G. McMinnies (one-cylinder Triumph), scratch; F. C. Wood (one-cylinder Bat), 10s. start; F. A. McNab (one-cylinder Trump), 10s.; H. H. Bowen (one-cylinder Bat), 10s.; W. O. Bentley (one-cylinder Rex), 10s.; W. H. Bashall (one-cylinder Zenith-Gradua), 15s.; R. Exshaw (one-cylinder Zenith-Gradua), 15s.; W. Genn (one-cylinder Eland), 25s.; R. J. Bell (two-cylinder N.S.U.), 35s.; H. G. Partridge (two-cylinder N.S.U.), 40s.; W. A. S. Roy (one-cylinder Triumph), 40s.; W. Chitty (one-cylinder J.A.), 1m.; W. Pollard (one-cylinder Quadrant), 1m.; H. Sharkey (one-cylinder Chater-Lea), 1m.; and J. W. Draper (one-cylinder Minerva), 2m. 30s.

Out of the twenty entries there were only three non-starters. Evans, as usual, got away well, Draper, apparently quite a novice, who was mounted on an antiquated 2 h.p. Minerva, gave up in the first hundred yards. The results were:

Position.	Rider and machine.	c.c.	St
1.	W. Chitty (J.A.P., single) ...	340 ...	1m.
2.	W. Pollard (Quadrant, single) ...	453 ...	1m.
3.	G. Lee-Evans (Indian, single) ...	478 ...	scr.

Won by about two lengths. Winner's speed, 50½ m.p.h.

Chitty left Pollard behind in sight of the spectators, there was a wide gap between second and third. The remainder finished in the following order: F. A. McNab, R. J. Bell, H. V. Colver, W. G. McMinnies, W. O. Bentley, F. C. Wood, W. A. S. Roy, and H. G. Partridge.

The handicapping, a most difficult matter to deal with any likelihood of giving satisfaction, came in for a good deal of criticism.

THE END-TO-END SIDECAR RECORD BEATEN.

SINCE Vivian Olsson set up the first sidecar record from Land's End to John-o'-Groat's on a 7 h.p. V.S. last August (time, 65h. 14m.) there have been four further attempts on the record. First, the brothers Bentley tried their luck, using a 5 h.p. Rex, and were successful at the first attempt, and during September a couple of tries were made to improve the figures, both of which proved unsuccessful. Last week M. Geiger clipped 7h. 22m. off Bentley's time, and at 51h. 45m. the record is likely to remain for some months at any rate.

The machine used was a 7 h.p. two-speed V.S., with twin-cylinder Peugeot 80 x 98 mm. engine, and the sidecar a Mills-Fulford fixed wheel. The carburetter was a B.B., tyres Peter Union, and belt Shamrock-Gloria. Leaving John-o'-Groat's on Tuesday morning of last week at 3.53 (certified by J. Robertson, of Wick), Inverness was reached at 10.20 a.m., and a twenty minutes halt was made for refreshments and replenishments to the machine. At 4.35 Perth was reached, only a ten minutes' halt being made here. The record breakers arrived at Warrington at 9.20 a.m. on the 6th inst., leaving twenty minutes later. At Gloucester the time was 2.55 p.m., and here the usual twenty minutes' stop was made. Land's End was reached next morning at 7.38, the total lapse of time being 51h. 45m., as compared with the previous best of 59h. 7m. by Arthur W. and Horace M. Bentley six weeks ago. J. T. Taylor held the watch at Land's End. As usual a representative of *The Motor Cycle* sealed the vital parts of the machine before the start.



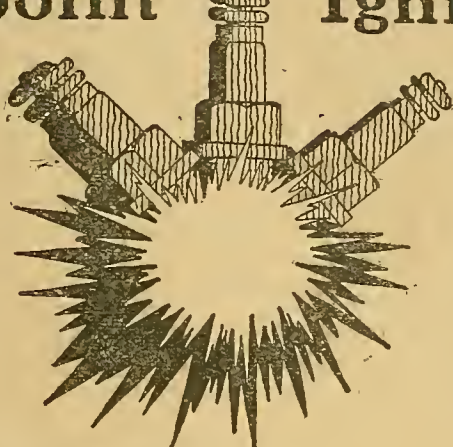
Martin Geiger with W. Lamm as sidecar passenger, and the 7 h.p. two-speed V.S. which created a new End-to-end passenger record last week.

Multi-point Ignition.

Its Advantages Explained

FOLLOWING upon my references to this subject in recently published articles, a number of correspondents have requested further particulars.

In the first place, it should be clearly understood that the essential condition of the absolutely synchronous ignition of the charge or "mixture" at two or more widely separated points. The necessity for perfectly simultaneous passage of the sparks becomes apparent when it is remembered that, at quite usual engine speeds, the entire combustion phase of the Otto cycle has to be completed within the sixtieth part of a second. In racing engines the total time available for ignition, combustion, and expansion—i.e., from passage of spark to opening of exhaust valve—may not exceed one-tenth of a second. Consequently, any lag of one spark behind the other, however small in amount, would render the later spark inoperative. For this



by the Inventor.

single one. For the purpose of explanation, the current may be said to enter at one terminal, flow down the rod or wire T (fig. 1), jump the gap between the internal ends of T and T₁, and then return per T₁ ready to be led to the next plug in order. The last plug of the series may be an "earthed" plug of the usual type, as shown in the diagram.

The Effect

of firing the charge at two or more widely separated points may be regarded as similar to that produced

by dropping a corresponding number of stones into a small pond. The concentric waves produced upon the surface of the latter will intersect or merge in a fraction of the time which any one set of ripples would take to cover the entire surface. So with explosion waves propagated simultaneously from a number of centres. Consequently, a higher explosion pressure than before is attained in time for combustion to be completed and

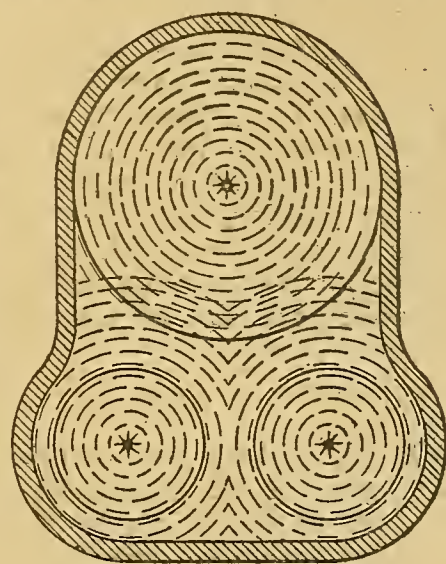


Fig. II.—Section through combustion chamber, illustrating simultaneous propagation of explosion waves from three (*) centres. Ignition completed in about two-fifths of the normal time.

a certain degree of true expansion effected before the exhaust valve opens, as explained in my previous article.

It will be readily understood that, properly applied, this system not only conduces to increased power and true fuel economy, but also tends to

Greatly Reduce Valve Troubles.

At present the spread of ignition from a single point is insufficiently rapid to inflame the whole of the charge at the proper period. Consequently, when the exhaust valve opens, it is not merely to allow of the escape of a quantity of hot, inert gas, as theory requires. Rather the valve may be said to be forced inwards against an unduly high pressure, only to find itself in the midst of a raging blast of liquid flame. No wonder it so soon gives out! But let us imagine—and it is no vain supposition—that by the means already indicated we have secured completion of combustion during the impulse stroke. The heat, previously wasted in burning out the valves and unduly heating the exhaust pipes, etc., has now been utilised for its legitimate purpose—the propulsion of the machine. Consequently the exhaust temperature and pressure is much lower, with correspondingly decreased wear and tear on the valves and timing gear.

It may be asked, how many plugs it is desirable to use, and where in the combustion head they should be placed?

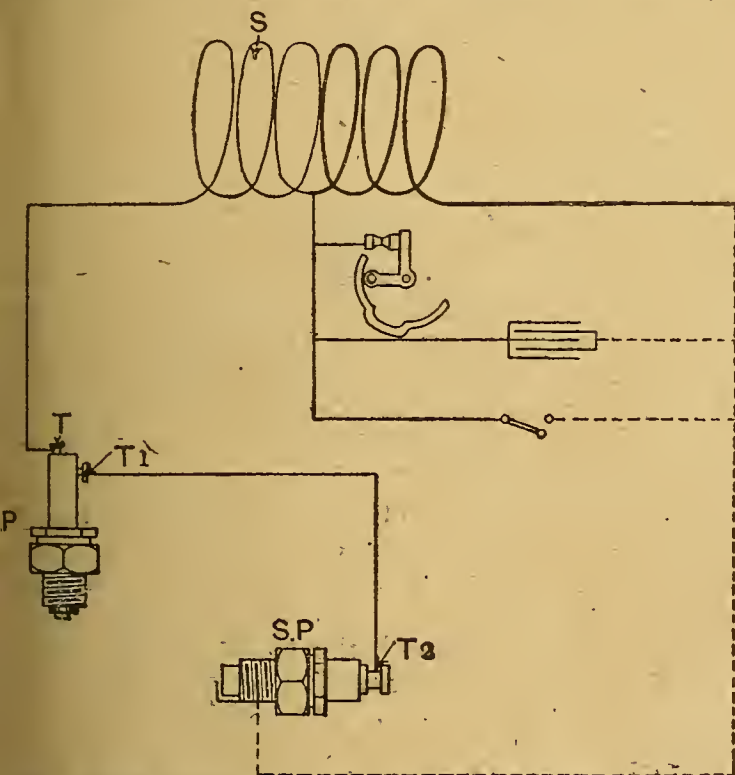


Fig. I.—Diagram of connections for two sparking plugs in series.
D.P. Double pole plug. S.P. Single pole (ordinary) plug.
S. Coil, or magneto armature.
T₁ and T₂. High tension insulated wires connecting sparking plugs.

son, all the sparks firing any one charge are best produced in a series or chain upon a single or common high-tension circuit, the moment of their simultaneous passage being determined by the actuation of a single contact breaker just as if only one spark were being fired.

How it is Done.

Those of my readers who have followed the above remarks will now understand that any ordinary coil or magneto can be made to provide simultaneous sparks at two or more plugs a distance apart, provided only that the extra or intermediate plugs be of the two-terminal type. This form of plug has two insulated electrodes in place of the more usual centrally-arranged

Multi-point Ignition.—

In a large number of the engines at present in use it is hardly possible to use more than two plugs. Even where these are placed side by side over the valves, a distinct advantage results, in spite of this obviously being the least favourable arrangement. A better disposition, where the construction of the engine permits, is to place the second plug over the piston. The triangular arrangement indicated by fig. 2 (see previous page) is one which secures excellent results in fairly large (water-cooled) cylinders; while the single-cylinder car which won last year's principal voiturette event was furnished with no fewer than four simultaneously-sparking plugs spaced at 90° around the combustion

chamber. For the small cylinders of motor cycle engines, however, a series of two two-pole plugs with one of the earthed type probably represents the limit to which it is desirable to go. The most favourable type of engine actually on the market is, of course, that in which the valves are opposed. In such engines a plug over each valve and a third over the piston, all sparking simultaneously, should secure very rapid and complete combustion. The special requirements which have to be complied with for satisfactory and reliable service under the varied and exacting conditions of motor cycle work have necessarily involved a great deal of experiment, particularly in connection with the design and materials of the plugs. R. W. AYTON.

ANOTHER NEW CARBURETTER.

A CHELTENHAM rider sends us details of a new carburetter which has been locally patented. The main novelty in it is the jet. The jet consists of a narrow taper tube, in which a metal cone ascends and descends when actuated by a lever from the handle-bar. This lever takes the place of a throttle, and the cone it actuates has seven grooves cut in its sides. At its lowest position the cone closes the taper tube completely, and the engine sucks in pure air from the single air intake below the jet. As the cone rises, it increases the size of the orifices through which the

petrol is sprayed. The jet is thus gradually and infinitely variable while riding; it cannot be stopped up, as any obstruction is bound to be removed if the jet is fully opened; starting is easy, as all the air is bound to pass the jet, and a big jet can be employed for starting; consumption is claimed to be low, as the size of the jet can be set to suit all riding conditions. We should like to see a sample of this carburetter, which obviously possesses sundry excellent features. Its main merit, perhaps, is that an absolutely clear run is gained for the mixture, as the taper cone serves for a throttle and there is only one air intake.

A TAXATION QUERY.

IT was as long ago as 1905 that, after receiving a query from a correspondent as to whether a motor bicycle which was kept but not used during any one year was liable to licence duty, we entered into correspondence with the Assistant Secretary of the Board of Inland Revenue. To this communication the Assistant Secretary replied that a machine kept but not used during one year was not liable to the Inland Revenue tax. In consequence we have given this information as being official to various correspondents from time to time. Quite recently, however, one of our readers received a call from an Inland Revenue officer, and was informed that he would have to pay the Inland Revenue tax for his motor bicycle, which he had not used during the year. Although he explained the matter to the officer, the latter would not admit that he was right, and in consequence he applied direct to the Comptroller of the Legal Taxation Licences Branch of the L.C.C., and received a reply to the effect that the fact that the machine was kept but not used did not render the tax inoperative, and that the mere fact of keeping it rendered him liable to pay the duty. With these facts before us, we wrote to the Comptroller and en-

closed him a copy of the letter sent to us by the Assistant Secretary of the Inland Revenue four years previously, and after ten days we received the following in our opinion, neither clear nor courteous answer: "In reply to your letter of the 28th ult. relative to your correspondent, Mr. —, I regret that I cannot enter into any correspondence with you with regard to this gentleman. I may say that I am aware of the practice of the Inland Revenue referred to in your letter from the Assistant Secretary of the Board of Inland Revenue." We are of the opinion that the letter either amounts to an admission on the part of the Comptroller that he was wrong in his reply to our correspondent, though the letter is so worded that it does not give this impression at first glance, or may mean that the Comptroller is not in agreement with the views of the Assistant Secretary. The reply is all the more curious as the Act states that the carriage tax is for "vehicles kept and used." The attention of the Auto Cycle Union has been called to the matter, and as it is one which affects the general welfare of motor cycling, the A.C.U. Legal Department will grant our correspondent every possible assistance should the matter go any further.

A NEW FOUR-CYLINDER MOTOR BICYCLE.

THE Wilkinson Sword Co., Pall Mall, W., that old-established firm which has made its now world-wide reputation in the manufacture of swords and bayonets for the British Army, is responsible for the production of an entirely new pattern four-cylinder motor bicycle of up-to-date design. It is to be known as the 7 h.p. T.A.C. (touring auto-cycle), and is designed as a luxurious two-wheeled mount built

on car lines. Almost every part of it is turned out at the company's works, Southfield Road, Acton, and the finest material is used throughout its construction. Consequently the machine will not be low priced. The engine has four separate air cooled cylinders having a bore and stroke of 60 by 60 mm., with automatic inlet valves, the cooling of which is aided by means of wind scoops (not shown in the accompanying

New Four-cylinder Motor Bicycle.—

(Illustration). The crank case is of cast-iron, and divided longitudinally, while in its lower half are hinged inspection windows through which the amount of oil in the crank chamber may be seen. In the upper half there are four bearings supporting the crankshaft. The clutch is of the leather to metal type, 12 in. in diameter, the external portion of which forms a heavy flywheel. The internal portion is easily adjusted and as easily dismantled, so that the leather may be attended to when necessary without difficulty. From the clutch to the gear box the drive is taken through an oblong section shaft of spring steel of ample dimensions, which effectually absorbs any sudden shocks from the engine.

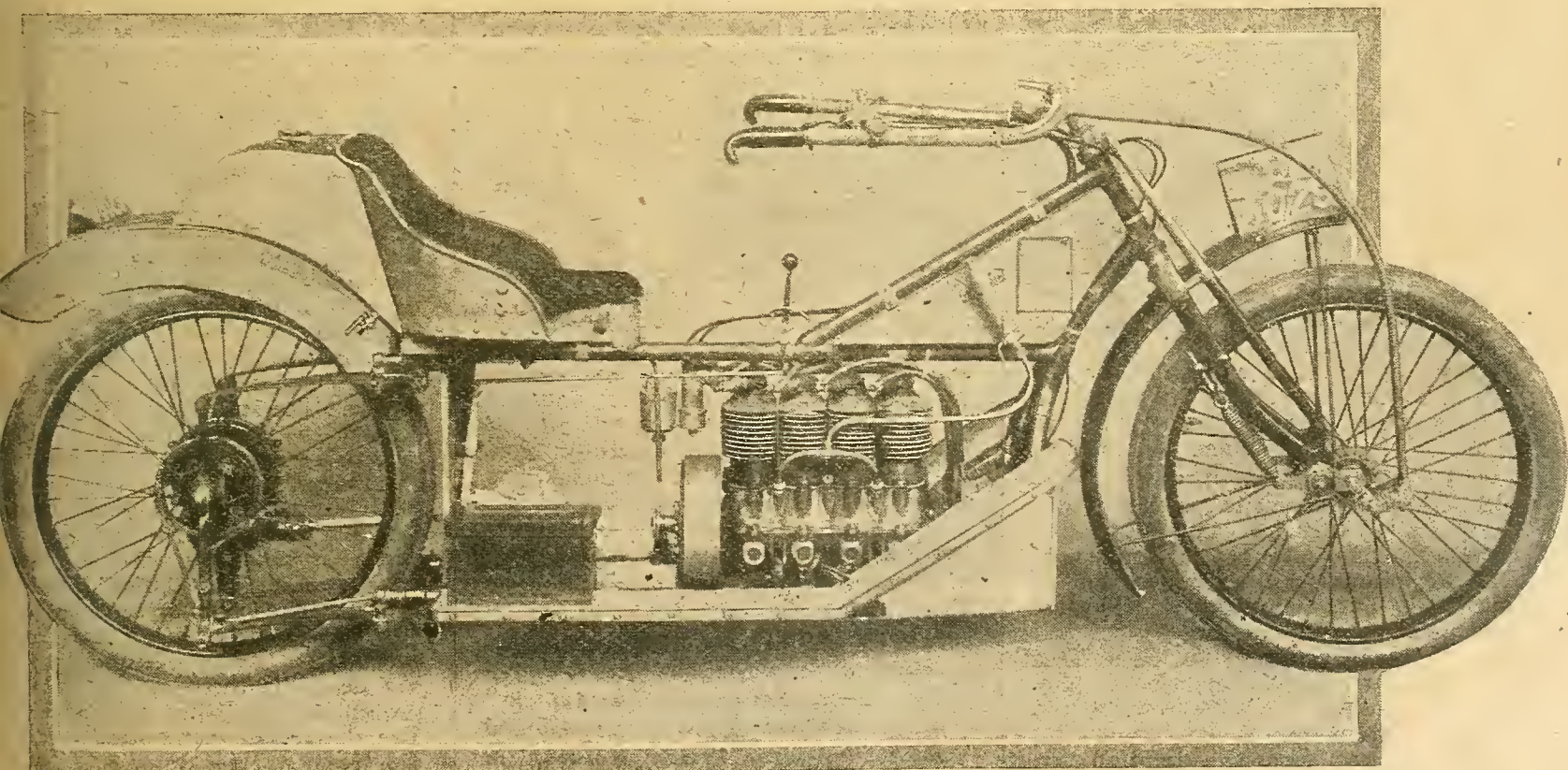
Three Speeds Forward.

The gear box, which is exceedingly compact, contains three speeds arranged in accordance with the best car practice, the top speed engaging by means of an internally toothed wheel, and the permanently meshing gears, being skew cut, totally prevent any wear arising from this portion of the mechanism. The gear box itself is in one casting, so that no trouble should be experienced through any leakage of grease or oil. From the gear box to the worm drive the transmission is by cardan-shaft, with special ball joints machined in the solid and effectually protected from mud and dust. Ball bearings are employed *everywhere* except in the engine. To revert to the latter, the ignition is by the lightweight Simms high tension magneto working in conjunction with a distributor manufactured by the firm, while the carburetter at present used is the Brown and Barlow. The engine is set in motion by means of a long lever operating a bevelled quadrant meshing with a small bevel free-wheel on the forward end of the crankshaft. The machine is suspended fore and aft on laminated steel springs so designed that any movement caused by the irregularities in the road is absolutely vertical. The front forks shown in the illustrations are by Chater

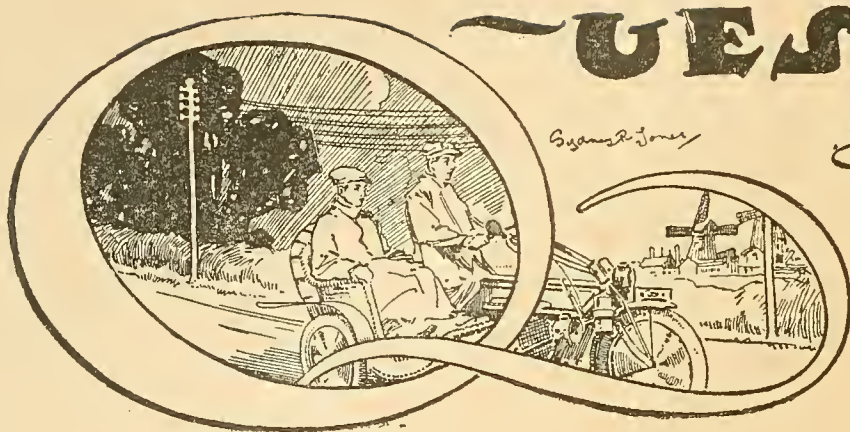
Lea, but in future models the company's own spring forks arranged on the principle now employed in the springing of the back portion will be used. By removing the four bolts which attach the rear wheel mechanism to the springs the wheel may be bodily removed, so that the changing of a cover may be quickly effected. The whole design of the frame brings the centre of gravity as low as possible, the top tube being only 21 in. from the ground.

A Consumption of Sixty Miles to the Gallon.

Instead of the usual saddle, a comfortable bucket seat with a back rest is fitted, and under the cushion is a locker for spares. Behind the locker is the petrol tank, which holds $1\frac{3}{4}$ gallons of spirit, and while on this subject it is interesting to mention that a consumption of sixty miles to the gallon is claimed. As regards control, the standard B. and B. handle-bar control is at present employed, while a separate lever also on the handle-bar controls the ignition. The change speed lever works in a special form of gate resembling that used on Rover cars. The clutch may be operated either through the left-hand pedal or by means of a lever on the handle-bar. The right-hand pedal operates the rear band brake, but in future models there will also be a brake on the front wheel, both being of the internal expanding type. The lubrication is by means of the usual hand pump, the oil tank being carried inside the top tube extension. In it there is a compartment for spares, etc. The frame at first sight seems hardly to provide sufficient clearance between the engine and the ground, but this is not borne out in practice, as we saw the machine ridden over exceedingly rough ground—in fact, over part of a cinder heap and over 3 in. baulks of timber. During a short trial run we found the clutch take up the drive very smoothly, the change of gear to be remarkably easy, and the engine to be extremely well balanced. We hope to make a further acquaintance with this most interesting machine on the road at no distant date.



An entirely new pattern four-cylinder motor bicycle manufactured by the Wilkinson Sword Co. The cylinder dimensions are 60 x 60 m.m. and the machine is worm driven.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor City, E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Puncture-proof Tyres.

?

I have a Rex Litette tricar running upon very light tyres (26 by 2½). The front tyres are continually puncturing, and I find it a great nuisance. Can you give me any information as to—(a) a composition for filling tyres to render them puncture-proof or even solid? I believe there is a composition called Elastex or some word similar. (b.) Whether I could have solid tyres fitted to the front wheel, or would they be absurd and too heavy? The Litette has plenty of power, so weight is immaterial up to certain limits.—PUNCTURE PROOF, Chatham.

Neither of your suggestions is practicable. Elastex is no longer on the market. We do not know of any composition with which we can recommend you to fill the tyres to render them puncture-proof. Solid tyres are quite out of the question, as the vibration would soon shake the machine to pieces. The best thing would be to rebuild the wheels with larger rims and fit heavy 26 by 2½ pneumatic tyres. Puncture-proof bands fitted between covers and tubes might overcome the trouble.

Firing in Silencers and Other Queries.

?

(1.) Please tell me why my engine (5-6 h.p. Peugeot) fires in the silencers? It does this for a time and then goes right again. (2.) The exhaust valve tappet has lately developed a "click" when the valve shuts. Is this harmful? (3.) When engine is running slowly it knocks badly. Surely this is not through carbon deposit, as the engine has not run 100 miles. (4.) Can you tell me how to stop the front cylinder inlet valve gumming? I have to squirt petrol in before I can start. (5.) I use about one gallon of petrol to forty miles. This seems a lot to me. I have an Amac carburetter, and cannot use full air.—C.E.

(1.) The explosions in the silencer occur occasionally through an unexploded charge getting into the exhaust box. The explosions may either be due to misfiring, bad carburation, or valve troubles. (2.) We do not think you need take any notice of the click. This is simply a slight amount of play caused by wear. It will probably not need attention for a long time. (3.) Probably you have the ignition too far forward and do not close the air

to suit the speed at which the engine is travelling, or the gear is too high for very slow running. (4.) Oil more frequently, but in smaller quantities. At present the oil seems to be getting past the rings. (5.) Forty miles to the gallon is certainly rather excessive. You might try reducing the level of the petrol and using a smaller jet, at the same time cutting down the main air supply.

Carburetter Stoppages, Exhaust Valves, and Accumulators.

?

I have a 3½ h.p. 1907 Minerva and sidecar. (1.) My carburetter is continually getting stopped up with fine powdery rust that probably comes from the interior of the tank, but I cannot very well see inside the tank, as it is not wise to introduce a light near to a petrol tank. Can you suggest anything short of a new brass tank? (2.) I am continually breaking the exhaust valve, and it is becoming expensive. It is not due to using too strong a mixture, as I always use a minimum of petrol and maximum of air. Can you suggest a remedy or a cause? (3.) I have two accumulators; one is always running down. I have been told there is probably a "short" in the interior. The acid has been renewed, but it is no better. Is it advisable for me to take it to pieces myself and look for a defect? I have broken the terminal of the other one where the brass is joined on to the lead. It is now soldered temporarily, but is this likely to last, and if not what should be done?—A.B.

(1.) Perhaps you do not strain the petrol carefully before you put it into the tank. The rusty colour is due to oxidation of the metal, which deposits in the form of powder in the pipes and tank. The only thing you can do is to dismount the tank and wash it very thoroughly with petrol two or three times over, and carefully blow out the pipes with a powerful tyre pump. If this does not cure the trouble a new brass or copper tank is the only possible remedy. (2.) We should sug-

The 1d. Edition of "The Autocar."

Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.

gest your using an exhaust valve made of special metal, as the breakages are probably due to the valves being made of incorrect material. A number of special valves are advertised in our miscellaneous columns. (3.) We should advise you to send away the accumulator to a firm of specialists. You cannot well repair it yourself. We are afraid the accumulator repair will not be a permanent one, as any repair to the lead terminals should be done by burning and not by soldering.

Overheating of Twin-cylinder Engine.

?

My 5 h.p. twin Rex engine overheats. It has been lately overhauled and fitted with B. and B. handle-bar control carburetter in place of Longuemare. Since the alteration overheating has occurred. The motor is in good order; the compression fairly good; cylinders and pistons cleansed of all deposits; have tried various sized jets; but no improvement as regards overheating of engine. I wonder if any reader of your valuable paper has experienced a similar trouble to mine. As there is a spraying cone above the nozzle of the jet, do you think there would be some improvement if I were to remove and devise something above the nozzle so as more thoroughly to diffuse the petrol? I cannot imagine what it is that causes the overheating. The exhaust valves are timed to close at top of stroke. Is that correct, or should they close slightly before the piston reaches the top?—J.W.

It would appear that the new carburetter is not adjusted correctly, seeing that the engine did not overheat with the old one. You mention that you have tried different sized jets, which is the right thing to do, but you do not mention anything about the petrol level. This is important for a cool-running engine. The spirit should rise to within ½ in. of the top of the jet. You will require a dummy jet to test this, obtainable from the makers of the carburetter. With regard to the engine, it may be that the exhaust valve springs are weak, or that the exhaust cams are worn, so reducing the lift of the valves. Are you by chance using doubtful quality of lubricating oil, and do you lubricate frequently enough? We doubt if there would be any improvement in fitting a spraying cone. The B. and B. carburetter gives splendid results when correctly adjusted. The valves seem to be timed correctly.

Repairing an Old Cylinder.

I have had the misfortune to break a small piece out of the top of my De Dion cylinder. There is a ring at the top of the cylinder that the combustion head fits on. The compression gets away where the piece is broken out of the cylinder. The breakage is about $\frac{1}{2}$ in. long by about $\frac{1}{8}$ in. deep—not deep enough to interfere with the working of the piston. I have taken engine to a garage, and the manager advises me to have the top flange turned down one-eighth of an inch; also the ring, as it is not possible to braze cast-iron. The cylinder will stand one-eighth of an inch being turned away, but will it interfere with the proper working of the engine?—DOUBTFUL, Exeter.

Turning one-eighth off the top of cylinder will raise the compression slightly, not, perhaps, sufficiently to cause overheating; in fact, it might generally prove the running of the engine, as old De Dion tricycle engines have rather low compression. In any case you may have to scrap the cylinder, so turning off one-eighth of an inch would not be an expensive experiment, we should advise you to try it.

Touring in Scotland.

I purpose going from London to Pitlochry. I want to go one way (say East Coast) and return, say, through the Lake District and Derbyshire. My motor cycle is a $3\frac{1}{2}$ h.p. 85 by 85 two-speed Phelon and Moore, and decar. gears 6 to 1 and $11\frac{1}{2}$ to 1. Passengers' combined weight, 19 stones. Could you give me an idea of best route as regards scenery and roads, avoiding the Lancashire and Midland manufacturing districts? With regard to the Lake District, should I be able to get over the mountain passes? I can manage Wetherham all right on the low gear.—"HARRY LAUDER."

London to Pitlochry East Coast route: at North Road, Doncaster, Ferrybridge, Wetherby, Northallerton, Darlington, Durham, Newcastle-on-Tyne, Berwick, Edinburgh, Perth, Pitlochry. To return through the Lakes: Pitlochry, Perth, Stirling, Drie, Carlisle, Lanark, Abington, Hat, Lockerbie, Gretna, and Carlisle. I can enter the Lake District *via* Carlisle, but you will have to climb up (easy gradient), or from Carlisle can go to Bothel, and enter the Lake District by Bassenthwaite and Ambleside, Windermere, Idal, Kirkby Lonsdale, Settle, Otley, Ilkley, join North Road or Leeming Lane near Boston, then Aberford, Doncaster, and so on. We know both routes, and strongly recommend the latter for travelling to and from the Lake District. In regard to hills in the Lake District, you will be able to climb except, perhaps, Honister Pass. Honister Pass might pull you up—it ends whether you are a skilful rider or not—but we think by stopping your passenger for a few days on the steepest gradient, you could climb that also.

Poor Compression and Sluggish Starting.

I have a late 1907 5 h.p. twin Vindex Special, and should be glad if you could kindly enlighten me on the following points: (1.) Lately, although the engine (a Peugeot) has quite sufficient power to take me up any hill I have yet met with, I find that when I push the machine forward the compression of the front cylinder is very bad; in fact, I can almost wheel the machine over compression without resistance. I can hear the air escaping (I think inside the cylinder) with a hissing sound. I may say that about a fortnight ago the engine was taken down, and a piston ring on each piston was found to be broken, each being replaced by a new one; the valves were ground at the same time, and when the engine was replaced it had good compression in both cylinders. I cannot find any leakage round the valve, compression tap, etc. Can you give me any idea as to where the leakage is, and should you advise me to take the engine down again, and see if it is due to piston rings? (2.) The engine is, and always has been, very hard to start when cold, although the valve springs are both of the same tension. Some friends of mine think that this hard starting is due to the carburetter, which is an F.N., and is fitted some distance behind the cylinders. When once the engine is warm it can be started quite easily, both cylinders commencing to fire directly, even at sharp walking pace. Do you think that this hard starting when engine is cold is due to the distance of suction of gas to the cylinders, and would the fitting of a Brown and Barlow carburetter between the cylinders facilitate starting? The sparks are excellent, and I, of course, always inject petrol into the cylinders when the engine is cold before attempting to start. (3.) When the engine is running I cannot keep it at a steady pace—it either wants to go at about twenty miles per hour, or not at all, and I always have to drive with the exhaust half lifted. If I close the throttle any more, the engine ceases to fire, and if I retard very much the machine goes in a series of jerks. Do you think that this is also due to the carburetter?—C.W.

(1.) Look for a crack in the cylinder, also test all joints by spreading lubricating oil over them, and if you are still unable to find the leak, we should advise you to take the engine down. You may find it necessary to have the cylinders rebored and new pistons fitted, when, of course, the engine would be like new. (2.) With regard to the difficulty in starting, this should be quite easily overcome. If you fit a device to cut off part of the main air supply similar to the one illustrated on page 713, September 22nd, starting will be rendered much easier, especially in cold weather. The engine will start practically at once when the shutter is closed. This would be a much cheaper way of getting over the trouble than fitting a new carburetter,

as there is no reason why the present one should not work quite well. (3.) This bears out our theory that the engine gets too much air at slow speeds, consequently with the device mentioned you could still close off the air when the throttle is barely open, which would allow you to run at almost walking pace.

Valve Setting.

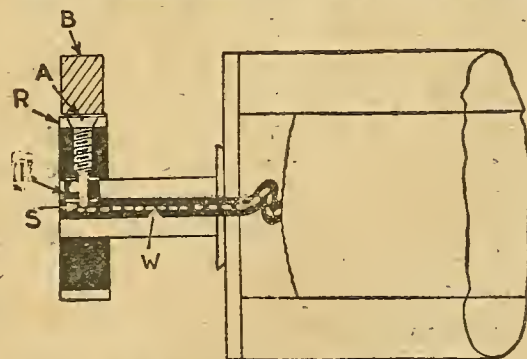
I should be obliged if you would let me know the best position of the inlet and exhaust valves to obtain the most power from a $3\frac{1}{2}$ h.p. Rex for hill-climbing, also for setting the same valves for getting the most speed on the level. I have just fitted a B. and B. handle-bar controlled carburetter, and I am troubled with overheating, although I have given all the air I can until engine misfires.—E. W., Durham.

Obviously the makers know the best position for the valves on their own engine. If you wish to check the setting, the exhaust valve on most motor cycle engines commences to open within about one-tenth of the end of the working stroke, and is on its seat at the end of the exhaust stroke. The inlet valve usually commences to open when piston has completed a fraction of the induction stroke, varying from $\frac{1}{8}$ in. to $\frac{1}{4}$ in., according to the length of the stroke of the engine and the speed at which it runs. The latter remark refers to a mechanically-operated inlet valve. In all probability the reason you are troubled with overheating is because level of the petrol is too high in the jet tube, or the jet tube has a hole for the petrol which is too large.

READERS' REPLIES.

Mysterious Magneto Trouble.

Herewith I am sending you a sketch showing the adjustment I had to make to my machine—a similar one to your East London correspondent's $3\frac{1}{2}$ h.p. N.S.U. The machine ran badly for a time, then failed, and would run only with the help of a battery. The trouble was found to be at the screw



A. Contact screw. B. Carbon brush.
I. Insulation.
S. Point where screw did not touch wire W.
W. Insulated wire from armature.
The insulation is shown black.

A, which made imperfect contact with the wire W, which passes through the centre of the armature shaft. The insulation at I was also imperfect. When these matters were put right the engine ran well. The sketch is not accurately to scale, being drawn from memory after three years.—GODFREY M. MACKAY.

Occasional Comments

By "IXION."

Valve-grinding Up-to-date.

Listen and wonder, ye members of the old brigade! I saw an exhaust valve well and truly ground in to its seat within five minutes the other day, and that without removing the valve spring or washer. How was it done? The machine was a Triumph. The spring was first compressed and the cotter withdrawn by means of a Duco tool, which was left in place to support spring and cup, whilst the Triumph valve tool was used to withdraw the valve. The Duco tool held spring and cup in place while grinding was performed, and after the last speck of abrasive had been washed out, the valve was slipped back, cotter inserted, Duco tool unscrewed—and there you are! When I think of two men, four hands, a long screw-driver, a pair of pliers, a car tyre lever, many objurgations and more barked muscles about four years back, I wish—well, I wish I had been born a few years later.

The End-to-end Record.

The time has arrived when the powers that be ought to consider whether they will allow further attempts on Land's End to John-o'-Groat's records by two-wheeled machines. As long as such records are considered to hold a sentimental value, men will be found to try and break the latest figures, and the sporting nature of the attempt would alone secure a constant succession of attacks quite apart from trade interests. From a sporting point of view we should all thoroughly enjoy watching the gradual reduction of the time down to twenty hours or so—whatever is the minimum period in which a fearless lunatic on a high-powered racing machine could cover the distance, if he struck the best of weather and the best of luck. But there are other considerations which rank higher even than pure sport. Sport may be carried to a pitch at which it may develop into selfish foolhardiness, and even lead to manslaughter. We should all be extremely sorry if one of our sporting cracks killed himself or somebody else on one of these record jaunts. That this eventuality is quite on the cards is apparent when we reflect that the End-to-end route is by no means an ideal road for touring, let alone for racing; and that the average speed of the existing record works out at about twenty-six miles an hour. To maintain such a speed as this necessitates taking grave risks, both from a public and a personal point of view. On the other side, there are few advantages to be reckoned. We now know that at least a dozen different makes of machines can with reasonable luck, and a good man in the saddle, cover this route in thirty hours or so. When the record changes hands, we gain no new knowledge about the machines on the market. We simply learn that a new crack, with a desire for notoriety, an instinct for sport, and a fair share of good luck, has taken a few more risks and faced a few more privations than his predecessor on the honours list. Fatalities may easily result from further assaults on the existing figures; and

if they do, the conscience of the rulers of the sport will not be comfortable. I personally am of opinion that the time has arrived for the A.C.U. to put its foot down, and prohibit further attempts, under penalty of five years' suspension for the rider, a penalty to be extended to all machines of the make he rides if it can be proved that the makers were privy to his doing. The record was once a matter of public interest. It is now a matter of purely personal interest, and its being for the public is one of danger. A further point is the huge expense of each attack, an expense which in the case of trade ventures falls ultimately upon motor cyclists as a whole. Needless to say, none of these objections apply at present to attempts on passenger record. Any new tricar or sidecar combination desirous of proving its merits could not do better than essay this run, as the present average is within the legal speed limit, but as soon as the average speed of the passenger machines is in excess of the limit the same arguments will apply to them.

The Weight Question.

I can see already that the visitor to this year's Stanley Show is in for a puzzling time. Never before will so many first-class machines have been staged. At stand after stand there will greet us an array of motor bicycles all much on a level both in general design and in workmanship, while the competitive records of many of them will be tolerably similar, though some will stand out because they are ridden in greater numbers. The puzzled visitor will seek some canon by which he may differentiate them, and I should respectfully suggest that when other things are equal, weight should be made the deciding factor. For instance, in selecting my own mount for 1909 I shall find two machines both bristling with brains, and each fitted with the same make of engine; or, again, I shall find two excellently designed mounts each fitted with engines of equally good workmanship and equal high efficiency, though of different makes. But the difference in weight may be as much as 40 or 50 lb., and though the two engines may be equal on the test bench, this difference in weight will prevent their being equal on the road, while I shall reap the benefit of the lesser avoirdupois in other respects as well. This is where the old established make scores over the newcomer. Every detail of the older machine has been modified in size, strength, and material by literally millions of miles of experience. On the new make ample margin has been left for accidents, pending the arrival of ripe experience. Therefore my tip for Stanley is, "When in doubt, lift the machine off the floor, and, if other things are apparently equal, plump for the lighter mount!"

The Moto-Rêve Co., Ltd., have moved into new premises, the address of which is the Moto-Rêve Works, Acton Vale, W.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A Challenge.

[300.]—The Hendee Mfg. Co. make a comparison of the capacities of our 5 h.p. Matchless (738 c.c.) which ran the T.T. Race and their Indian (714 c.c.) which ran second, with the evident intention of suggesting that their machine was the more efficient of the two. They, however, give the respective weights of the riders, which as given are H. A. Collier 11 stones and G. Lee Evans 7 lbs. The position is this, that our Matchless was of 15 and a half per cent. greater cylinder capacity and carried fifteen per cent. more weight of rider. These facts would be sufficient to show the relative efficiency of the two machines, but we should like to see this settled once more. We have much pleasure in hereby challenging the Hendee Co. to match Mr. G. Lee Evans against Mr. H. A. Collier, both to ride the identical machines used in the T.T. Race, for a race on Brooklands Track for any distance they prefer, and for a stake of £25 aside, which stake we will deposit with *The Motor Cycle* immediately on their acceptance of our challenge.

H. COLLIER AND SONS, LTD.

Wind Screens on Sidecars.

[301.]—In reply to J. F. Briggs's letter [No. 4286] in issue of September 29th regarding the wind screen fitted to my sidecar, which was illustrated in the issue of September 29th, page 691, I obtained this from Taylor and Co., 237, Bedford Road, Edmonton, N. It is attached to the sidecar by two brackets, which are easily fixed, and the screen can be lifted right off if not required, leaving the brackets as before. The total weight is a little over 3 lbs. I have ridden 1,466 miles since fitting the screen, and under ordinary conditions do not notice any difference in speed; against a strong wind it certainly must put a little more work on the engine, but as I have a 6 h.p. engine this is more than compensated for in the extra comfort of passenger. I previously had a 3½ h.p. with sidecar, and from my experience with a machine of this power I would not advise fitting a wind screen to it.

F. E. LEE.

Two-stroke Engines.

[302.]—I quite agree with a recent leaderette published in your columns on "Two Stroke Engines," and am sorry to see that the A.C.U. considers it is necessary to handicap the type of engine in all forms of competition. I can understand its action with regard to hill-climbs when the results are calculated on a formula in which the cubical capacity of the engine plays an important part, but in a pure race where there are no limitations on the petrol consumed and the formula is used, I think it would have been most interesting to see what the single-cylinder two-stroke could do. By the way, it is a surprise to me that the two-stroke engine has not been more generally exploited on motor cycles. Its advantages are many, and the disadvantages appear to have been mostly overcome. An engine minus inlet valves, valve springs, timing gear, and their attendant troubles, must not only give less trouble to the owner, but last longer than the four-cycle design. Compression is maintained indefinitely, as it is only dependent on the wear of the cylinder, piston, and rings. I hope ere long we shall see a Premo, Rex, or Scott two-stroke motor bicycle ridden in a scratch event, say on Brooklands Track, and if it can do no more than hold its own with machines of equal dimensions it will be my choice for 1910 on account of its simplicity alone.

DEUX TEMPS.

Lessons from the Tourist Trophy Race.

[4303.]—In your summing up of lessons from the T.T. Race you observe that the first five machines have mechanically operated inlet valves. Now, as m.o.i.v. *versus* a.o.i.v. has been an old subject of controversy in *The Motor Cycle*, it would be interesting to know if, in face of the above result, there are still as faithful adherents to automatic inlet valves as the mechanical type. I never had any doubt personally, but as some riders seemed to be just as enthusiastic over the automatic type as I am over the mechanical type, I am anxious to know if they have yet given in. If Mr. H. A. Collier would oblige us with his opinion it would be interesting. I notice in his twenty-four hours' record ride he used a.o.i.v., but in the T.T. Race he had an m.o.i.v. engine, but, as "Road Rider" observed last week, the engine is probably unsuitable for touring use owing to the liability of the valves falling into the cylinder in case of breakage. The Indian and N.S.U. apparently suffer from the same disadvantage, and I should be glad if the makers or someone would tell me why stops cannot be fitted to prevent the valve heads entering the cylinder. I want to order a new machine at the Stanley Show, and I have decided this much: I will have mechanical valves, but if there is a chance of the valve heads getting into the cylinder and probably breaking the piston, I shall certainly have none of the overhead type, even though machines fitted with these engines may be faster. Meanwhile, I should be interested to know if any reader has had a smashed piston on a standard 1909 machine owing to a valve head falling into the cylinder.

M. C. L.

English v. French Measurements.

[4304.]—Since the International Tourist Trophy has again been won on a British machine, it seems a favourable opportunity to raise the question of English *versus* French measurements, and to ask whether it is not possible to take a bold stand in favour of the use of "all-British dimensions"?

Up to now the usual method has been to give the bore and stroke in millimetres, cylinder capacity in cubic centimetres or litres, tank capacity in gallons, weight in pounds avoirdupois, and distance in miles, so that we have to put up with an absurd and inconsistent medley of measurements.

Most of this confusion seems to be mainly due to a snobbish idea that the millimetre, being derived from France, must be more scientific and accurate than the common inch. Permit me, however, to contend that the inch, if divided into 10, 100, or 1,000 parts, provides a convenient and accurate system of measurement, and one "understood of the people."

There really seems to be no adequate reason why in this country (or in America) the motor cycle rejoicing in a 3 in. cylinder should be disguised as 76 mm. bore, or that the easily understood capacity of 50 cubic inches should be made incomprehensible by conversion into 493 cubic centimetres! In the list of entries for the T.T. Race the capacities of the competing makes of engines made an imposing list of cubic centimetres just about as intelligible to the general public as the numbers in a telephone directory.

This is particularly unfortunate, for if these capacities had been given in cubic inches it would have assisted the non-technical public in comparing the actual sizes of the competing engines, and would have conveyed, in figures easily grasped and retained in the memory, a definite idea of the comparative piston displacements in relation to the listed horse-power.

ALFRED A. SCOTT.

Motor Cycle Taxes in Rhodesia.

[4305.]—With regard to "AW 354's" letter in your issue of August 4th, there is no revenue tax on motor cycles in Rhodesia, but a duty of twelve per cent. *ad valorem* is levied by the Customs Union in any case. Petrol in Bulawayo costs 4s. a gallon, and is very inferior at that. You people in the Old Country who only pay 1s. 4d. a gallon are very lucky.

Anyone who requires a thorough working knowledge of motor cycles cannot do better than travel on South African roads, as by so doing all the bad points in one's machine are shown up, besides which, in this part of the world, one must be one's own mechanic.

Notwithstanding this, it is possible to have most enjoyable runs, and punctures on the veldt roads are few and far between.

The crankcase should not be near the ground for this country (it is liable to be broken by stones, etc.), the Triumph being, in my humble opinion, too low. The heavier the machine the better, as lightweights career about like a cork in a sea over the rough roads.

Selukwe, S. Rhodesia.

PERCY C. W. EWAR.

An Explanation.

[4306.]—In justice to myself and to explain what must be to your readers a most mysterious episode, I beg to be allowed to detail the circumstances which led to my unfortunate collision with Mr. Munroe on the eve of the Tourist Trophy Race. Reference to Clause B of the printed rules will show that it was most emphatically provided that no competitor should under any circumstances be on the course after 8 a.m., the penalty being instant disqualification. I never heard that this rule was anything but rigidly unalterable, and all competitors, so far as I know, carefully respected it.

On the morning in question I had completed four circuits and continued to Creg Willey, being anxious to test my machine on the hill after continuous running. Being satisfied with the climb, I stopped at the top, having encountered another entrant, who warned me that we had only five minutes in which to return to Ballacrairie before eight o'clock (this being the nearest point at which we could leave the course). So we turned back. In returning we were joined by other competitors. At this time it was clearly impossible to start and complete a lap before eight o'clock, and I did not expect that such an attempt would be allowed. This first warning of danger was when Mr. Munroe appeared rounding a corner about fifty yards ahead, and at a speed of about fifty miles an hour. A determined attempt to avert disaster drove me into the wall, but Mr. Munroe did not completely clear me and our handle-bars touched.

After explaining my case to the officials, they said that it was generally known that a circuit could be made up to any point three or four minutes to eight. This seemed and still seems to me a flat contradiction of Clause B. Nevertheless, I was disqualified, and I am still unaware on what grounds. Was it because I was riding the course in the wrong direction? Or should I have escaped disqualification if I had escaped the collision?

J. W. LENO.

Hill Climbing.

[4307.]—In reply to Mr. Dickson [letter No. 4274], not get up the hill in question, but had to stop twice. machine had run about 8,000 miles, and the ring slot cylinder were worn, so that the compression was not good. Had the engine been in first-class condition I might have managed it.

In August last year I tried to climb Honister Pass the Buttermere side, but found it a mass of loose stones. After several stops and restarts I got about thirds of the way up the steep part, when the back absolutely refused to grip, and simply spun round every I engaged the low gear. Had I had non-skid tyres might have done better.

It was on June 30th that I climbed Bealoch na Diabady, but my letter was not published until some after I wrote it.

C. R. NANS

Suggestions for the 1910 T.T. Race.

[4308.]—The articles in last week's issue of *The Cycle* dealing with the T.T. Race are intensely interesting and I think that the views of some of the competitors also prove of interest.

This year's race was a pure speed test, and I think many of the riders, especially amongst the amateurs admit that the machines were too fast for the course. I know of several competitors who simply dare not drive out on several portions of the road; the uneven surface high speed combined made it a difficult matter to stay on a straight course. Most of the machines were capable of 70 m.p.h., and I contend that this is too high a speed for such an event as the T.T.

Next year I should like to see three classes running, certainly think that the lightweights should be given opportunity of proving their capabilities, and therefore a finer test than the T.T. Race.

Now that we know what speeds can be obtained with unlimited fuel supply, I think we might again impose a limit on the lines of last year's race.

The bore and stroke for single-cylinder machines certainly reached the limit, and to go on increasing the of single-cylinder engines will prove to be a step in the wrong direction. At the present time valves break with alarming frequency on many of the high compression single-cylinder engines.

Finally, I think that the regulations for next year should tend to reduce the speed (remember it is a "tourist" race) otherwise transfer the race to Brooklands, where speed can be indulged in with safety.

A COMPETITOR

EXPERIENCES WANTED.

"R. M. S." would like readers' experiences with the automatic carburetter.

A few days ago we received a communication from C. P. Cook bearing the address 239, Albert Road, Birmingham. A reply addressed as above has returned marked "No such number in Albert Road, Birmingham." Will the writer send his correct address, where query he raised shall have attention?



Start of
October
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Brooklands
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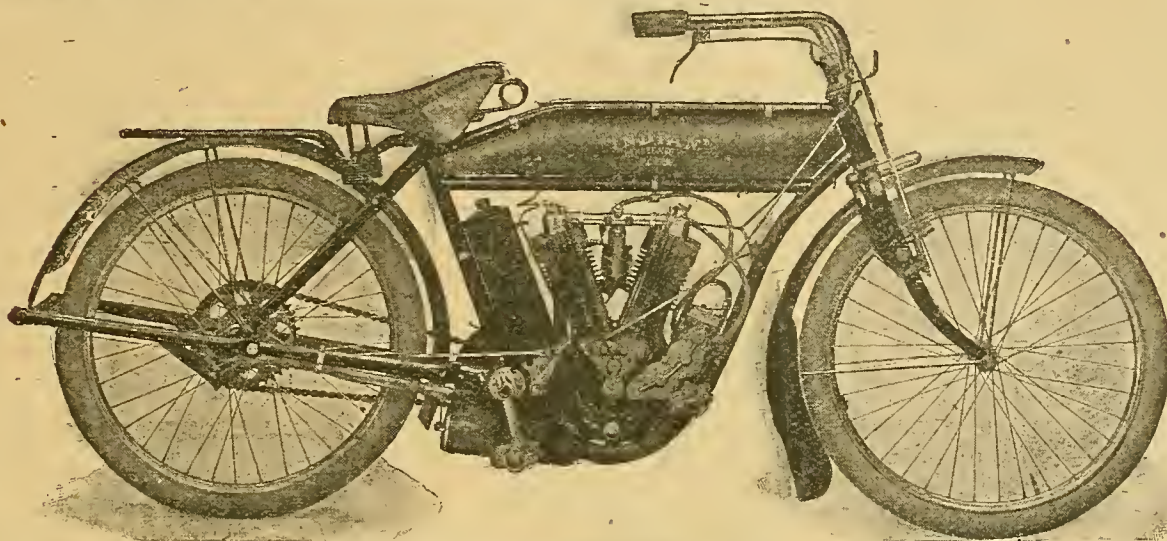


I am the

INDIAN

Although I ran 2nd to the winner of the T.T. (at the first time of asking, mind), a machine of greater capacity, and although I turned the tables in the hill-climb on the following day, I am designed throughout as a fully equipped touring Moto Cycle, fit and ready for a season's hard road use, and my successes serve but to prove my great efficiency, which means to my owner, economy in running, reliability, speed—in a word, SATISFACTION.

Lists now ready; write—
HENDEE MFG. Co.,
 J. H. Wells, London Manager.
 84, Gt. PORTLAND
 St., LONDON, W.
 We are exhibiting at
 the Stanley Show—
 Stand 132. Nov. 19
 to 27.



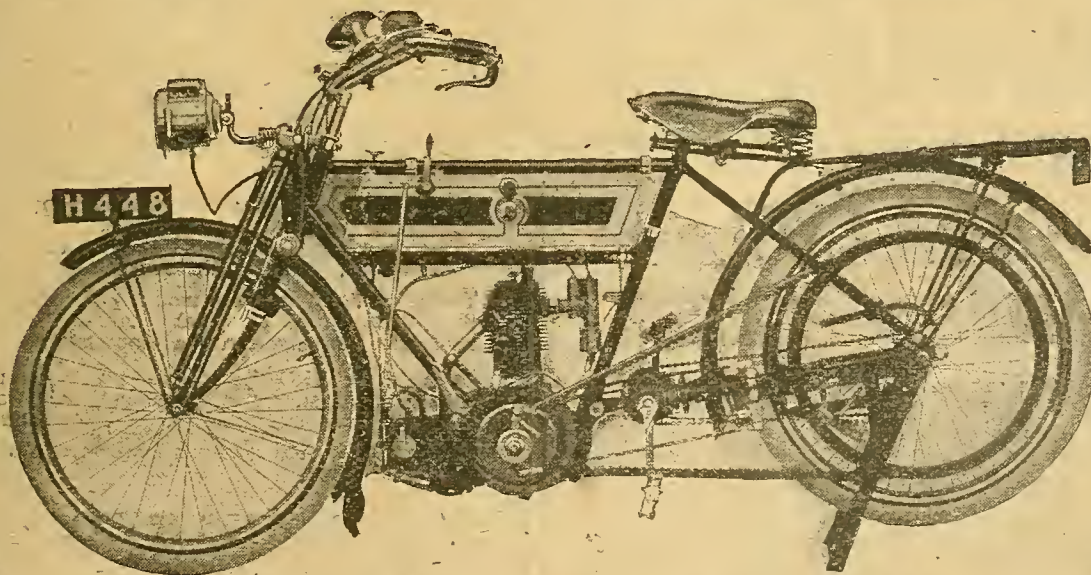
THE GRADUA GEAR has scored a first place in every Hill Climb in which it has competed on Formulæ of efficiency.

COVENTRY HILL CLIMB - - FIRST	HERTS COUNTY A.C. HILL CLIMB FIRST
BARNSELY HILL CLIMB - - FIRST	OXFORD v N.W. LONDON - - FIRST

Suitable for
all weathers.

Any gear for
any road.

Multiplicity
of gear ratios
with mini-
mum work-
ing parts.



The **Gradua Gear** has a fine all round record for reliability, speed, hills, and traffic work.

Converted TRIUMPH, gear operated by Pedals

12 Gns. (fitted).

Both Zenith and Zenette (spring frame) Gradua machines are on view at Sherwell's, 46, York Street, Westminster.

ZENITH MOTORS, Ltd.,

WEYBRIDGE.

(Phone No. 4.)

1st

BROOKS
ANTI-VIBRATORY
MOTOR CYCLE
SADDLES & SEATS.

Tourist Trophy Race 1909.

It is a fact worth emphasis that in the above race the machines of four out of the first five riders were fitted with the world-famed BROOKS Saddles.

These riders occupied first, second, third, and fifth positions, and their success makes telling testimony to the merits of the BROOKS, for no fitment can influence speed and staying-power as the saddle can.

First in **that** race, the BROOKS is also first in the race for popularity—and the reasons?—

Because its every model is the direct result of the practical experience of the practical rider—

Because its comfort-giving qualities make for health and happiness a-wheel—

Because it is perfect in design, material, workmanship, and finish.

Remember, no other Saddle can embody the BROOKS Compound Springs—the springs which absorb all vibration within themselves—and, by their compensating action, eliminate all tendency to bounce.

These are fitted to every model, and make possible that perfect comfort which enables the rider to undertake the longest ride without fatigue.

In short, the BROOKS is first—always in a position of unassailable supremacy—first in its ideal combination of the two essentials—comfort and durability.

Our Saddle Manual tells you more—let us send you one. Dept. B45.

J. B. BROOKS & CO., LTD.,
The Saddle Specialists,
BIRMINGHAM.



A COLLAPSABLE TRICAR FRAME.

TRICAR, like a sidecar, suffers from the disadvantage of taking up a good deal of storage room; consequently a device which could be made to suit either type of attachment, and yet

overcome this disadvantage, is of great interest. Mr. J. Browning, of 28, Abchurch Lane, Blackfriars Road, London, has protected a device for a collapsible frame, which he hopes will be taken up by a firm of manufacturers.

Referring to fig. 1, it will be seen that the tricar in question consists of two frames—an upper frame A and a lower frame A₁. Behind the front axle are two wheels C and C₁, pivoted on the axles D and D₁, which by loosening two bolts swing so that the machine adopts the position shown in fig. 2. E is a bolt holding arm C to the axle when disengaged. To fold up the attachment, it is first of all necessary to jack up the machine by the front stand F, which is folded down, and the machine is pushed forward until the wheels are off the ground. The two wheels are then folded back; the front springs are hinged on to arms, and may be lifted out the way until the seat assumes the position shown in the illustration of the frame collapsed.

The attachment which Mr. Browning showed us was merely a model, and not intended to be used on the road, but a glance at the design will show that the latter is quite good, and that the swinging arms forming an extension of the front axle should be of ample strength. Attention is also paid to the strength of the steering heads. The front springs are also somewhat novel in design, since the upper plates are rigid and the lower leaves slide through two clips. There are no shackles, since horn plates are employed.

Readers who are

interested in the form of tricar frame here described will have an opportunity of inspecting Mr. Browning's idea in the Inventors' Section at the Business Exhibition, Olympia.

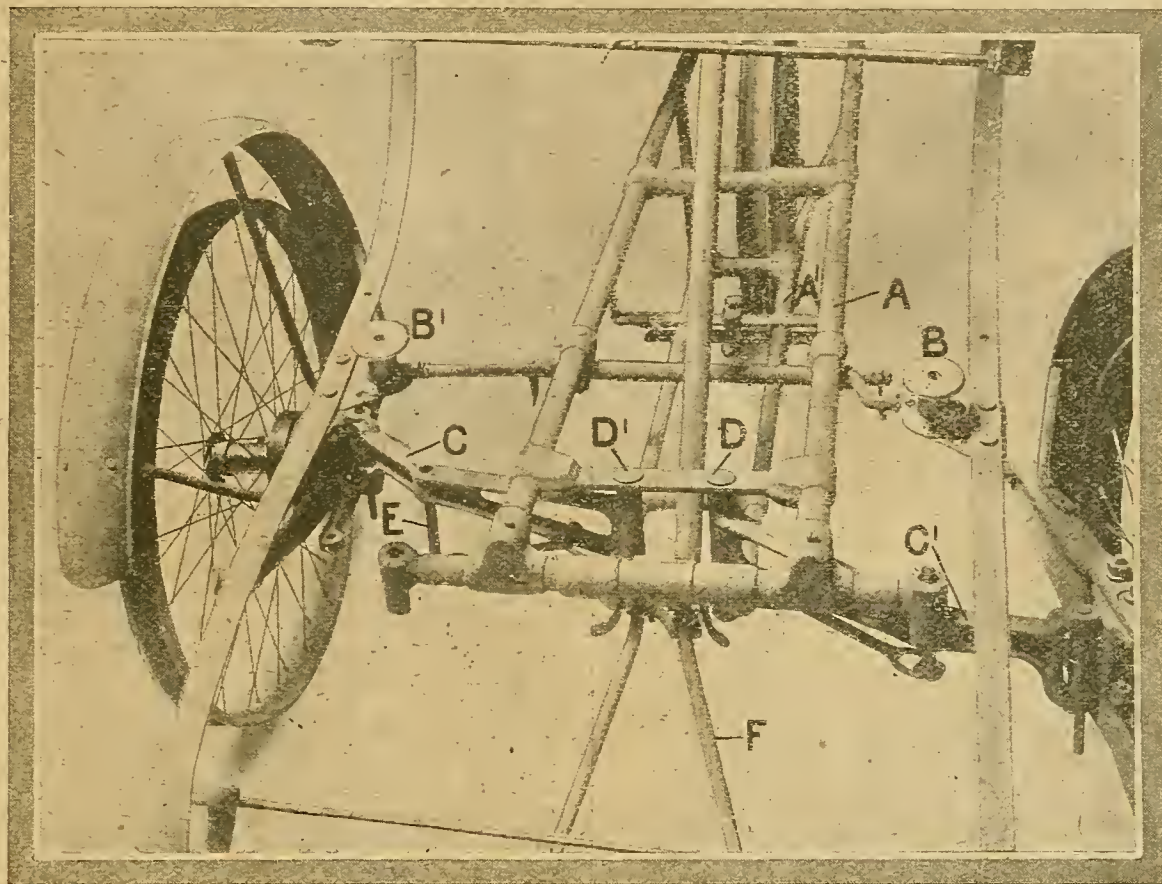


Fig. 1.—Browning's Collapsible Tricar Frame which has been specially designed to enable the machines to enter a narrow doorway or passage.

Past experience of most collapsible frames has proved to us that the joints have a tendency to wear, and the frame is thereby liable to lose a certain amount of its rigidity. Mr. Browning's frame may prove to be an exception.

All communications relating to Bowden wire mechanism and controls for motor cycles should be sent to E. M. Bowden's Patent Syndicate, Ltd., 29, Baldwin's Gardens, Gray's Inn Road, E.C. Some delay has been caused by letters being addressed to the Bowden Brake Co.'s works at Birmingham. Will readers kindly note.

Most makers of lightweight machines have adopted a round twisted belt on account of its flexibility. It has, however, disadvantages, and to overcome these the N.S.U. Motor Company has adopted a new pattern belt for their lightweight machines which is quite different from the ordinary round twisted belt, since it is in reality (to use a Hibernian expression) a round V belt. In other words, it is built up of three layers of leather, copper sewn, resembling a V belt in every way except as regards the shape. In joining these belts it is not advisable to use a belt punch, as this takes out so much leather that it weakens the belt and causes the fastener to pull through. The best thing to use is a saddler's awl, which should be inserted as far from the end as possible, and the awl should be inserted lengthwise—that is to say, the flattened portion should make the incision lengthwise, and not across the belt.

Fig. 2.—Showing the collapsible tricar frame in its folded position.

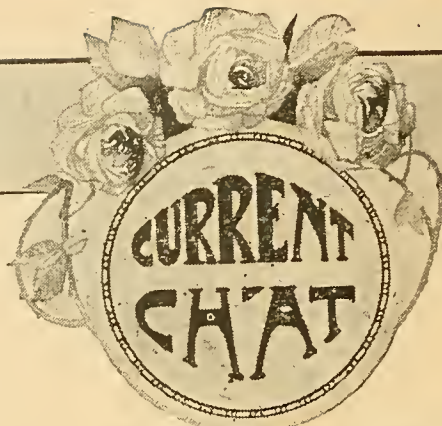
Time to
light lamps

Special Features

October 13 .. 6.11 p.m.

,, 16 .. 6.5 ,,

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HILL-CLIMBING IN SCOTLAND.

A NEW FOUR-CYLINDER MOTOR BICYCLE.

RACING AT BROOKLANDS.

MULTI-POINT IGNITION.

Police Traps.

We have received information that police traps are in operation in the ten mile limit at present existing through Crieff, N.B.

An Echo of the T.T. Race.

We are happy to announce that A. J. Sproston, who pluckily rode through the T.T. Race with a broken ankle, has now returned home from the Isle of Man, and is so far recovered that he hopes to be about again very shortly.

Barnes Experimenting with Aeroplanes.

The old racing motor cyclist, G. A. Barnes, has turned his attention to aeroplanes. The L.C.C. has refused him permission to make experimental trials on his J.A.P. engined monoplane at Blackheath, but a suitable ground in Kent has been found.

Military Motor Cycling

The practical value of the motor cycle in time of war has been tested in the recent army manœuvres. The Army Council, being anxious to experiment upon this point, invited the Motor Union to nominate a number of motor cyclist members to act as despatch bearers, attached to the Staff at the cavalry manœuvres, which have been carried out in the neighbourhood of Oxford. The Army Council have now written to the Motor Union expressing their appreciation of the manner in which the motor cyclists performed their duties during the manœuvres.

Growing Importance of the Motor Cycle.

It is pleasing for us to be able to record that one or two large cycle manufacturing firms in the Midlands are interesting themselves in the motor cycle, and may shortly place models on the market. We are not at present in a position to divulge the names of all of them, as matters are not sufficiently far advanced. However, we are sanctioned by the Enfield Cycle Co., Ltd., Redditch, to state that they have definitely decided to exhibit a twin-cylinder lightweight motor bicycle at the Stanley Show, which will be a standard Enfield product during 1910. The Wilkinson Sword Co. are also placing a four-cylinder motor cycle on the market which is described and illustrated on page 777 this week. We have also noticed for some time a power-propelled bicycle under test bearing the name of Abingdon King Dick. Further details must be reserved until nearer show time.

Will the Rover Co. introduce a new model with chain drive? A little bird whispers that it is not unlikely.

A Score for Accumulators and Coils.

For racing purposes some experienced riders still prefer accumulators and coils for getting the utmost out of an engine. The first and the third machines in the October motor cycle handicap at Brooklands last Wednesday had accumulator ignition, also the first and second in the autumn handicap.

The Quarterly Trial Next Saturday.

Next Saturday the last Quarterly Trial of the year takes place. Starting from Uxbridge at 9 a.m., the competitors will proceed *via* High Wycombe, Dashwood Hill, Wheatley, Islip, and Bletchington, to Banbury. The return journey will be *via* Bicester, Aylesbury, Berkhamstead, Chesham, and Amersham to Uxbridge. This trial will decide the winner of the silver cup for the best aggregate performance in the four trials of 1909.

The Gaillon Hill-climb.

This one-time important French event was poorly supported this year, some of the classes only boasting one entrant and one competitor. In the quarter litre (250 c.c.) class Vilbois (Lurquin-Coudert) made the ascent in 1m. 27½s. The same make of machine was represented in the tricar class by Lacour, whose time was 2m. 1s.

Giuppone, who made fastest time last year on a Peugeot motor cycle, viz., 32½s., this year drove a Lion-Peugeot car, and won his class in 46½s.

Next Week's Issue.

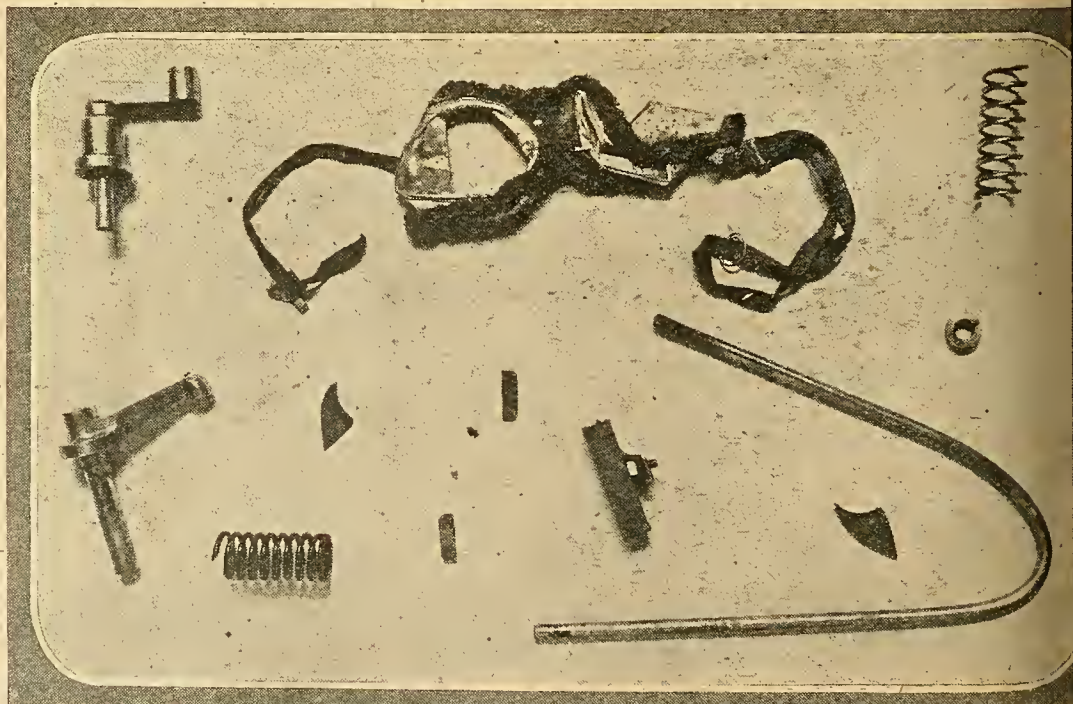
The *Motor Cycle* for October 2 will contain several articles on winter riding, with special references to most suitable kind of motor cycle, all-weather riding, the best kind of clothing to wear and other useful topics.

Motor Cycles in Warfare.

The Austrian Army Department had a motor cycle equipped with machine gun for experimental purposes. Surely this is a new use for motor cycles, but it is extremely doubtful if the test will prove successful, as a motor cyclist is not able to make a cross-country course, as necessary if this special kind of machine is to be used to its best purpose. The success of a motor cycle in warfare seems to depend upon its speed of despatch carrying.

Motor Cyclists in the Army Manœuvres.

Sir E. Ward has written to the Auto Cycle Union as follows: "I am commanded by the Army Council to convey to you their appreciation of the efficient manner in which your motor cyclists provided by your Union performed the duties which were allotted to them during the recent Army Manœuvres." In *The Motor Cycle* last week, Mr. H. A. Willey, who was in charge of the motor cycle squad, described their experiences and the useful work performed in carrying despatches in a short lapse of time.



A few articles picked up during the recent Tourist Trophy Race, between the top of Creg Willey's Hill and Kirk Michael.

The T.T. Fund.

The total receipts to the Tourist Trophy Fund amounted to £136 5s. 6d.

Austria's Military Motor Cyclists.

The newly-formed Austrian Motor Cyclists' Corps saw service for the first time in this year's Imperial manoeuvres, and earned the praise of the Emperor.

Norway to have a Military Motor Corps.

Norway is to have a volunteer motor corps, whose members must be from 18-55 years old, and possess either a car of at least 10 h.p. or a cycle of $3\frac{1}{2}$ h.p. Members will choose their own commander, who, after five years' service, will receive the rank of major from the War Office.

A £20 Fine or Six Weeks' Imprisonment.

Some time ago A. Cross, of Liverpool Road, Islington, bought an old $1\frac{1}{2}$ h.p. Werner, out of order. During August, while the owner was away, his young brother, anxious to try the machine, fixed some numbers on and took it out. Unfortunately, not being used to a motor cycle, he ran into a cyclist, and thus attracted the attention of the police. Not hearing anything for six weeks it was thought that the matter had been dropped, but recently Donald Cross, aged 20, was summoned to the North London Police Court, and Mr. Cluer fined him 40s. and costs 2s. for driving a motor cycle without a licence. He was similarly dealt with for not having the cycle registered, and was fined £20 for unlawfully and fraudulently using a motor cycle identification mark. The alternative was a total of six weeks imprisonment. This seems to be an altogether too heavy penalty, seeing that paltry fines are usually inflicted for much worse offences. For instance, a train load of people have been endangered by boys placing logs on the line, and a few shillings fine has been the result, and only recently two farm labourers of Ripley were fined 30s. each for stretching wire cables across the road, endangering the lives of every user of the road. Just because a motor cycle was connected with the first-mentioned case, the heaviest penalty is inflicted. A total of £24 in fines is out of all reason, and the boy's parents cannot see their way to save him from prison, thus his character will be stained for life just as though he had committed some criminal offence.

Unjust Fines on Motor Cyclists at Retford.

The Retford (Notts) police and magistrates are becoming notorious for their antagonism towards motorists, and readers would do well to avoid the place altogether. It does not appear to be generally known that a ten-mile limit is in existence at Retford—at least, that was the excuse of F. W. Applebee, who was charged with driving a motor bicycle and sidecar at "about fifteen or sixteen miles an hour" across the Market Square. His passenger estimated the speed at 10 m.p.h., but the magistrates believed the police evidence in preference, and Applebee was mulcted to the extent of £5—an altogether unjust fine for so trivial an offence. O. C. Anne was charged at the same court for riding

a motor cycle at 16 m.p.h. in Carolgate. He pleaded guilty, and got off with a £3 fine. By the way, the frequency of the remarks "Loud laughter" and "Laughter" is painfully noticeable in the local paper report. Apparently the bench look upon these summonses as huge jokes. We would respectfully suggest that if a little less time were given to mirth, which is quite out of place, and more consideration given to the various cases, the fines would be less frivolous.

The End-to-end Sidecar Record.

Geiger's new sidecar record was certainly a wonderful performance. As may be imagined, very severe weather was experienced in the North of Scotland, for October is hardly the most suitable month for long-distance records. In the neighbourhood of Inverness and Perth we hear that snow was encountered, which almost froze the riders to their seats, while at times rain came down in torrents. Next week we shall relate a few incidents of the run.

A Dastardly Trick.

While Mr. and Mrs. Fredk. Langhorne, Pontefract, were travelling on a motor cycle and sidecar through Stourton, near Leeds, on the 19th ult. at 9.5 p.m., they espied a motor car coming towards them down John-o'-Gaunt's Hill. To all appearances the car had got out of control, as it was swerving from one side of the road to the other. The sidecarists could do nothing to get out of its way, and according to their account the front wheel of the car struck the sidecar carriage, afterwards hitting the sidecar wheel, which collapsed, and both rider and passenger were upset. The driver of the motor car appeared to hesitate as though inclined to stop, but finally went off at full speed. The motor car

contained three or four persons, and had strong headlights, which shone full upon the sidecarists, so the latter must have been seen. Unfortunately the sidecar occupants did not notice the number of the car, which bore the identification letter U. Although Mr. and Mrs. Langhorne do not wish to claim anything in the way of compensation, it would be only a matter of common decency for the driver of the car to come forward and apologise.

M.C.C. Brooklands Gymkhana.

On Saturday next, 16th inst., the M.C.C. race meeting and gymkhana will take place at Brooklands. There are over 200 separate entries for the various events. Racing will commence promptly at 12 noon.

EVENT. PROGRAMME.

- 1.—12 noon. Motor cycle race.
- 2.—12.20. A match between Messrs. Hamilton, Anthony, and Birch-Reynardson.
- 3.—12.40. Motor cycle race.
- 4.—1 p.m. Motor car race.
- 5.—1.20. Motor cycle race.
- 6.—1.45. Motor cycle gymkhana race.
- 7.—2.15. Car "bending" race.
- 8.—2.45. Motor cycle "lifebelt" race.
- 9.—3.15. Car "engine starting" race.
- 10.—3.45. Motor cycle "tortoise" race.
- 11.—4.15. Car "tortoise" race.
- 12.—5.0. Mrs. Chas. Jarrott will present the prizes.

Mr. E. B. Dickson (the captain of the club) is the donor of the first prizes in Events Nos. 1 and 3. Mr. Edwin Gwynne gives the first prize in Event 5.

The most popular events, as indicated by the entries, are the motor cycle gymkhana events, and as these will be ran off as genuine "races" there should be lots of fun, and the spectators will not be in any doubt as to the actual winners. As the programme is crowded, competitors are urged to be on the mark ready to start for each event.



The Edinburgh M.C.C. Hill-climb at Amulree on Saturday last. S. Thompson, who rode a 1907 pattern $2\frac{1}{2}$ h.p. Triumph and won a gold medal in Class I., is depicted negotiating the first bad bend.

EDINBURGH M.C.C. HILL-CLIMB AT AMULREE.

THE EVENT MARRED BY BAD WEATHER.

SATURDAY last saw a notable gathering of motor cyclists at the well-known hill generally described as Amulree, although the correct designation of it is Pit-mackie Brae. Situated in Perthshire the road provides a short cut from Crieff or Dunkeld to Kenmore. The portion used for the climb measured a few yards short of a mile, the gradients varying from 1 in 3.08 to 1 in 11, two sharp elbow bends to left and right respectively making the ascent a very difficult one.

Many of the competitors arrived at Amulree the day before in order to make some practice runs, and the weather being good and the surface in fair condition, the majority got up without great difficulty. The day of the climb, however, dawned wet, and throughout the event the rain came down in a ceaseless downpour. The result was that many com-

In consequence of the large number of entries it was deemed advisable to alter the hour of starting to 12.30 p.m., the weighing being done at the top of the hill, but, despite this, the last competitor was not sent away till 4 p.m. Some thirty minutes delay was caused by a descending waggon, and the mist and rain disorganised affairs somewhat, particularly the signalling arrangements.

In "pedalling barred" classes, competitors were not allowed to put their feet to the ground except at corners, where the inside foot could be trailed. Running alongside, or kicking the ground to assist propulsion, in the other classes involved penalisation, as did pedalling. Tourist Trophy machines were barred from Classes I., II., IV., V., and VI. T. P. Nathaniel (5 h.p. Rex) was disqualified, his mount not being considered a touring machine, and the same



This picture gives an excellent impression of the severity of the bends on Amulree Hill. The rider is A. A. Scott (twin-cylinder Scott two-stroke), who is rounding the first bend; the second bend is about twenty yards away to the left.

petitors abandoned the idea of reaching Amulree, others were delayed by magneto troubles due to the damp, while on the hill the wet surface and heavy going tried the engines severely and gave rise to some sideslips more interesting to the spectators—of whom there were a good number despite the weather—than to the unfortunate riders. Exshaw, on a 4 h.p. Zenith, turned a complete circle on the lower bend, finishing up with the head of the machine pointing downhill.

An Extremely Treacherous Surface.

Morrison, on a Rex, found his exhaust valve lifter broken on the second bend, and, unable to slow for the corner, charged for the hill-side. Before stopping, the machine crossed a ditch, then capsized, the engine roaring for some time before it could be stopped. At the start the surface was extremely treacherous, and several riders came off before they got going properly. Smooth-tyred machines were at a distinct disadvantage, while strange to relate two-speed machines did not demonstrate their superiority in any striking fashion. The Scott machines attracted considerable interest by reason of their silence, power, and flexibility. The machine ridden by Myers, the same that he rode in the Tourist Trophy Race, did not shine particularly well, as, owing to the fact that he had removed the mudguards, the magneto had become smothered with dirt. Scott, however, in Class II. made a brilliant performance, taking everything as it came with comparative ease.

There were ninety entries in all, and fifty faced the starter. Of this number only ten were successful in reaching the top—a record which is really better than it appears when the adverse weather conditions are taken into account.

action was taken with regard to the Speed King Rexes entered by J. R. and A. H. Alexander. Adamson's 3½ h.p. Triumph was also disqualified in the touring class, as it was of the Tourist Trophy type, although fitted with a standard touring engine.

After the event a run was made to the Salutation Hotel, Perth, where during the evening the results were made known provisionally, the records of different officials having yet to be compared before the official awards are declared.

Provisional Awards.

The following were the results in the order in which the events were contested:

CLASS X. Passenger class for three-wheeled machines and machines with trailers, handicap (pedalling barred).—F. H. Annandale (8 h.p. Matchless), gold medal. Out of the four entrants in this class there were three starters, of whom Annandale was the only one to reach the summit, making a remarkable performance. He used his low gear the entire distance, covering the mile in 2m. 26½s.

CLASS I. Single-cylinder touring machines, handicap (pedalling allowed).—S. J. Thomson (3½ h.p. Triumph, single speed), gold medal. There were five starters in this class out of twelve entrants, the winner being the only man to cover the distance; he, however, pedalled hard, and was penalised 45s.

CLASS II. Handicap for multi-cylinder touring machines (pedalling allowed).—A. A. Scott (two-stroke Scott, two-speed), gold medal. Five out of eleven started, and J. B. Alexander on 5 h.p. Alex and A. A. Scott on Scott two-stroke both finished; the former, however, pedalled hard, and the latter won easily, and secured a very popular victory.

CLASS III. Lightweight.—This class was abandoned.

Burgh M.C.C. Hill-climb at Amulree.—

CLASS IV. Handicap for variable-g geared touring machines (pedalling barred).—No award. Out of the nine entrants, six started, but no one succeeded. Annandale and Exshaw got some distance, but failed, the latter having a bad side-slip.

CLASS V. Scratch event for single-cylinder touring machines (pedalling barred).—Campbell McGregor (3½ h.p. Matchless, single speed), gold medal. Twelve entrants, seven starters, the winner being the only one to reach the summit.

CLASS VI. Scratch event for multi-cylinder touring machines (pedalling barred).—No award. Three started out of nine entrants. No one reached the top; R. S. Morrison on 5 h.p. Rex got up farthest, but ran off the road. Eric Myers on two-stroke Scott skidded badly, and was stopped wholly by mud on the magneto.

CLASS VII. Single-cylinder, unlimited, scratch (pedalling barred).—Adamson (3½ h.p. Triumph, single speed), gold medal. Six starters, nine entries. Winner only one to reach the top, making fastest time of the day, due principally to good engine work.

CLASS VIII. Multi-cylinder, unlimited, scratch (pedalling barred).—F. H. Annandale (8 h.p. Matchless, two-speed), gold medal. Only the winner was successful in finishing.

CLASS IX. Unlimited scratch event (pedalling barred).—F. H. Annandale (8 h.p. Matchless, two-speed), gold medal. There were sixteen entrants in this class, of which nine started, and three were successful in reaching the top. They were F. H. Annandale (8 h.p. Matchless), McGregor (3½ h.p. Matchless), and Eric Myers (two-stroke Scott), the times being 2m. 34s., 3m. 5s., and 3m. 16s. respectively.

The fastest time of the day was made by Adamson on a 3½ h.p. Tourist Trophy type Triumph with touring engine, his time for the mile being 2m. 17½s., equal to a speed of 26.1 m.p.h.—a remarkable performance. The next best was Annandale's 2m. 23½s. on the 8 h.p. Matchless, and the fact that he took up a sidecar and passenger in only 3s. more is notable. This, however, may be accounted for by the fact that when he rode the machine as a single it could not be let out on account of the corners.

Comparing results, it will be seen that two-speed geared machines secured four medals and single-speed machines three medals. Of the total machines to reach the top, six had two-cylinder engines and four single cylinders.

We hope next week to give an accurate contour of this now famous Pitnackie Brae from a survey specially taken for the purpose.

THE TWO HOURS' RACE AT BROOKLANDS.

WORLD'S RECORD BY H. V. COLVER.

THE British Motor Cycle Racing Club is to be congratulated on its members' meeting held at the Brooklands Track last Saturday. In the first place there was a very gratifying attendance, and secondly, H. V. Colver annexed the world's two hours' record, covering 118 miles 14 yards in that time. This is a big stride on the previous record of 103 miles 380 yards, but Colver did so under very favourable conditions, although the weather was rather cold. However, he was well wrapped up, and did not feel it, or at any rate did not show that he felt it, as some of the other competitors. Colver was inside record for 50 miles in 48m. 25½s., and at 100 miles he was about 10m. better than the previous best in 1h. 39m. 4½s.

A Splendid Ride by G. Lee Evans.

G. Lee Evans completed a magnificent ride, winning his share in the two hours' race by covering 105 miles 60 yards, and this on a single-cylinder machine. Of fourteen starters, three retired—three with engine trouble and one with a broken chain. One hero of the afternoon was W. H. Bashall, who on starting was of a chrome yellow colour, due to the breaking of his tank and the fluid spurting out over him. The partition between the petrol tank and the oil tank also collapsed, with the result that the mixture of lubricating oil and spirit smothered Bashall, who, however, continued to finish the two hours. Harry Martin, on a twin Bat, fared very well until his belt broke and he retired. A tardy start was made with the meeting, and an unnecessary interval occurred between the two hours' race and

the afternoon handicap. Consequently, the Tourist Trophy scratch race, which looked a very attractive event on paper, was abandoned.

The latest available results of the meeting were as follows:

Two Hours' Race. Class Winners.

CLASS E.—H. V. Colver (twin Matchless, 964 c.c.) Distance, 118 miles 14 yards; fifty miles time, 48m. 25½s.; hundred miles time, 1h. 39m. 4½s.

CLASS C.—G. Lee Evans (single-cylinder Indian, 497 c.c.) Distance, 105 miles 60 yards; fifty miles time, 58m. 20½s.; hundred miles time, 1h. 54m. 19½s. Lee Evans's time for 100 miles, and the distance covered in two hours, are world's records for a single-cylinder machine under 500 c.c.

CLASS D.—L. W. Bellinger (twin Indian, 714 c.c.) Distance, 95 miles 60 yards; fifty miles time, 1h. 10m. 44½s.

CLASS B.—F. W. Dayrell (single-cylinder Martin-J.A.P., 340 c.c.) Distance, 75 miles 1,320 yards; fifty miles time, 1h. 27m. 17s.

The Afternoon Handicap (Distance 8½ Miles).

F. A. McNab (Trump-J.A.P., 482 c.c.), 15s. start, 1; G. Chitty (Martin-J.A.P., 340 c.c.), 50s., 2; F. W. Dayrell (Martin-J.A.P., 340 c.c.), 50s., 3. Won by half a mile; nearly a quarter of a mile between second and third.

No less than sixteen out of nineteen riders who completed the Tourist Trophy Motor Cycle Race used one or other of the brands of oil sold by Price's Patent Candle Co., Ltd



The start of the Two Hours' Record Race at Brooklands. Reading from the left the riders are: E. Gwynne, W. Krause, E. C. W. Fitzherbert, G. Lee Evans (who is making a good start), L. W. Bellinger, F. W. Dayrell, F. A. McNab, A. Matfield, T. W. Loughborough, and G. Fletcher.

A.C.U. QUARTERLY TRIALS.

The following entries have been received for next Saturday's Quarterly Trial—Uxbridge to Banbury and back—this being the fourth trial of 1909:

- W. Pratt (2½ lightweight Phelon and Moore)

B. Marians (2½ lightweight Phelon and Moore)

H. A. Cooper (3½ Rex)

E. A. Colliver (3½ Triumph)

R. C. Griersbach (3½ Triumph)

G. T. Gray (3½ N.S.U.)

F. Smith (3 Clyno)

A. L. Barker (5 Clyde)

H. Williamson (3½ Rex, two-stroke)
- W. W. Douglas (2¾ Douglas)

T. H. Tessier (7-8 Bat)

H. Martin (6-7 Bat)

J. D. A. Munro (5-6 Bat)

D. Steeves (3½ N.S.U.)

J. V. Armstrong (4 N.S.U.)

W. G. Ayling (2½ Blumfield)

F. C. Wood (4 N.S.U.)

G. E. Stanley (3½ Premier)

B. B. Jones (3¾ Premier)

Jas. Harwood (3½ Triumph)

H. G. Partridge (2½ N.S.U.)

- H. Alan Hill (2¾ Douglas)

G. L. Fletcher (2¾ Douglas)

Eli Clark (2¾ Douglas)

P. W. Bischoff (3½ Triumph)

James Cycle Co. (3½ James)

James Cycle Co. (3½ James)

R. M. Brice (3½ Brown)
- J. Marshall (3½ Triumph)

W. F. Newsonie (3½ Triumph)

Miss Muriel Hind (5 Rex)

Wm. Cooper (3½ Triumph)

T. A. Womersley (3½ Premier)

S. A. M. Whitham (3½ N.S.U.)

C. C. Cooke (3½ Triumph)

PASSENGER MACHINES.

- B. Weller (5-6 A.C. tricar)

R. Spurrell (5-6 A.C. tricar)

Dr. O. Von Vestrant (5-6 A.C. tricar)

J. Portwine (5-6 A.C. tricar)

D. A. Hind (5-6 A.C. tricar)

G. Seymour (5-6 A.C. tricar)
- R. Spurrell (5-6 A.C. sociable, new type)

F. Eagles (6 N.S.U. and sidecar)

G. West (5 Rex and sidecar)

Hd. Sudfeldt (6 N.S.U. and sidecar)

CLUB NEWS.

Southern M.C.

The annual dinner will take place at the Holborn Restaurant on Thursday, November 25th, in the Queen's Room. Tickets will be 5s. each, ladies and gentlemen. The prizes will be presented during the evening.

Worcestershire M.C.C.

As only six members entered for the hill-climb at Frankley Beeches on Saturday last, it was decided to run the event as a flexibility trial, the result of which was as follows: T. Smith (3½ h.p. Rex), difference between fastest and slowest ascents 71¼s.; H. B. Denley (3½ h.p. Minerva), 62s.; T. L. Baylis (3½ h.p. Corah), 47½s.; L. Parkes (5 h.p. Mist.), failed on slow climb; B. Potter (7-8 h.p. Elite), failed on slow climb; H. C. Pickering (2½ h.p. Rex), failed on slow climb.

The date of the second annual dinner has been fixed for Saturday, November 6th. Tickets, 3s. each, can be had on application to the hon. sec., H. C. Pickering, St. Brelade, King's Norton.

Middlesbrough and District M.C.C.

A most successful hill-climbing competition was held at Yearby Bank, near Redcar, on the 2nd inst. in fair weather before a good attendance. There was only one class for single-cylinder motor cycles with any size engine in which there were twelve starters—J. H. Dale, 1909 3½ h.p. Triumph; — Turner, 3½ h.p. Triumph; — Reece, 3½ h.p. Triumph; J. Telford, 3½ h.p. Triumph; — Armstrong, 3½ h.p. Triumph; — Bell, 5 h.p. N.S.U.; — Day, 3½ h.p. N.S.U.; — Bellerby, 3½ h.p. Minerva; — George, 3½ h.p. Rex; — Duchars, 3½ h.p. Rex; — Lockwood, 3½ h.p. Norton; and E. Young, 3½ h.p. Bradbury. The

W result was decided on the formula $\frac{W}{C \times T}$, and it has been

announced that the first and second places rest between J. H. Dale and Duchars, but the actual result will not be known for a few days until the cylinder capacities of their machines have been ascertained from the makers. Lockwood has been placed third. A general meeting will be held at the Corporation Hotel, Middlesbrough, on Wednesday next, the 20th inst.

Birmingham M.C.C.

The Birmingham Motor Cycle Club held its second annual flexibility hill-climb on Weatheroak Hill on Saturday last. Fortunately, the afternoon turned out fine, and the rain held off until the competition was over. There were fifteen entries in the two classes, and some very interesting results were obtained.

The competition consisted of a fast and a slow climb. Prizes were awarded for the fastest time, the slowest time, and the biggest difference between a competitor's times, showing the flexibility of his machine.

There were a number of spectators, who somewhat impeded the competitors by getting on the course, but otherwise everything went off very well. Electrical timing was used, and the club's field telephone was in use for the first time from the top to the foot of the hill. Results:

Note: X is the fastest in each class. The times given in the first column are the seconds slower than the fastest; the mean times are the difference between these figures and the time taken for the slow climb.

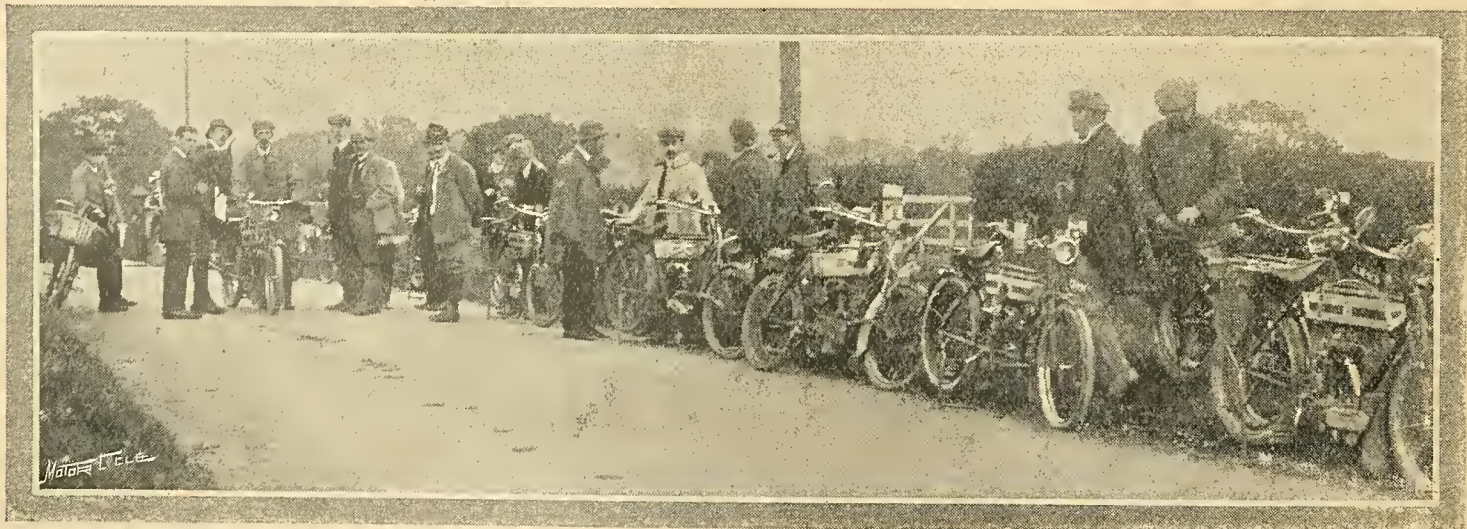
SINGLE-CYLINDERS.

Name.	Machine.	Fast.	Time.	Slow.	Mean.
Baxter	(3½ Triumph)	9¾s.	...	Failed	...
Clayton	(3½ Ariel)	19s.	...	70s.	41s.
Corah	(3½ Corah)	1¾s.	...	Failed	...
Duke	(3½ Triumph)	0¾s.	...	69s.	68½s.
Edwards	(3½ Triumph)	1s.	...	70s.	69s.
Heaven	(3½ Triumph)	5½s.	...	50s.	44¼s.
Pilkington	(3½ Premo)	6s.	...	67s.	61s.
Pritchard	(3½ Rex)	X	...	66s.	46½s.
Troman	(3½ Triumph)	3¾s.	...	Failed	...
Whitworth	(3½ Premier)	...	Failed	...	...

TWIN-CYLINDERS.

Fowler	(5 Rex)	X	52s.	34½s.
Perryman	(5 Norton)	2¾s.	61s.	58¾s.
Ryland	(6 Matchless)	0¾s.	Failed	...
S. Smith	(5 Norton)	3¾s.	45s.	41½s.

A paperchase will be held next Saturday, October 16th.



Some competitors in the North-West London M.C.C. Gymkhana, which was held on the road near Elstree on Saturday last.

Shamrock - Gloria

Shamrock-Glorias are the most popular and most reliable Belts. The season 1909 again proves their indisputable leading position.

Only a genuine S.-G. Belt will give you satisfaction.

It is owing to the great success of the S.-G. Belt that manufacturers all over the world are adopting the belt drive.

LATEST SUCCESS:
Brooklands, October 6th.
1st. 2nd. 3rd.

S.-G. Belts created and hold the Great End-to-End Record (Passenger Class).

TOURIST TROPHY, 1909.

Read what the manufacturers say :

Dear Sirs, September 29th, 1909.
We have pleasure in informing you that our Mr. H. A. Collier was successful in winning the Great International Tourist Trophy Race, at the record speed of 49 miles per hour over the whole distance of 158 miles, the Belt used being one of your 1" section Shamrock-Gloria; same was not touched in any way from beginning to end of this ride, and gave no trouble whatever, despite the unfair strains to which it was subjected in this contest with a high-g geared machine.
We might mention also that we recently heard from a client of ours, the possessor of a 9 h.b. Matchless motor cycle, that he has now covered

10,000 MILES

on the identical belt supplied with the machine, which is one of your belts of 1" section. This, we think, is a record for any kind of belt whatever on a machine of this power.

Yours faithfully,
H. COLLIER & SONS, Ltd.

Shamrock-Excelsior Tyres are acknowledged to be the best tyres for the motorist.

The editor of "The Motor Cycle," describing Messrs. Bentley's Great End-to-End Passenger Record, says: "... The S.-E. Tyres stood the test remarkably well, in fact, the tyres never punctured."

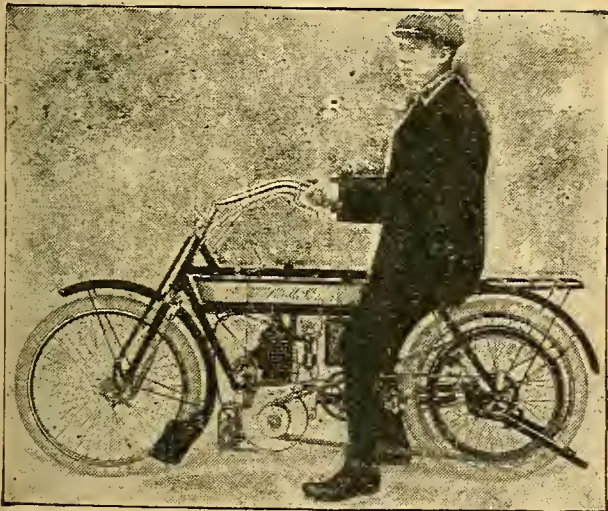
S.-E. Tyres are incomparable with any other. The success and the confidence bestowed on them by manufacturers and users alike, is due solely to A1 quality and unique construction.

Avoid cheap imitations.

Lists on application.

Sole Manufacturers: THE HANOVER RUBBER CO., 29/31, Old Street, LONDON, E.C.

Shamrock - Excelsior



3½ h.p. L.M.C. Price 45 Guineas.
With Auto-Varia Pulley & Free Engine, 48 Gns.

IMPORTANT TO OWNERS OF "ORIGINAL QUADRANTS."
L. M. C. Replacement Fittings, Parts, and Magneto Conversion Sets from stock. List free. Engines and Machines overhauled. Made equal to new. Excellent Second-hand "Quadrants" for disposal.

L.M.C. Motor Bicycles are designed by Mr. W. J. Lloyd, designer of the "Original Quadrants."
STANLEY SHOW, Stand No. 71.

L.M.C.,

132, Monument Rd., Birmingham.

Manager—W. J. LLOYD. Telegrams—"Obliging."

"Starts like a Car."

Tennyson Road, Birmingham, 15th-Sept., 1909.
Dear Sirs,—I think I ought to let you know how pleased I am with the L.M.C. Motor Cycle I had from you in April last. I have been riding motor cycles for six years, and this is my fourth machine. I have ridden many thousands of miles at home, and also a fair amount in the Colonies, but I have never had a machine so reliable or comfortable as yours. It is clean, and is always absolutely under control. **An important feature is the free engine and varia pulley.** I have had no trouble with this, it is simple and absolutely reliable; I sit on the saddle and it starts like a car—without effort. It is a free engine that is free, which I cannot say of the one I previously had. The whole of the components and the general make of the machine are of the sound quality that one is proud to own. Wishing you every success, I remain,
Yours truly, R. MAWSON.

L.M.C. Recent Successes :

M.C.C. TRIAL TEAM, June 26th.
Mr. R. Samson, Birmingham M.C.C.,
NON-STOP. FULL MARKS. On his 3½ h.p. L.M.C.

CARDIFF M.C.C. 24 HOURS' TRIAL, July 2-3
Mr. W. F. Taylor awarded Gold Medal.
3½ h.p. L.M.C.

NEW SOUTH WALES M.C.C. HILL CLIMB
AT COOGEE, May 29th.

WINNER, Mr. A. T. Powell, on his 3½ h.p. L.M.C.

NEW SOUTH WALES M.C.C. RELIABILITY
TRIAL, June 7th.

WINNER, Mr. Roy Hughes, on his 3½

h.p. L.M.C. First Prize for **MOST MERITORIOUS PERFORMANCE.**

A.C.U. QUARTERLY TRIAL, July 28th.
BOTH L.M.C. Machines NON-STOP RUNS. FULL MARKS.

COVENTRY AND WARWICKSHIRE MOTOR CLUB HILL CLIMB, August 21st, 1909.

The L.M.C., driven by C. Cross, *private rider*, made **FASTEST TIME** in the single-cylinder touring class, and the other L.M.C. was fourth, being only four-fifths of a second slower. (Only two L.M.C. machines entered.)

L.M.C. Auto-Varia Pulley

— Fit any standard engine, price 25/- —

Or with FREE ENGINE Fittings complete, 63/-

INDISPENSABLE FOR TOURING.

THE NEW
END TO END
RECORD

ESTABLISHED BY

GEIGER

ON V.S. MOTOR CYCLE (WITH SIDECAR)
TIME:—51 HOURS 45 MINUTES

WAS MADE ON

THE NEW

PETER UNION
TWIN RIBBED
TYRES.

GET PARTICULARS FROM—

The PETER UNION TYRE CO.,

190-2, GREAT PORTLAND STREET, LONDON, W.

Goods and Trade Entrance : 79-82, Bolsover Street, Euston Road, London, W.

Birmingham Branch : 160, Corporation Street.

Telephone—No. 2433 Gerrard. Telegraphic Address—“Pneupeter, London.” Telephone—5338 Central. Telegraphic Address : “Pneupeter, Birmingham.”

In answering this advertisement it is desirable to mention “The Motor Cycle.”

Club News.—

Motor Cycling Club.

Mr. H. G. Bell, trials hon. secretary of the Motor Cycling Club, has moved from 32, Station Road, Finchley, N., to 3, Granville Road, Finchley, N. Members are asked to note this change of address.

Winchester and District M.C.C.

A club has just been formed at Winchester, and all riders in the district are invited to join. The names of a good number of motor cyclists have already been enrolled. From January 1st, 1910, the club will be affiliated to the A.C.U., and during the winter an interesting series of events will be arranged. The hon. sec. appointed is B. B. Tebbutt, 20, West End Terrace, Winchester, and he will be pleased to supply rule cards and all particulars on application.

Pontefract M.C.C.

A motor cycling club was recently formed at Pontefract with the mayor (Col. Shaw) president, Messrs. E. Lee and R. Holiday vice-presidents, W. A. Wood captain, Dr. Dolan vice-captain, Will Bentley secretary, H. Holmes treasurer, and, in addition, Messrs. H. Gundill, H. R. Haigh, and L. Wright on the committee. An enjoyable opening run was held to Boston Spa. On the return to headquarters, the Queen's Hotel, Pontefract, the first general meeting was held, at which rules were framed and other business transacted. The club starts with a membership of over twenty.

Harrogate and District M.C.C.

The re-run reliability trial took place on the 3rd inst. over the original course. Five controls were in operation, and twenty-four unknown checks were also arranged. The competitors had to proceed round the circuit at a rate of twenty miles per hour, but were allowed one minute either before or after their times at all checks and controls. There were ten competitors still left in the run, and of these the following did not compete: E. Myers, C. F. Smith, F. F. Topham, and E. R. Davies. The morning opened fine but dull, and after leaving Richmond rain commenced to fall and continued all day. The roads after Richmond were in an exceedingly bad state, the worst part being between Leyburn and Hawes, and in this neighbourhood several retired through sideslips. Despite all the wet and mud a merry party of six sat down to lunch at Hawes. Leaving Hawes the roads were still very treacherous, but the remaining competitors kept remarkably good time, despite the drenching rain, misfires, and slipping belts. The following is a list of competitors in order of merit, together with their machines, and the number of marks lost: 1, W. Fawcett (3½ h.p. T.T. Triumph), three marks lost; 2, R. Breare (3½ h.p. P. and M.), five; 3, T. Atkinson (3 h.p. Triumph) and J. Mackay (3½ h.p. Triumph), seven; 4, J. A. Tindall (3½ h.p. Triumph), sixteen; 5, W. Broadbank (3½ h.p. Triumph), retired. In place of the third prize the committee have decided to award each of these competitors

a standard gold medal. The fuel consumption test will take place on Saturday next, the 16th inst.

Alfreton and District M.C.C.

The first petrol consumption test received excellent support. The route selected was of a very sporting nature, a number of stiff hills having to be ascended, which greatly added to the severity of the competition. Considering the hilly course selected, some good performances were put up, notably by A. E. Houfton (2¾ h.p. Douglas), 118¾ m.p.g.; F. Sugden (2¾ h.p. Douglas) (who went ten miles out of his course), 112 miles; A. E. Lole (5-6 h.p. F.N.), 96¾ miles; and H. R. Cleaver (3½ h.p. Triumph), 94 miles. The ultimate winner was A. E. Lole (5-6 h.p. F.N.); second, H. R. Cleaver (3½ h.p. Triumph); third, A. E. Houfton (2¾ h.p. Douglas).

The club is arranging for a lecture to be given shortly by a well-known expert on magneto ignition as applied to car and cycle engines. Any readers interested will be cordially welcomed, and should send their names to the hon. secretary, Alfred Bonsall, The Gables, Swanwick, near Alfreton.



Some members of the newly formed Pontefract M.C.C. outside the club headquarters, the Queens Hotel

Nottingham and District M.C.C.

The official results of the Hardwick hill-climb on the 2nd inst. are given hereunder. Competitors had to be owners of the machines ridden, and all were allowed one preliminary trial run-up (owing to the course having a very awkward bend at the stiffest part), and two runs in the competition proper, the fastest of which was considered in working out the results on Prof. Callendar's formula. Machines were first weighed at Mansfield, the competitors afterwards proceeding to Hardwick. Fortunately, the weather was fine.

Rider and machine.		Time.	Result on formula.
1. W. Reilly (3½ h.p. Triumph)	...	35s.	0.0238
2. F. P. Johnson (5-6 h.p. F.N.)	...	36s.	0.0238
3. G. C. Holmes (3½ h.p. Triumph)	...	34s.	0.0231
4. J. King (5-6 h.p. F.N.)	...	39s.	0.0201
5. C. Smith (3½ h.p. Rex)	...	35s.	0.0188
6. J. E. Gee (3½ h.p. Triumph)	...	41s.	0.0172
7. C. H. Truman (7-8 h.p. J.A.P.-Bat)	...	25s.	0.0162
8. J. Fairburn (3½ h.p. C.C.R. Smith)	...	42s.	0.0147
9. C. H. Sewell (3½ h.p. Triumph)	...	45s.	0.0140
10. F. B. Johnson (3½ h.p. Humber)	...	61s.	0.0141

The judgment of Messrs. Reilly, Holmes, King, and Truman in rounding the bad bend was particularly good.

IMPORTS AND EXPORTS OF MOTOR CYCLES AND PARTS.

ONCE again the Board of Trade returns show that imports of foreign motor cycles are declining, whilst the British exports continue to make great headway. The value of the September imports was £3,878 in 1908, against £6,169 in 1907. The import figures for the nine months ended September 30th were:

	1907.	1908.	1909.
Value of complete machines ...	£44,155	£33,194	£32,143
Parts ...	£23,714	£21,374	£21,013
Total ...	£67,869	£54,568	£53,156

The British Exports.

The following figures represent the value of the exports of British-made motor cycles and parts during the month of September:

1907.	1908.	1909.
£3,941	£5,388	£9,666

During the nine months ended 30th September the value of British exports were:

	1907.	1908.	1909.
Value of complete machines ...	£18,941	£22,578	£37,655
Parts ...	£20,575	£15,515	£24,170
Total ...	£39,516	£38,093	£61,825

The Re-exports.

Re-exports of foreign-built motor cycles and parts from this country reached the following values:

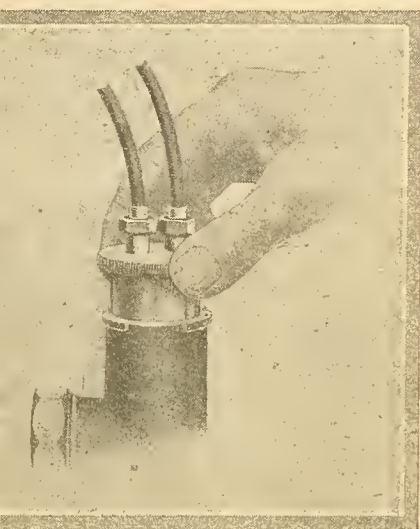
	1907.	1908.	1909.
Value of motor cycles ...	£1,511	£1,587	£2,040
Parts ...	£2,654	£7,100	£16,200
Total ...	£4,165	£8,687	£18,240

TWO NEW PATTERN CARBURETTERS.

By "IXION."

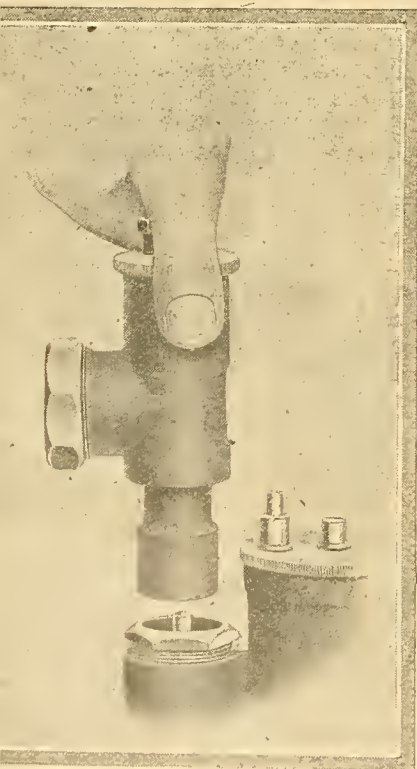
THE 1910 B. AND B.

NEW carburetters are descending upon me in a perfect inundation, and, needless to say, none arouses more general interest than the first sample of Brown and Barlow's 1910 pattern. Its keynotes are simplicity and accessibility. Its separate



The simple method of detaching both air and throttle slides by means of a quarter turn of the top cap.

portions are provided with very simple and ingenious locking arrangements. For instance, a quarter turn of the milled cap C enables the throttle and air slides to be withdrawn, no tools being necessary. This feature, coupled with the provision of a detachable gauze screen for the extra air intake, makes dust troubles very trivial indeed. The makers inform me they have only introduced this gauze



There is no longer any necessity to unscrew the float chamber from the spraying chamber. Half a turn of the lock nut releases a conical clip which enables the spraying chamber to be completely withdrawn.

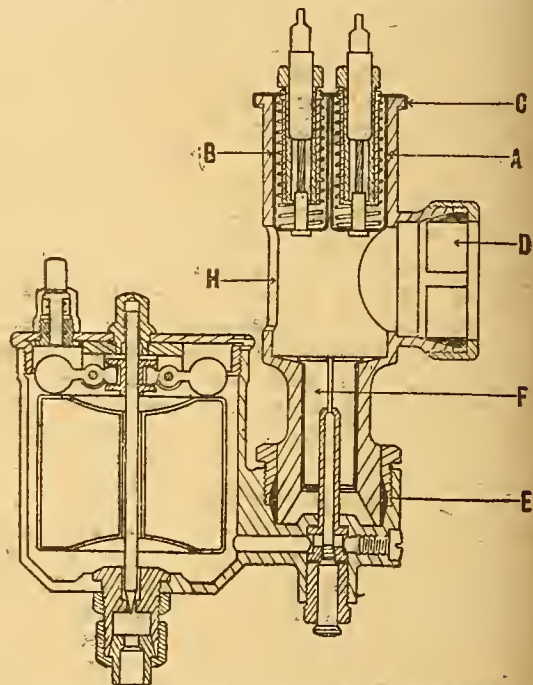
green with serious qualms. Their experience is that amateur riders cannot be trusted to keep it clean, and, naturally, if the screen is allowed to remain unclean, the carburetter cannot obtain its due quantum of air, and bad running will result. The spraying chamber is fastened to the float chamber, and the entire carburetter to the inlet pipe by means of the registered clip joints D and E, half a turn of either nut being all that is required to turn the spraying chamber in any direction or to completely detach the spraying chamber from the float chamber or the whole carburetter from the engine. The jet in its turn can be withdrawn by unscrewing a single conveniently placed nut. The end attained by this method of construction is that any vital part can be removed in half a

minute by the roadside without interfering with any other portion. It is a perfect gem in respect of instant accessibility. 1910 riders will be unable to sympathise with the early troubles of us old staggers, who needed about four spanners and three screw-

drivers to dismount our vaporisers, and had about forty bits, large and small, to replace in their correct positions. This lengthy operation was sometimes necessary before a particle of foreign matter could be cleared from the jet or an inspection of the float chamber could be made. Such adjustments were often necessary on a dark night when accessibility would have been much appreciated.

Simplicity the Keynote.

The other feature of the carburetter is its extreme simplicity, which makes for reliability and appeals to the unskilled rider. There is neither variable jet nor variable choke tube—points of undoubted value to the expert, but which are not obtainable without some sacrifice in the way of possible troubles resulting from a complication of design. At the same time, it is only a few minutes' work to change both the spray and the adapter, so that an expenditure of a couple of shillings in spare parts enables a rider to make special adjustments for hill-climbing or consumption trials without any difficulty. I notice that the seating of the needle valve is detachable—an excellent point—also that a non-return valve may be obtained for use with a two-stroke engine, which sucks its gas into the crank case. This points to the fact that the makers, Brown and Barlow, Loveday Street, Birmingham, expect to see this type of engine attain some popularity next year. I commend their fore-



Sectional drawing of 1910 B. and B. carburetter.

A. Throttle slide. B. Extra air slide.

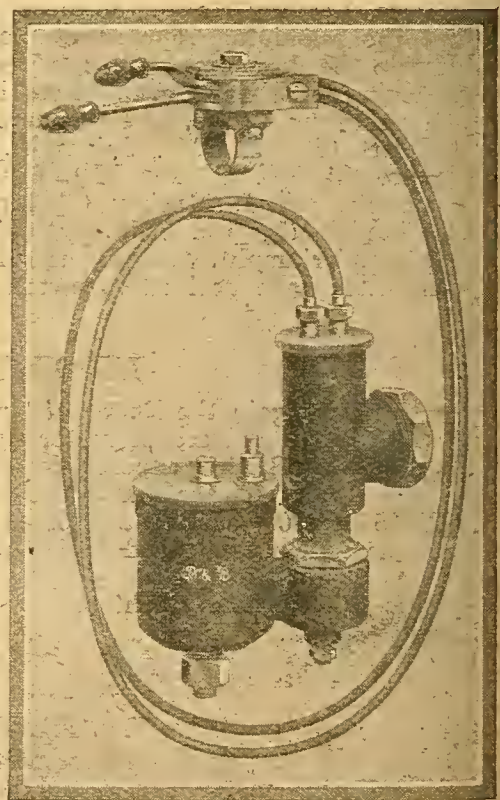
C. Quickly detachable jointed top.

D. Split coned joint for gas pipe.

E. Split coned joint connecting float and vaporising chambers.

F. Detachable adapter tube. H. Extra air opening

The complete 1910 pattern B. and B. carburetter with handle-bar control.



HUNT'S,

The City Motor and Cycle House,

NEWGATE STREET, LONDON, E.C.

Great Annual Sale, Commencing Friday, Oct. 1st.

Bargains in the Motor Cycle Department.

OUTER COVERS.

Special clearance line of 26 x 2½ in. beaded Continental Covers. Sale price, 17/11 each.

Clincher Rubber-studded Covers, 26 x 2 in. or 26 x 2½ in. Sale price, 27/11.

The Grose Steel-studded Cover; a good non-skid for winter riding. Sale price: 26 x 2 in., 29/6; 26 x 2½ in., 32/6; 26 x 2½ in., 37/6.

CARRIERS.

The Lycett Tubular Rear Carrier; size 22 x 8 in. Sale price, 5/6.

MAGNETO COVERS.

The "Hunt," best enamelled leather. Sale price, 1/10½.

TOOL ROLL.

The Compact, to carry in toolbag, leather, size 15 x 7½ in. Sale price, 2/9.

SADDLES.

Lycett Coil Spring, size 11 x 10 in. Sale price, 7/11.

" " " 12½ x 11½ in. " 10/6½.

GOGGLES.

The All Rubber, with two sets glasses. Sale price, 1/8½.

HANDLE-BARS.

Long 22 in., stem ¾ in. or 1 in. Sale price, 6/3.

ACCUMULATORS.

The "Hunt," guaranteed. Sale price: 15 amp., 3½ x 2 x 5½ in., 9/6; 20 amp., 4 x 2 x 6 in., 10/6; 40 amp., 4 x 3½ x 6½ in., 17/6.

HANDLE-BAR MIRRORS.

Size of convex mirror, 3 in. Sale price, 4/9.

" " " 4 in. " 5/9.

PLUGS.

Mica. Sale price, 10½ d. The Oleo, 1/4. Magneto ditto, 2/11.

SPANNERS.

Motor Cycle Box Spanners, per set. Sale price, 2/3½.

The King Dick No. 2. Sale price, 3/4½.

The Seabrook, plated, length 9 in. Sale price, 2/3

CLOTHING.

The North Road Double Texture Waterproof Overalls. Sale price, 13/11.

Double Texture Waterproof Coat to match same, with collar, rain and windproof sleeves. Sale price, 19/3.

Single Texture Waterproof Overalls. Sale price, 4/11.

Single Texture Coat to match same, 12/11.

GAUNTLETS.

Best Cape Tan (lined). Sale price, 4/11.

HORNS.

Three-note Fanfare " " " Sale price, 6/3

Treble-twist Deep-note Foghorn " " " 5/11

Ditto, small size " " " 4/11

EXHAUST SYREN.

Plated, size 1 in. Sale price, 9/6.

LAMPS.

"Pulco" 4½ in. Lens Mirror Head Lamp, complete with four-hour generator and tubing. Sale price, 18/11. Equal to any lamp costing 30/-

The Hunt Tricar Petroleum Lamp. Sale price, 7/3

OLCANS.

The "Pulco," brass or plated. Sale price, 8½ d

VOLTMETERS.

The "Reliable." Sale price, 2/11½.

The "Auto." " " 3/11½.

WATCH AND CASE.

The Acme, for fitting to handle-bar, with guaranteed watch. Sale price, 7/6½.

TEST LAMPS.

Special line. Sale price, 10½ d.

EXHAUST VALVE SPRING REMOVER.

The Hunt. Sale price, 2/3.

The "Duco." " 2/4½.

OIL PUMPS.

Plated, length 3½ x 1½ in. Sale price, 3/4½.

CARBIDE.

Best quality. Sale price, per lb. tin, 4d.

Postage and carriage extra on all sale goods.

Illustrated sale list post free.

The Scott

NON-SKID

(PATENT)

MOTOR CYCLE COVER.

Quality is Distinctive.

The Scott Cover is known as "the alternate steel and rubber studded tyre," and is now proving itself to be very popular, both for its long life and non-skidding properties. The thickness of the tread gives splendid wearing qualities, yet weight for weight the Scott cover is no heavier than the ordinary, and is more resilient—Make a point of seeing it, and note its advantages.

Lists free. Chief Office:

J. LIVERSIDGE & SON, Ltd., 196, OLD STREET, E.C.

Established fifty years.

In answering these advertisements it is desirable to mention "The Motor Cycle."



STANLEY SHOW,

STAND 61.

THE ROM TYRE & RUBBER CO., LTD.,

Telephone: 1513 Holborn.

Telegrams: "Romdom, London." **31, Brooke St., Holborn, London, E.C.**

MANCHESTER—Brown Bros., Ltd., Deansgate.

EDINBURGH—N.S.U. Scottish Agency, 167, Morrison Street.

PRESTON—Lancashire Motor Co., Ltd., County Garage (opposite Central Station).

BIRMINGHAM—Thos. Clayton & Son, Ltd., 125-6, New Street.

LEEDS—A. J. Greenwood & Co., 39, Guildford Street.

N.E. LONDON—Godfrey & Applebee, 165a, Hoe St., Walthamstow.

LINCOLN—W. J. Binks & Co., St. Benedict's Square.

NEWCASTLE-ON-TYNE—The Percy Cycle Co., Northumberland Street, South Shields.

Two New Pattern Carburetters.—

THE NEW A.M.A.C. WITH VARIABLE JET.

The new A.M.A.C. on paper strikes me as an uncommonly good thing. It has several points of very great merit which distinguish it from all other carburetters I have tried. But I must premise that so far I have not actually tried it on the road, and may later find occasion to modify a part of my enthusiasm.

The accompanying drawings make the general construction clear. A cursory inspection may overlook certain secret merits, so let me state that it contains no small screws whatever and no threads under $\frac{3}{16}$ in. diameter, that it is constructed wholly of brass except for the needle valve (which is of special hard drawn German silver), all unions have the first thread turned off to ensure easy engagement, the parts are absolutely standardised and interchangeable, and there is nothing to obstruct the flow

of mixture between jet and inlet valve.

The Float Chamber.

The merits of the float chamber are a snap lid cover, a reversible float, and an inverted needle valve, so that upward vibration aids the shutting off of petrol and prevents flooding. As the needle valve is three times the usual size, the petrol level, once set, remains constant.

The Jet.

Early in the current year I sent the Aston Motor Accessories Co., Birmingham, a makeshift variable jet I was using in one of their old carburetters, and pressed the merits of a variable jet. The new jet is petrol-tight by means

of ground joints, and is instantaneously detach-

able, because it is held by a spring snap catch. Furthermore, it affords six separate spraying orifices. These orifices are placed at the bottom of the jet, instead of at the top, as in standard jets. Each of these six spraying orifices communicates with the vertical bore of the jet. An external lever enables the driver to lean down and turn on any one of three different sized jets without dismounting—one for slow or easy work on the flat, one for fast or heavy work on the flat, and a third for bad hills. If he wants to use the other three he has to dismount and make a small adjustment. This is a great point, but it does not exhaust the merits of the new jet.

Well Mixed Vapour.

The drawings of the cross and vertical sections of the jet show that it consists of two tiny concentric tubes; the outer tube is the petrol jet, the inner tube is an air jet. When the petrol vapour leaves the jet it spurts up vertically in the form of a hollow tube of petrol—



Diagrammatic sketch showing air and petrol passing through special jet tube. Arrows indicate air from central tube. Lines indicate petrol from concentric tube.

partly wet atoms, partly vapour. Inside this hollow tube of petrol is a solid pillar of air from the central air jet. The hollow tube of petrol and the solid pillar of air together impinge on a cone at the top of the mixing chamber, and their collision against the cone mixes them thoroughly together, so that there should be no "wet" or "patchy" mixture supplied by this carburetter.

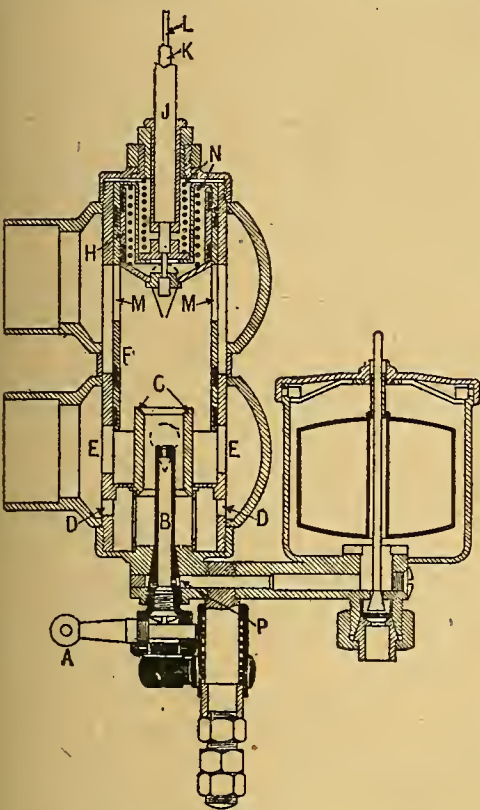
The Air Supply.

All the air in this carburetter is "bottom air," though some comes up in the centre of the spray and some *via* the choke tube. The choke tube is sturdy, and instantly interchangeable.

Control.

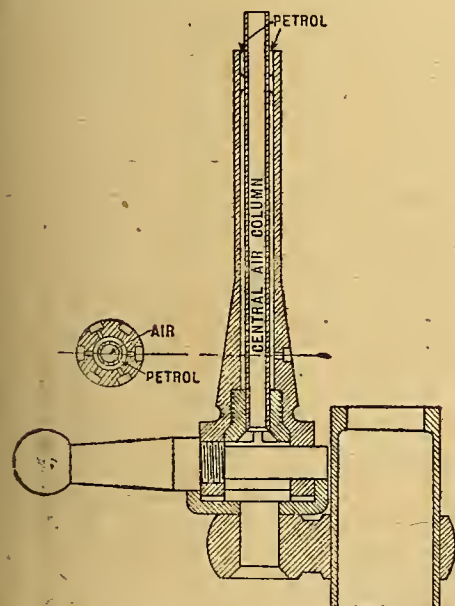
There are two novelties in the control. Both gas and air are controlled by sliding pistons. As we have often stated, these slides give a very delicate gradation of adjustment, but are apt to stick unless the carburetter is well shielded from dust. The A.M.A.C. slides are provided with rings, and it is claimed they will not stick, even if the carburetter is full of dust.

The other novelty in the control is a sentimental advantage only. Some riders dislike a multiplicity of wires. Personally, I think flexible wires less disfiguring than plated rods, and certainly they are easier to keep clean and smart. But the A.M.A.C. people have improved the appearance of their control by using what looks like a single wire control. It really consists of two concentric wires. The outer one is in reality a very much reduced example of the Bowden cable working inside the usual coiled spring covering which forms a portion of the Bowden mechanism. The air and throttle levers move in the same direction, and both work in the horizontal plane. It is advisable to point out that the new A.M.A.C. can be supplied with and without the variable jet and with and without the jet tube conveying a central column of air.



Sectional drawing of the 1920 pattern A.M.A.C. carburetter with variable jet.

- A. Variable jet lever.
- B. Jet tube
- C. Adapter.
- D. Main air orifices.
- E. Extra air orifices.
- F. Slide controlling extra air.
- H. Slide controlling throttle.
- J. Outer spring of Bowden control.
- K. Spring cable connected to air slide.
- L. Wire cable connected to throttle slide.
- M. Throttle openings.
- N. Coil springs controlling air and throttle slides.
- P. One of six holes for varying the size of jet.



Sectional sketch of the special variable jet tube with central column of air.

of ground joints, and is instantaneously detach-

MOTOR BICYCLES FOR SALE.**SECTION IV.**

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

1 h.p. 1907 Rex, fine running order, perfect tyres; £11.—22, Victoria Terrace, Leamington.

1909 Triumph, free engine model, new August; best cash offer.—3,303, The Motor Cycle Offices, Coventry.

1 CYL. F.N., equal new, handle-bar control, tools, spares; accessories; £28.—164, Coventry Rd., Hay Mills.

1 h.p. Twin Rex, recently overhauled, perfect condition; £15, no offers.—Bennett, "Mansion," Earl Sinton.

1 CYL. 5-6 h.p. F.N., Palmer cords, butted tube, horn, and spares, excellent condition; £25.—Dr. Fenton, Crackley.

1 h.p. Twin, Peugeot engine, low built machine, good condition; approval willingly; £15.—Morris, photographer, Bourne.

1 h.p. 1907 Triumph, magneto, perfect condition; £2 bargain; £25; no store room.—Clifton, 12, Albany Terrace, Coventry.

1 h.p. Quadrant, handle-bar control, perfect; £16. 2 offers, or exchange.—13, Homer St., Balsall Heath, Birmingham.

MOTOR Cycle, 2 h.p., M.M.O. engine, frame, tank, and wheels not finished; accept £6, bargain.—282, Harrison Lane, Birmingham.

MOTOR Cycle, 6-7 h.p., twin J.A.P., spring forks, low built, handle-bar control; cost £60, bargain, £25.—Tilton Rd., Small Heath, Birmingham.

N.S.U. 2 h.p. Twin, magneto, 1909, run few trials, otherwise perfectly new; cash £33. Tel.: 1180.—Cripps and Co., Ltd., Nottingham.

1908 Triumph, free engine, new piston and cylinder, in perfect tune; also forecar to fit; £35 the lot; best double.—Horsnell, 9, Burford Rd., Nottingham.

1-4 h.p. Peugeot, Bosch magneto, B. and B. H.B. carburetter, spring forks, long, low, in splendid order; £19.—136, Church St., Lezells, Birmingham.

ARIEL, Ariel, Ariel.—To clear, a few 1909 2 h.p. lightweights, magneto, handle-bar control; end of season bargains.—Ariel Wks., Bournbrook, Birmingham.

1 h.p. N.S.U., 2-cyl., magneto, two-speed gear, with sidecar, Palmer cord back, spares, splendid condition; £40, or near offer.—Stedman, Binbrook, Lincoln.

1 h.p. Peugeot, vertical engine, Longuemare, low built, 26 by 2 wheels, Dunlop tyres, as new, gas pump, horn, stand, footrests; £8.—Ironman, Wymeswold, Loughborough.

1908 Triumph, excellent condition throughout, new rubber studded tyres and Stanley belt, lamp, horn, spring pillar, watch; 32 guineas.—Rev. Grimes, Earl Shilton, Hinckley.

TRIUMPH, 1908, perfect condition, lamp, horn, spares, including new cover and tube, new Wataita, stand, etc., just thoroughly overhauled; £32 10s. Farrow, 31, Scotgate, Stamford.

1 h.p. Clarendon, magneto, spring forks, spare valves, horn, etc., just rebushed throughout, excellent condition; bargain, £15 10s.; approval, deposit.—Coales, 14, Westfield Rd., Wellesborough.

PLENDID Osborne Motor Cycle, free engine, change speed gear, spring forks, sliding back wheel, used for demonstrating purposes only; 40 guineas, ordinary price 50 guineas.—Osborne Co., Lincoln.

1909 Triumph, free engine clutch model, new at Easter, no fault, many spares, including belt, valve, and plug; trial; £44, or nearest offer.—Geoffrey Smith, 37, Northumberland Rd., Coventry.

1 h.p. Cunard, in splendid order, powerful, fast, and good hill-climber, £10; 3 h.p. Advance, magneto, good running order, very low build, £15.—M. W. room, motor engineer, Central Garage, Towcester.

F.N., 4-cyl., 5-6 h.p., 1909 model, delivered March, not ridden more than 3,000 miles, in excellent condition, tubular stand, carrier, and footrests added, Jones speedometer, lamp and generator, horn, spare valves, over and air tube; invoice price £65.—Offers to Holby, Warwick Av., Earlsdon, Coventry.

SECTION V.

Forfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

MOTOSACOCHE, very low frame, in good order; £13; two accumulators, bargain.—37, Searle St., Chester-on, Cambs.

1 h.p. Roc, 1908, handle-bar control, tyres nearly new, two-speed gear, whole in perfect order; £30.—Dr. Hills, Upwell, Wisbech.

1909 Triumph, free engine, excellent condition, ridden 1,400 miles, complete accessories; £42.—Langley, Bromham Rd., Bedford.

WERNER Lightweight, good order, recently enamelled and plated; photo on request; bargain, £6.—Cabbtree's Motor Works, Wisbech.

1771. 3½ h.p. 1909 PHELON AND MOORE, two-speed gear and free engine, petrol and oil gauges, horn, starting handle, tools, quite as new, including Mills-Fulford 1909 castor wheel sidecar, also in good condition, non-skid tyre; for the combination complete, guaranteed £45 0 0
1768. 3½ h.p. TRIUMPH, 1907 model, magneto ignition, nice condition, lamp, generator, horn, tools, spare belt, etc., guaranteed .. 25 gns.
- 5 h.p. VINDEC SPECIAL, two-speed gear, free engine, magneto ignition, including Mills and Fulford artistic cane castor wheel sidecar, upholstered in red, in new condition, guaranteed £37 10 0
1760. 4 h.p. ROC, magneto, 1908 model, two-speed gear and free engine, spring forks, starting handle, low position, mirror, horn, stand, and carrier, guaranteed 23 gns.
1769. 2½ h.p. KERRY, vertical engine, powerful, guaranteed £8 15 0
- 3½ h.p. 1907 TRIUMPH, magneto, spring forks, nice condition, guaranteed 22 gns.
1757. 2½ h.p. 1909 ARIEL Lightweight, magneto ignition, guaranteed 20 gns.
1756. 3½ h.p. 1909 HUMBER, magneto, two-speed gear and free engine, starting handle, guaranteed £35 0 0
1753. 2½ h.p. F.N., magneto ignition, vertical engine, guaranteed £15 0 0
1719. 3½ h.p. 1908 TRIUMPH, magneto, spring forks, standard, guaranteed 28 gns.
- 3½ h.p. QUADRANT, magneto, and spring forks, 1908 model, guaranteed £25 0 0
1740. 3½ h.p. 1909 T.T. TRIUMPH, guaranteed 38 gns.
1734. 14 h.p. DE DION Tricar, twin-cylinder engine, two speeds and reverse, open frame, coach-built, water-cooled 40 gns.
1729. 3 h.p. TRIUMPH, ball bearing engine, guaranteed £12 10 0
1717. 1½ h.p. MOTOSACOCHE, 1909 model, magneto, Druid forks £25 0 0
1722. 3½ h.p. 1908 MINERVA, spring forks, guaranteed £22 10 0
1732. 3½ h.p. 1907 TRIUMPH, manufactured in 1908, magneto, spring forks, guaranteed £27 10 0
1727. 2 h.p. MOTO-REVE, 1909 model, cream finish, magneto, and spring forks, guaranteed £28 10 0
1716. 3 h.p. 1906 TRIUMPH, magneto, and spring forks, guaranteed 19 gns.
1637. 3½ h.p. 1907 TRIUMPH, magneto, Mabon free-engine clutch, guaranteed £27 10 0
1679. 1½ h.p. late model F.N. Lightweight, magneto, and spring forks £17 10 0
1606. 3½ h.p. CHASE Tricar, two-speed gear 20 gns.
1617. 6 h.p. 1908 N.S.U. and sidecar, coach-built, two-speed and free engine, magneto, and spring forks, guaranteed £35 0 0
1623. 3½ h.p. PHOENIX-MINERVA Tricar .. 20 gns.
1681. 3½ h.p. GREEN Motor Cycle, water-cooled engine, magneto £25 0 0
1481. 4 h.p. Twin WERNER, guaranteed .. £12 10 0
1467. 2½ h.p. MINERVA £10 10 0
1665. 3½ h.p. 1908 TRIUMPH, handle-bar control, spring forks; standard model 29 gns.
1545. 7-9 h.p. PEUGEOT, Chater-Lea fittings £15 15 0
1613. 3½ h.p. 1907 MINERVA £16 10 0
1664. 3½ h.p. ROC, free-engine clutch, guaranteed £15 15 0
1452. 5 h.p. REX DE LUXE, magneto, spring forks and seat-pillar, guaranteed £17 10 0
- 2½ h.p. BROWN, vertical engine, guaranteed .. £10 10 0
1625. 2½ h.p. BRADBURY, magneto £21 0 0
1639. 3 h.p. ZENITH Bicar £15 15 0
1650. 2½ h.p. 1909 MATCHLESS Lightweight, magneto, spring forks, standard model .. Offers.
922. 3½ h.p. PHOENIX Cob, suitable for lady or gentleman, two-speed gear £25 0 0
1596. 1½ h.p. F.N., spring forks, magneto, latest model 20 gns.
1534. 4½ h.p. 1908 MINERVA, R.O.M. contact breaker, guaranteed 20 gns.
1634. 7 h.p. MATCHLESS, twin engine, magneto, low frame, latest 1903 model, guaranteed £25 0 0
1616. 3 h.p. TRIUMPH £15 15 0
1465. 3 h.p. TRIUMPH, very low price 15 gns.
1576. 3 h.p. TRIUMPH, magneto, guaranteed £17 10 0
1542. 6 h.p. ANTOINE £12 10 0
1651. 1½ h.p. 1908 MOTOSACOCHE, guaranteed £17 10 0
1037. 2½ h.p. MATCHLESS Offers.
918. 3½ h.p. EXCELSIOR and sidecar. Offers.

Machines in this column are offered by Wauchope's, and carry their guarantee.

WAUCHOPE'S,
9, SHOE LANE, FLEET ST.,
LONDON.

Telephone—5777, Holborn.

MOTOR BICYCLES FOR SALE**SECTION VI.**

Worcestershire, Herefordshire, Radnor, Brecon, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

3½ h.p. Brown, magneto.—Motorist, 29, Copplestone, Llandaff North, near Cardiff.

5 h.p. Rex, 1907, accumulators, in good order; Aisop, 4, Exeter Rd., Newport, Mon.

RIP Spring Frame, 3½ h.p., White and Poppe's Palmer tyres; sacrifice £16.—54, Albany Rd. diff.

TRIUMPH, 1909, with Montgomery spring sidecar, new beginning September; offers: to or separate.—Withers, Stourbridge.

2½ h.p. Minerva, vertical, low, H.B. control, B.I. buretter, Shamrock-Gloria belt, good, fast, and reliable; £12 10s.; will ride 50 miles.—Bros., Kingston.

HUMBER, 3½ h.p., 1909 model, two speeds, free engine, perfect condition, ideal machine for or touring; owner buying car; £28, a great sacrifice, Robbins, Castle St., Evesham.

BAT, 2½ h.p. De Dion engine, carburetter, Rich back, Dunlop front, spare Rich, two accumulators, one new, speedometer on bar, horn, lamp, complete kit tools, all spares, Albion pulley, very comfortable, low, cushion seat, very comfortable; £14.—Tramway Depot, Perth.

SECTION VII.

Gloucester, Oxford, Buckingham, Wilts, and Hants, and Channel Islands.

1907 2½ h.p. F.N., magneto and spring forks; offers.—Particulars, 111, Coronation Av.,

3 h.p. Royal Enfield, splendid running order; Fraser, Priory, Hardway, Gosport. Owner to sea.

F.N., 2½ h.p., with accessories, smart, sound, ready to go; £9 10s.; any trial.—Paul, 40, Beresford Reading.

3½ h.p. Brown, new Clincher and Palmer tyres, V grey, guaranteed; £13.—Nicholls, 38, Oxford Wycombe.

MOTOSACOCHE, 1909, magneto model, spring frame, new July, not used; £30.—Gregory, rose, Paignton.

1907 3½ h.p. Triumph, magneto, 1908, variable, H.B. control, splendid condition; Longley, Drapers, Basingstoke.

KERRY, 2½ h.p., new engine, new back tyre, running order; £15, or close offer.—S. W. kins, Sefton Park, Slough, Bucks.

5-6 h.p. F.N., handle-bar control, Brooks saddle, lamp, two generators, two spare tubes; any £35.—Pirie, Fort Blockhouse, Gosport.

3½ h.p. Twin-cyl. Premier, run 135 miles, guaranteed; £40; owner leaving country.—Wright, Joubert, 31, Victoria Rd., Swindon.

3½ h.p. De Dion, fast, powerful, spring forks, £10, photo; 40 amp. 4 volt accumulator 25 amp. 9s.; large motor saddle, 6s.—Goodgame, sham, Bucks.

1909 New 3½ h.p. Triumph; 1909 new 1½ h.p. B.A.C. h.p.) Motosacocche; 1909 new 5-6 h.p. F.N., fitted Cowley meter, special tyres; what do Randall, Andover.

TRIUMPH, 1908, perfect condition, Palmer large rubber covered footboards, lamp and gear handle-bar mirror, numerous fittings and spares; £34.—Bulwark, Chesterfield Rd., Newbury.

1908 Triumph, 3½ h.p., Palmer back, Clincher Cowey speedometer, P. and H. lamp, generator, perfect order, £35; 1909 Triumph, good as new, £39; Ariel, 3½ h.p., Palmer tyres, order, £10.—The Wicliffe Cycle Co., Stroud, Gloucester.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, and Sussex.

£8 10s.—Chater-Lea Motor Cycle, complete, fine.—Below.

3½ h.p. Kerry, re-enamelled grey, like new, new back, H.B. control, excellent condition; Below.

3 h.p. Lagonda, 26in. wheels, long bars, in fine condition; £8 10s.—Below.

CHATER Motor Frame, with new Roc two-speed free engine fitted, torpede tank, 24 by 2½ wants engine and tyres to complete; £14 14s., separate. £9.—A. Russell, East St., Barking.

IF You Want bargains in second-hand motor you can get them at Wauchope's.

3½ h.p. Kerry, spring forks, perfect condition; near offer.—Ellis, 18, Albert Rd., Dover.

3½ h.p. O.K., low frame, torpedo tanks; speed 30; £11.—Acworth, 8, Crieff Rd., Wandsworth.

3 h.p. Kerry, H.B. control, spring forks, in good low; £8 10s.—139 Balham St., Plaistow.

MOTOR BICYCLES FOR SALE.

1 h.p. Kelecom, mechanical, 26in. wheels, tyres splendid, non-skid rear; £10.—Below.

1 h.p. Fafnir, Chater-Lea No. 6 frame, 26in. wheels, low, good condition; £16, offers.—Below.

1 h.p. Matchless, magneto, spring forks and frame, 26in. wheels, excellent condition, lamp, horn, etc.; £25.—Humphries, 8, The Village, Old Charlton, Kent.

1 h.p. Rex de Luxe and Sidecar, magneto, Roc clutch, tyres, etc., as new; £28.—Townsend.

1 h.p. Minerva, as new, handsome machine; £11.—Townsend.

1 h.p. Minerva, Chater, low, large lamp, stand; don't miss; £7.—Townsend.

1 h.p. Rex, accumulator and sidecar; £16 10s.; perfect. Townsend, 162a, Dalston Lane, London.

1 h.p. 2 h.p. Ascot-Kerry, re-bushed, new Dunlop, perfect.—White, 50, Beresford Rd., Kingston.

1 h.p. S.U., 1909, 4 h.p., Model de Luxe, R.O.M. tyre, new belt; £30.—14, Grove Rd., Willesden Green.

1 h.p. Rex, 1909, magneto, spring forks, as new; £18, bargain.—Augarde, 59, Robsart St., Brixton.

1 h.p. A.P., 2 h.p., perfect going order; £7, or best offer; higher power wanted.—2, Ardgowan, Catford.

1 h.p. 3 h.p. Minerva Motor Cycle, splendid condition and going order; £13.—14, Church Rd., Barking.

1 h.p. 2 h.p. Twin Laurin-Klement, Mabon clutch; £14, bargain.—39, Frith St., near Piccadilly Circus, W.

1 h.p. 10.—2 h.p. De Dion, B. and B., brass tank, rubber belt, good tyres.—M., Sydenham House, Clacton.

1 h.p. 1 h.p. Motor Cycle, E.M. engine, sound condition; £27 7s.—84, Queen's Rd., Peckham. Hop 2125.

1 h.p. CYL. F.N., 4 h.p., magneto, absolutely perfect; £25.—Stanton, 619, Lea Bridge Rd., Leyton, London.

1 h.p. 1 h.p. Triumph, 1906, magneto, new Palmer cord back, good one in front; price £20.—Morgon, Farnham.

1 h.p. NTOINE, 4 h.p., new tyres, too fast for owner; £12 10s., cash only.—2, Ullswater Rd., Palmer's Green.

1 h.p. 1 h.p. Ma reto Brown, nearly new; cost £60, nearest £25; seen any time.—18, Tresco Rd., Nunhead.

1 h.p. RIUMPHS, 1909, the very latest models, brand new, in stock.—Rey, 5, Heath St., Hampstead, London.

1 h.p. RIUMPHS.—Two 1909 models, £39 each; and one 1908 model, £30; all guaranteed perfect.—Below.

1 h.p. 1 h.p. Rex, spring forks, Palmer tyres, new belt, two accumulators, all accessories; £14.—Below.

1 h.p. 3 h.p. Minerva, handle-bar control, new tyre on back, 4 in very good condition; £12.—Below.

1 h.p. HOP-SOILED Only.—1909 Rex de Luxe machines, with two-speed gear and free engine; one 5 h.p. and one 3 h.p. single, offers invited.—The Eastern Range Co., 418, etc., Romford Rd., Forest Gate, E. none, 10, Stratford. T.A.: Egaraco, London.

1 h.p. 1 h.p. Twin J.A.P., Chater-Lea, Whittle, Brown-Barlow, spring forks; £26.—63, Norfolk Rd., Dalston, London.

1 h.p. 1 h.p. Motor Cycle, Werner, exceptional condition, Michelin tyres; £8.—15, Nightingale Parade, Bal...

1 h.p. 1909 (September) Lightweight Royal Wolf, brand new, in makers' crate; £18 nett.—10, Old Town, Clapm...

1 h.p. 3 h.p. De Dion, low, perfect, very fast and powerful; £27 10s.—Brown, 2a, Seagrave Rd., West Bromp...

1 h.p. 1 h.p. Roc and Sidecar, two-speed, new tyres, Amac handle-bar control; what offers?—Jones, Crocken...

1 h.p. 3 h.p. Minerva, low, long handles, 26 wheels, grey, 4 perfect; £8, near offer.—42, Wellesley Rd., Chis...

1 h.p. S.U., 3 h.p., new, 26in. Dunlops, Whittle belt, splendid order; £13, or offer.—Squirrell, Yiewsley, Mid...

1 h.p. MINERVA, 1 h.p., Palmer, perfect condition; £9, or exchange; push bike and cash.—Penny, Cobham, Surrey.

1 h.p. IMMEDIATE Delivery of Triumphs, Douglas, and various other makes.—Wauchope's, 9, Shoe Lane, London.

1 h.p. 1908 Wolf, 5 h.p. Sarolea, H.B. control, perfect order, accessories; £19.—4, Forest View Av., Leyton.

1 h.p. 1 h.p. White and Poppe, adjustable pulley, No. 6 Chater, spares, Palmers; £14.—133, Killearn Rd., Hatford.

1 h.p. 1 h.p. Twin Kerry, two speeds, free engine; first reasonable offer buys; cash needed.—75, Manor St., Chelsea.

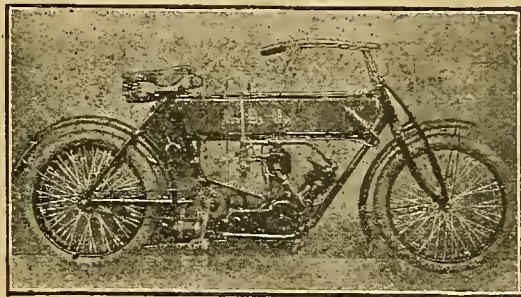
1 h.p. 1908 Triumph, in perfect order, new Mabon clutch, butt-end tubes, grand machine; £30.—Morgon, Farnham.

1 h.p. 10s.—2 h.p., vertical, low, fast, new tyre, belt, excellent condition.—Evans, 6, Terrace Rd., Plaistow.

1 h.p. 1 h.p. Quadrant, magneto, spring forks, lamp, etc.; £18, or near offer.—Jackson, 26, Gladsmuir Rd., Highgate.

NO BANKRUPT STOCK STUFF

with us. **ALL GENUINE and GUARANTEED.**

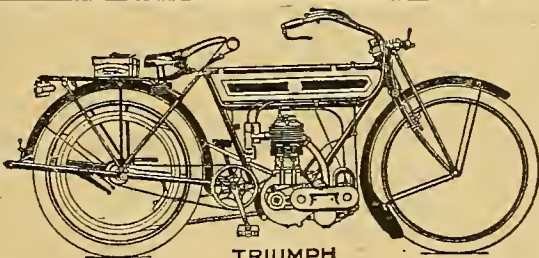


SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.
WHEELS—24in. and 26in.
TYRES—Peter Union 2½in. section to singles, and 2½in. to twins.
CARB.—N.S.U. float-feed type.
BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.
EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.
GENERAL—We guarantee fully every machine sold.
PRICES:

	Maker's price.	Our price.	Deferred payments.
3½ h.p.	£40	£31	£33
3½ h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5½ h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.



TRIUMPH

1909 TRIUMPHS
IN STOCK.
£48 or exchange.

SECOND-HAND MACHINES (all fully guaranteed by us).

ANTOINE, 4 h.p., very low, free engine	£16
KERRY, 5 h.p. Twin, 26in. wheels	£16
MINERVA, 3½ h.p., spring forks, 1907 model	£15
REX, 3½ h.p., 1908, two speed, perfect	£30
BROWN, 2½ h.p., Bosch magneto, low, perfect	£16
REX, 5 h.p., Twin, low, spring forks	£17
ZENITH Bicar, 3½ h.p., two speeds	£17
QUADRANT, 3½ h.p., spring forks, very low	£16
ARIEL, 3 h.p., low, spray, M.O.V.	£16
SINGER, 3 h.p., Bosch magneto, new tyres	£16
PEUGEOT, 4½ h.p., twin-cylinder, low built	£15
FAIRY, 2 h.p., Twin, low built	£11
REX, 1909, 3½ h.p. model	£26
MINERVA, 1908, 8 h.p.	£23

£3 DOWN SECURES:

F.N., 2 h.p.	£10	MINERVA, 2 h.p. ..	£8
HUMBER, 2 h.p.	£8	HUMBER, 2½ h.p. ..	£10
QUADRANT, 3 h.p.	£10	SINGER, 2 h.p.	£6
WERNER, 2 h.p.	£8	BROWN, 2 h.p.	£7

SPECIAL BARGAINS.

Brand New FAIRY Sets. To convert your cycle to a motor cycle. All brand new and perfectly complete. 2½ h.p., twin cylinder, £10 only nett £10

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The actual Matchless that won the Isle of Man Tourist Trophy, on Thursday, the 23rd Sept., 1909. 5 h.p., all complete, and exactly as when it finished. Averaged 50 m.p.h. To be seen here.

£55 Cash only.

MOTOR BICYCLES FOR SALE.

WHITTLE'S.—1908 F.N., 4½-h.p., 4-cyl., magneto, spring forks, very powerful and fast, like new; cheap, £26.

WHITTLE'S.—1909 F.N., 1½-h.p., lightweight, Bosch magneto, spring forks, absolutely as new; great bargain, £22 10s.

WHITTLE'S.—Clyde, 3 h.p., magneto, perfect order; sacrifice £11 11s.—Whittle's Motor Exchange, Earlsfield. Phone, 711, Post, Wimbledon.

4½ h.p. Minerva Twin, Chater-Lea, very low, just overhauled; £16, or near offer.—74, Croydon Rd., Beckenham.

3½ h.p. Triumph, 1908, guaranteed perfect, all accessories; £32 10s.; approval.—Eagles and Co., High St., Acton.

2 h.p. Noble, low frame, 26in. wheels, A Won tyres, B. and B. carburetter; £7 10s.—73, Church St., Camberwell.

£12.—2 h.p. Noble, Chater, Peter-Union, Whittle, 24in. wheels, good, exchange.—19, Vansittart Rd., Forest Gate.

3½ h.p. Centaur, good condition, M.O.V., new Ducos non-skid back; sacrifice £15.—F. Hubbard, Cranleigh, Surrey.

£84.—Clarendon, 3 h.p., M.O.V., low, perfect order, good tyres, new tubes, accessories.—17, Hampstead Rd., Brighton.

N.S.U., 1909, nearly new; cost £45, £30, or lightweight with cash.—Stevens, 3, Elm Mews, Baywater Rd., W.

TRIUMPH, 1909, perfect; any trial; spare tyre valves, etc., Lucas lamp; £39.—Mitchell, Guildford Park, Guildford.

CHATER Frame, No. 6, low position, fitted Rover engine, requires tuning up; £8 10s.—73, Church St., Camberwell.

MOTOSACOCHE (1908), accumulator, perfect condition, little used; £13 10s., bargain.—B., 35, Parliament St., S.W.

3½ h.p. Humber, chain drive, perfect condition throughout; nearest offer £8, or exchange.—38, Leyland Rd., Lee.

FOR immediate sale, 2 h.p. Kerry, good order, low position, Palmers; first cheque £8.—F. Ratcliff, Goudhurst, Kent.

2 h.p. Kerry, excellent condition throughout, Wata wata belt, new Palmer.—Particulars, Lewis Kettle Uphill, Folkestone.

2 h.p. Excelsior, M.M.C. engine, B. and B. carburetter, spring forks, new pulley; £9 10s.—224, Wood St., Walthamstow.

3 h.p. White and Poppe, Chater-Lea, Brown-Barlow, H.C., excellent condition; £13.—12, Laund Rd., Fulham, S.W.

1909 Triumph, splendid condition, cord front, Sham rock back; £35, no offers.—Builders' Arms, Southfields, London, S.W.

1 h.p. F.N., 1908, magneto, as new, guaranteed perfect condition; £16.—66, Queen Elizabeth's Walk, Stoke Newington, N.

LIGHTWEIGHT and Cash wanted for 5-h.p. twin Rex.—Particulars, Winch, Madeira Mount, Woodford Green, Essex.

3 h.p. Brand New 1908 N.S.U., magneto; best offer £4 over £25 accepted; money wanted.—Schofield Harefield, Middlesex.

F.N., 4 h.p., 4-cyl., magneto, spring forks, just overhauled; bargain, accept £22.—Moore, 3, Avonmore Rd., Kensington, W.

TRIUMPH, handle-bar control, Mabon clutch, recently overhauled, new condition; £26.—Whiteley, 8 Watling St., Chatham.

REX, 3 h.p., perfect condition, and good sidecar machine; £9 15s.—Barnett, care of Cobham Motor Wks., Cobham, Surrey.

HOLLOWAY.—3 h.p. Quadrant, spring forks, 26in. wheels, in perfect condition; £14.—Jennings, 268 Hornsey Rd., Holloway.

HOLLOWAY.—3 h.p. Centaur, M.O.V., free engine 26in. wheels; £9 10s., or offer.—Jennings, 268 Hornsey Rd., Holloway.

HOLLOWAY.—3 h.p. London, M.O.V., 26in. Continentials, bar control, adjustable pulley, spring forks, in splendid condition; £13.—Jennings, 268 Hornsey Rd., Holloway.

HOLLOWAY.—3 h.p. Triumph, Palmer tyres, perfect condition; £17; very reliable.—Jennings, 268 Hornsey Rd., Holloway, London.

TRIUMPH, 3 h.p., H.B. control, adjustable pulley perfect; great bargain, £24 10s.—Williams, 11 The Chase, London, S.W.

LIGHTWEIGHT Werner, 2 h.p., trembler, new accumulator, going order; £6; exchanges.—Wybrow, 222 Coldharbour Lane, Brixton.

LOOK!—3 h.p. Quadrant, excellent condition, new Continentals, fast and powerful; sacrifice £9.—48 Walton Rd., East Molesey.

£5 10s.—2 h.p. F.N., fine condition, splendid hill climber, new tyres.—5, Haarlem Mansions, Brook Green, Hammersmith.

MAUDES' MOTOR MART,

136, GREAT PORTLAND STREET (off Oxford Circus), LONDON, W. Also at POWELL STREET, HALIFAX.
 Telephone: 552 Mayfair.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

AMPSTEAD.—Sale, enormous reduction on all machines, call and obtain great bargain. — Rey, 5, 11th St.

AMPSTEAD (£23). — 4-cyl. F.N., 4½ h.p., 1908 model, magneto, spring forks, with all accessories.

AMPSTEAD (£25). — F.N., 4-cyl., 4½ h.p., splendid condition, with all accessories, late model.

AMPSTEAD (£27). — F.N., new condition, 4-cyl., 1908 model, 4½ h.p., magneto, spring forks, all accessories.

AMPSTEAD (£21). — Minerva, 3½ h.p., 1909 model, new condition, handle-bar control, all accessories; gain.

AMPSTEAD. — 1909 New Triumphs in stock, Moto-Reves and F.N.'s at special reduction, latest models.

AMPSTEAD (£22). — Moto-Reve, twin, magneto, and spring forks, 1909 pattern, splendid condition, with all accessories.

AMPSTEAD. — Sole London and district agents for Lincoln Elks, all models in stock; special price sale.

AMPSTEAD (£12). — Singer, 3 h.p. magneto, new non-skid on back, in splendid order, with accessories.

AMPSTEAD (£18). — F.N. 1½ h.p. Lightweight, magneto and spring forks, with all new accessories; gain.

AMPSTEAD (£28). — V.S., two-speed gear, 5 h.p., magneto and spring forks, all accessories; grand gain.

AMPSTEAD (£13). — Peugeot, 3½ h.p., spring forks, with all new accessories, splendid bargain. — 5, 11th St.

AMPSTEAD (£13). — Motosacoche Lightweight, late model, with all accessories, guaranteed a bargain. Tel.: 2678 P.O.

AMPSTEAD (£14). — Lincoln Elk, 3 h.p., 1909 model, new condition, with accessories, all bargains, guaranteed.

AMPSTEAD (£23). — Lightweight 1909 Latest model Wolf, not run 100 miles, and guaranteed perfect. — Below.

AMPSTEAD (£14). — Singer, 3 h.p., magneto, good condition; 4-cyl. F.N., £23. splendid order, all gains.

AMPSTEAD (£12). — N.S.U., 3½ h.p., good order, with all accessories; J.A.P., 4 h.p., M.O.V., magneto, all accessories.

AMPSTEAD (£6). — Whitley, 3 h.p., good order, accessories; Kerry, 3 h.p., good running condition, 10s.

AMPSTEAD (£35). — Tourist Trophy Triumph, 1909, almost new, property of W. Bentley; 1907 Triumph, £25. bargain.

AMPSTEAD (£14). — Riley 3 h.p., vertical, late type; Kerry, 3 h.p., £6, in good order, bargain.

AMPSTEAD (£29). — 5-6 h.p. F.N., late model, 4-cyl., special bargain, with all accessories, grand condition.

AMPSTEAD (£16). — Triumph, 3 h.p., accessories; bargain house. — Only address, 5, Heath St. Tel.: 8 P.O.

Werner Motor Cycle, tyres practically new, just been overhauled, very little used; £13. — Wyn's Garage, Eastbourne.

BRADBURY, £36, otherwise absolutely brand new, carrying full makers' guarantee, no delay. — Stanton, below.

1909 Brand New 3½ h.p. Rex, magneto, spring forks, unspratched, unsold (used once), automatic adjustable pulley; £34, or with absolutely brand new latest line Chater-Lea throughout sidecar, £38 10s. — Stanton, below.

1909 V.S., 7-9 h.p., almost brand new, magneto, spring forks, 2½ in. tyres; 38 guineas. — Stanton, below.

TWO-SPEED Motor Cycle (Roc clutch and gear), 3½ h.p. De Dion, low, Chater-Lea fittings, handle-bar control, spring forks; £20, exchange. — Stanton, below.

3 h.p. Quadrant, low, spring forks, £10; 2½ h.p. Scout, Chater-Lea, £7 10s. — Stanton, below.

4 Down secures a 1909 Wolf Lightweight, balance in eleven monthly payments. — Stanton, 619, Bridge Rd., Leyton, London.

3 h.p. Durkopp, spring forks, two accumulators, ball bearing mainshaft, splendid condition; £8 10s. — Luton Rd., Walthamstow.

3 h.p. Ariel, in perfect condition throughout, searchlight, spring forks, Gloria belt, two accumulators, splashless silencer; £11. — Below.

3 h.p. Minerva, perfect little machine, 1907 model, everything in perfect and excellent condition, two belts, etc.; £10 10s. — Below.

3 h.p. Excelsior, brand new machine, Cowey speed indicator, Mabon clutch, Autoclipse lamp; best offer £30 secures. — Hurlock, 73, Denmark Hill, Phone, 20 Brixton.

3 h.p. Brown, in splendid going order, long handlebars and low seat-pillar fitted, practically new; £57, Park Rd., West Dulwich.

TRICARS.

SPECIAL EXCHANGE ALLOWANCES.
GARAGE ROOM REQUIRED

3 h.p. HUMBER, spray, chain drive, very powerful	£12 10
4½ h.p. W.C. BRADBURY, two speeds, open frame, wheel-steering, foot clutch	£29 10
Ditto ditto fine condition	£35 0
5½ h.p. W.C. REXETTE, two speeds, open frame, foot clutch, specially good	£35 0
5 h.p. W.C. HUMBER, two speeds, open frame, Longuemere trembler coil	£33 0
4½ h.p. PHENIX TRIMO, H.T. magneto, two speeds, chain drive	£27 10
4½ h.p. W.C. HUMBER, two speeds, Longuemere, chain drive, foot clutch	£16 10
h.p. Victor, two speeds, open frame, foot clutch, foot brake	£18 10

Cash offers considered to clear.

5½ h.p. TWIN REX, H.B. control, spring forks, and brand new DE LUXE SIDECAR with art cane body, latest improvements and 26 x 2½ tyre, £22 10s.

WE HAVE IN STOCK OVER TWO TONS OF
Brand New Perfect Motor Cycle Covers. Best makes. All sizes. 17/6 each. New Clincher A Won Covers 17/6, Tubes 4/11. Bargain list on application. Approval against cash.

1909 REXES. 1909.

All models in stock. Liberal exchanges.

OFFERS CONSIDERED.

"POPULARS."

1909 3½ h.p. magneto REX, shop soiled....	Offers
1909 3½ h.p. TRIUMPH, new, Palmer Cords	£45 0
1909 3½ h.p. REX Tourist, done 50 miles.	Offers.
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1908 3½ h.p. Magneto MINERVA	£22 10
1908 3½ h.p. Magneto REX Racer	£29 10
1907 4 h.p. Magneto ROC, Roc clutch	£24 10
1907 3½ h.p. magneto REX	£21 0
4 h.p. ANTOINE, high tension magneto	£18 18
1908 3½ h.p. Magneto MINERVA, spg. fks.	£22 10
1907 3½ h.p. REX, spring forks	£17 0
3 h.p. HUMBER, spray, free engine	£10 10
3 h.p. BRADBURY, low, 26in. wheels ..	£13 10
1906 3½ h.p. REX, spring forks, M.O.V. ..	£15 10
3 h.p. SINGER, belt drive, H.T. magneto	£19 10
4 h.p. STEVENS, H.B. control.	
3 h.p. CLYDE, magneto, long bars	£15 0
2½ h.p. KERRY, light and low, 26in. wheels	£9 10
2 h.p. M.O.V. MINERVA, spray, good....	£6 15
3 h.p. ROVER, M.O.V., Longuemere	£10 0
3½ h.p. REX, handle-bar control, Amac.	£10 10
3 h.p. HUMBER, spray, splendid climber..	£9 10
2½ h.p. WERNER, spray, light, low	£8 0
2½ h.p. Light ARIEL, low build	£8 15
2½ h.p. LLOYDS, vertical, spray	£6 0

Monster List on Application. Cash offers considered.

SIDECAR MACHINES.

1909 7-9 h.p. PEUGEOT, magneto, as new	£40 0
1909 5 h.p. REX DE LUXE, 100 miles only	Offers.
1908 5 h.p. Magneto, V.S., almost as new ..	£29 10
1908 Twin Tourist REX, magneto	£28 10
1908 Twin REX DE LUXE, Palmer Cords	£32 10
5½ h.p. Two-speed REX DE LUXE	£29 10
5½ h.p. REX DE LUXE, Roc clutch	£27 10
6 h.p. Twin ANTOINE and Sidecar	£18 10
5 h.p. Twin ZENITH, spring frame	£13 10
6 h.p. Twin REX and Sidecar	£20 0
4½ h.p. Four-cylinder F.N., magneto	£19 19

Five 5½ h.p. Twin Rexes, spring 10.ks, long bars, low frames, aluminium finish, blue lines, 26in. wheels. £17 17s.

Grand Sidecar machines. EXCHANGES.

EASY PAYMENTS.

£3 DOWN secures any of these.
Balance 5/- per week.

2½ h.p. Bradbury £8 10	2 h.p. Sarolea.. £6 0
3 h.p. Lloyd's £13 10	2½ h.p. Kerry .. £9 10
3 h.p. Clyde £15 0	4 h.p. Coronet £15 0
4 h.p. Antoine £16 10	2½ h.p. Werner £8 10
3 h.p. Humber £10 0	3½ h.p. Werner £13 10
3½ h.p. Rex £10 10	2 h.p. Thomas £8 0
2½ h.p. Lloyd's £7 10	2 h.p. Humber £8 10
4 h.p. Atelier £13 10	3 h.p. Bradbury £10 10

200 AMAC and BROWN & BARLOW Carburettors from 25/-. Liberal exchange. Allowances.

DE LUXE SIDECARS, 2½ in. tyres, everything of the best, built by experts, 3-bolt attachment, 26 x 2½ Clincher A Won tyres £8 0

The Halifax Motor Exchange,
"LARGEST REX DEALERS"
Phone 746. 16, Westgate, Halifax.

MOTOR BICYCLES FOR SALE.

N.S.U., 6 h.p., 1908, magneto, N.S.U. coach-built sidecar, together £37 10s.; guaranteed perfect; appointment. — 9, High St., St. Albans.

1908 V.S. Twin, magneto, and Mills and Fulford castor wheel sidecar; sell or exchange for Triumph. — 8, Barrett St., Manchester Sq.

4-CYL. F.N., 4½ h.p., 1908, handle-bar control, n tyres and tubes (detachable), perfect condition must sell. — Hewson, 10, Queen Sq., W.C.

3 h.p. Quadrant, perfect running order, back tyre punctured, new accumulator; £7 10s., a bargain. — Hamilton, 30, Beverley Rd., Anerley, S.E.

FOR Sale, 3 h.p. N.S.U., 24in. wheels, magneto, good condition; price £18, or offers; can be seen by appointment. — Fisher, King's Langley, Herts.

1909 Triumph, new, used once, lamp, spares, complete and see; worth £46; any reasonable offer quick sale. — 1a, Lyall Mews, Eaton Sq., S.W.

4 h.p. Roc, free engine, two-speed, magneto, handle-bar control, Dunlop tyres; £18, or exchange lightweight. — T.E., 64, Mount Pleasant Rd., Tottenham.

3½ h.p. Triumph, 1908, and sidecar, Mabon clutch, Palmer cord tyres, Whittle belt; £40; trial. — Wiles, 40, Carlton Rd., Mile End, London, E.

P. and M., 1909, June, and Mills-Fulford castor wheel sidecar, same date, hardly used, climb anything. — 50. — Palmer, 76, Bedford Hill, Balham, S.W.

3 h.p. M.M.C. Motor Cycle, Chater-Lea frame, spring forks, enamelled French grey, long and low position, as new; £20. — Sear, Mount Cafe, Chingford.

F.N., 2½ h.p., two P. and R. accumulators, Continental, perfect; £12, or exchange higher power, or adjustment. — Western, 20, Church Rd., Guildford.

T.T. Triumph, 1909, as new, in perfect order and condition, very fast and powerful, Michelin tyres, bargain, £38. — Pond, 349, West End Lane, London.

3 h.p. Kerry, enamelled and plated, Price's stands, lamp, headlight, new accumulator, Peter-Union tyres, 1 new; £12. — Barber, 17, Galena Rd., Hammersmith.

3½ h.p. N.S.U., brand new, 1908 specification, 1 belt, 26 by 2½ tyres; £30; exchange entertain. — Eagles and Co., N.S.U. Agency, High St., Acton.

4 h.p. Motor Bike, handle-bar control, B. and carburettor, perfect order; £10 10s.; ditto, w magneto, £13 10s. — Taylor's Motor Wks., Edmonton.

DOUGLAS, 2½ h.p., twin, 1909, non-skids, lamp, tools, spares, overalls, spring footrests, perfect condition; what offers? — K. Greig, 2, Ravenna Rd., Putney.

8 h.p. Matchless, J.A.P. engine, Bosch magneto, N two-speed gear, free engine, with rigid sidecar, April, splendid condition. — S., 5, Laitwood Rd., Balham.

TRIUMPH, 3½ h.p., 1909, excellent condition, Dunlop tyres, new piston, spares; £38; by appointment. Tel.: 573 Hornsey. — Jessop, 7, Coleridge Rd., Croydon.

£12. 3½ h.p. Kerry, three speeds, chain, sidecar, £6, Werner lightweight; 42s. Boron set, 21s.; 3 h.p. Noble; all guaranteed. — Mimsleigh Motors, Stanhurst.

6 h.p. Matchless, spring frame, Nala gear, handle-bar control, Montgomery sidecar, perfect condition, owner going abroad. — Howorth, 10, Grove Park Rd., Eltham.

TRIUMPH, 1908, Roc two speeds and free engine, nearly new S.E. back tyre, good stand, lamp, generator, excellent condition; £38. — Pearsons, Wickham, Portsea.

2½ h.p. Kerry, fast, splendid running order, new 1 mer back, Michelin butt tube, long handle-bar, low seat, lamp, spares; £12, or near offer. — Hayman Cranleigh.

REX, 1909, 3½ h.p., B. and B. carburettor, good new, too fast for owner; write, no offers; guineas to first applicant. — Dr. Compton, Harefield, Middlesex.

TRIUMPH, 1909, lamp, horn, spring pillar, spares, Clincher tyres, as new, in excellent running order. — 36 guineas. — Lieutenant Hitchins, Royal Naval College, Greenwich.

LIGHTWEIGHT Triumph Roadster, girder, 14 in. Clement-Garrard pattern engine, Basse-Mid coil, C.A.V. battery; £6 10s.; good climber. — 6, L St., Croydon.

1909 Triumph, 3½ h.p., new last June, perfect condition, scarcely soiled; £39; owner going to South Africa; by appointment. — C. Brown, 14, Montagu London, W.

TRIUMPH, 1909, splendid condition, scarcely used, Palmer cord tyres, Cowey speed indicator. — Apple L. D. Looker, 1, Princes Mansions, 64, Victoria London, S.W.

£10. 10s. — 3½ h.p. Kerry, in new condition throughout. — £5 10s., 3 h.p. Royal Sovereign, in good running order; both must be sold; genuine bargains. — 51, B Ash Rd., Lee.

£9 10s. — 3 h.p. Werner, just overhauled, spring frame and seat-pillar, new saddle, excellent going order, Longuemere carburettor, spares. — Arter, 60, Upper M Hammersmith.

1908 N.S.U., magneto, first-class condition, H lamp, horn, and spares, two belts; any lowest price £20. — Gentry, baker, Station Parade, Widen Green, N.W.

MOTOR BICYCLES FOR SALE.

MONDE Motor Cycle, fitted with 4h.p. Antoine, in good going order, £9; also forecar, to suit without tyres, £1.—W. Fountain, Camfield Cot-Hatfield, Herts.

Stevens and Sidecar, Palmer tyres, Bowden clutch, new P. and R. coil and accumulator, chain Brooks saddle, perfect condition; £14.—Perkins, High Green, Kent.

Sarolea, Chater-Lea frame, late 1908 machine, everything complete and perfect, practically new; 15s.; seen and tried by appointment.—Sams, 48, Row Rd., Battersea.

N.S.U., twin, new last July, 1908 specification, Bosch magneto, 26 by 21 tyres, two-speed and free e, with Millford sidecar; £45; any trial.—Eagles Co., High St., Acton.

UMPH, 1908, 3½h.p., two machines, splendid condition, Shamrock rubber studs, Shamrock belts, s, plating perfect; 30 guineas.—Marlow, 11, Borth-Rd., Leytonstone, E.

VER Lightweight, 2½h.p., fine condition, spring forks, spring pillar, butted Continentals, Bates ed, new belt, searchlight, watch, spares; £13.—George's Sq., Forest Gate.

09 3½h.p. Triumph, new August; cost £64; clutch, Cowey speedometer, clock, mirror, Lucas lamp, e kit tools, non-skids, absolutely perfect; £45.—Bush House, Hampstead.

CHET Lightweight 2½h.p., long, low, reliable first-class condition, Palmers (unscratched), Mabon h, Lycett's saddle, genuine; £9 10s.—Brewster, 8, Car Terrace, New Barking.

09 Motosacoche, magneto, Druid spring forks, new last June, not ridden 800 miles; owner requires r power for sidecar; price £26 10s.—Safford, 61, Mere Rd., Willisdan Green.

p. Matchless-J.A.P., grand machine for sidecar, spring frame and forks, spare belt and tube, tools, 2½in. Palmers; must sell: £20 10s., no offers.—ll, Anglesea Rd., Woolwich.

h.p. Brown, recently enamelled and overhauled, handle-bar control, perfect, £10, or exchange; mp. accumulator, 12s. 6d.; trembler coil, 8s. 6d.—Lower Kennington Lane, S.E.

ATER-PEUGEOT, 5h.p., magneto, very low, hand-some footboards, tyres perfect, both with detach-tubes, spares, fine condition; cash offers wanted; sed.—186, Peckham Rye, S.E.

ATER-LEA No. 6 Frame, tanks, and 6 h.p. twin J.A.P. engine, £10 18s.; new Chater-Lea sidecar, 8s.; pair of Chuchner A Won tyres, new, £2 5s.—ows, 23, Lillington St., Belgravia.

NERVA, 3½h.p., splendid machine, latest improvements, new J.A.P. carburetter, H.B. control, spares, spent £12 on it; buying twin and sidecar; will take —A.T.T., 68, Brockley Rd., Brockley, S.E.

09 7h.p. V.S., Truffault spring forks, and spare set of girder forks to suit, adjustable pulley, Miche-tyres, Brooks saddle, in first-class condition, very price £45.—Pond, 349, West End Lane, London.

ECARISTS' Ideal—4½h.p. 4-cyl. F.N., magneto, new Chater-Lea sidecar, two lamps, horn, pump, tube, tools, and spares; will accept £34; owner g car.—Motorist, Benfleet Hall, Sutton, Surrey.

h.p. M.M.C.-Excelsior, just overhauled, perfect run-ning order, very fast or slow, very powerful er, new tyre and inner tubes, Acetyphote, some s, tools, etc.; £12, offers.—Gage, Hairdresser, Cat-

08 (late December) 3½h.p. Tourist Rex, B. and B. handle-bar control, 1909 new studded tyre back belt, splendid running order; £25 10s. lowest; lamp spares; cost £40.—L.S., 201, Turner's Hill, Ches-ter, Herts.

UMPH, 3½h.p., 1909, only ridden few times, equal to new, Palmer cord tyres, Autoclipse lamp, with s generator; reason for selling, medically unfit to accept £39; any trial.—Hickman, "Accarsane," x Rd., Surbiton.

09 3½h.p. Rex Tourist, delivered end of June, practi-cally new, very powerful and reliable, B. and B. uretter, lamp, horn, all tools and spares; cost £45, ot £28, lowest, for quick sale.—Picking, 95, Cam-er Rd., Seven Kings, Ilford.

RAND Opportunity. — 3½h.p. Zenith-Gradua, ball bearing J.A.P. engine, overhead valves, the identi-machine which won four prizes at Newnham Hill-b, complete for touring, in perfect condition; £40, ear offer.—W. H. Bashall, Ockham, Surrey.

LIVATE Owner wishes to dispose of 3½h.p. Rex, late 1907, in splendid running order, complete two accumulators, new powerful headlight, separate rator, horn, pump, carrier, stand, tools, nearly new er tyre; £12 12s.—Can be seen, Humphreys Gar-Sevenoaks.

p. Matchless, built for Brooklands, quite new, not run 300 miles, ball bearing J.A.P. engine, dupli-of C. R. Collier's record machine, fitted with full equipment, splendid specimen of a speed machine; 10s., no offers.—Dayrell, 137, Cherry Orchard Rd., don, Surrey.

h.p. Quadrant, Nala two-speed, new R.O.M. non-skid back, Palmer cord front, just been thor-ly overhauled, would make excellent passenger ma-e; £20 or near; seen any time at Chelsea Garage, King's Rd.; owner buying tricar.—N. Lambert, 14, St., Chelsea.

Beware of Imitations.

FARRAR'S
"HALIFAX"
SIDECARS.

BETTER THAN THE BEST, and HALF THE COST.

Each £4 17 6 Each.

Coach-built body, £2 extra.

An IDEAL WINTER ATTACHMENT. Quite Rigid. No sideslip. Can be ridden without passenger. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted.

SPECIAL PURCHASE.

1909 AMAC carburetters, handle-bar control, 19/6 each.

BROWN & BARLOW ditto, 28/- each.

£3 DOWN secures any of these. Balance 5/- per week.

2½ h.p. Singer, mag.	£6 12½	h.p. Stevens	£5
3½ h.p. Rex	£9 12½	h.p. R. and P. ...	£7
3½ h.p. Dux	£9 12½	h.p. Minerva, M.O.V.	£8 10
3 h.p. Fafner	£9 12½	h.p. Humber ..	£5
3 h.p. Noble, M.O.V.	£7 12½	h.p. King	£8
2½ h.p. Whiteley ..	£6 12½	h.p. Humber, 26" wheels.....	£9

1909 "PREMIER" Magnetos. Absolutely the finest magneto. £3 15s. each. DELIVERY FROM STOCK.

CASH, EXCHANGE, or EASY PAYMENTS.			
1908 F.N. Lightweight, Bosch magneto....	£18	0	
3½ h.p. Magneto REX, H.B. control	£17	0	
3½ h.p. GRITZNER, 1908, magneto ignition	£17	0	
1908 N.S.U. Lightweight, magneto.....	£22	0	
3½ h.p. 1908 N.S.U., magneto and spring forks	£25	0	
1908 Magneto REX, single cylinder	£18	0	
¾ h.p. 1906 REX M.O.V., spring forks ..	£13	10	
REX DE LUXE, magneto, clutch	£26	10	
5½ h.p. TWIN REX a beauty.....	£15	10	
¾ h.p. REX, M.O.V., spray.....	£10	10	
6 h.p. TWIN REX and Sidecar	£20	0	
6 h.p. REX DE LUXE and Sidecar	£31	10	
3½ h.p. BROWN, magneto, H.B. control....	£20	0	
3 h.p. MINERVA, champion condition....	£11	0	
4 h.p. KING, Palmer tyres	£12	0	
3½ h.p. 1907 REX, lovely goer	£15	15	
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34	0	
4 h.p. ANTOINE, M.O.V., fine goer	£11	0	

TRICARS.

5½ h.p. REXETTE, fine machine.....	£24	0
5-6 h.p. ROVER, newly enamelled	£17	0
4½ h.p. PHENIX, two-speed	£14	0

1908 Magneto REXES. Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £17 10s., or exchange.

"FARRAR'S SPECIAL" BELTING. Absolutely the finest rubber belt on the market. 33% cheaper than any other high-class belt. 3in., 9d. ¼in., 1/-. 3in., 1/3. 4in., 1/6 per foot.

SPECIAL BARGAINS.		
Tricar frame, for wheel-steering	50/-	
Low motor cycle frame, vertical	30/-	
Very good sidecar, rigid	£3	5
3½ h.p. Quadrant engine sets	37/6	
Long Handle-bars, plated	5/6	
Rex Pattern Handle-bars, drop ends	6/6	
Send for Price List of Accessories—Pounds Saved.		
Clincher A Won Covers, all sizes, 17/6 each.		
Clincher Rubber Studded Covers, 25/- each.		
Tubes with valve, all sizes, 4/11.		

High-class Machines Wanted. Cash Waiting.

E. FARRAR,
Albion Works, Square Rd, HALIFAX.

MOTOR BICYCLES FOR SALE.

32 h.p. Imperi, M.O.V., similar Metallurgique, round brass tank, Amac H.B. control carburetter, trembler coil, two accumulators, foot brake, footrests, 2in Shamrock belt, Continental tyres, studded back, lamp, generator, horn, enamelled royal blue, lined white and gold, recently built; £25.—A.E.J., 156, Hackney Rd., London.

TO Clear.—4½h.p. Twin Minerva, low built, pan seat, excellent condition, cash bargain, £15 10s.; 2½h.p. J.A.P., vertical, light, fast, £10 10s.; 3½h.p. Peugeot, magneto, spring forks, Palmer tyres, £20; 2½h.p. Phoenix, magneto, two speeds, grand machine, £15; 2½h.p. Brown, vertical engine, excellent condition, £10 10s.; 3½h.p. Excelsior, M.M.C. engine, excellent condition, £9 10s.; 2½h.p. Kerry, £9 15s.; several machines, in perfect order, £5. We do exchanges.—128, High Rd., South Tottenham.

ORDERS are already being booked for 1910 models, and we very cordially invite you to call on us or write us, and book your fancied mount well in advance, there being every intimation of a great demand for the coming season. Second-hand machines will be taken in at present market valuation, which you will agree is sometimes beneficial, it being possible that on the appearance of the 1910 models, the machines now in use will suffer from depreciation.—Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., off Ludgate Circus.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

£6 10s.—2h.p. Quadrant, good condition, or push bike part.—Harding, Halberton, Tiverton, Devon.

1909 Quadrant, 3½h.p., new last month, guaranteed perfect; £35, or offers.—P. Thorne, Brunswick Tiverton.

32 h.p. Humber, 1906, clutch, hand starting, used 2,000 miles; bargain, £14, or nearest.—P. Thorne Brunswick, Tiverton.

MOTOR Cycle, 3½h.p. Rex engine, in good order, £10s.; also flexible sidecar, suit same, 35s.—Snell 77, Exeter St., Plymouth.

KERRY, 2½h.p., 26 by 2 tyres, splendid hill-climber, coil and accumulator, perfect condition; £10 10s.—Ham, Newport, Barnstaple.

4-CYL. F.N., 4½h.p., 1908 improvements, lately overhauled, new magneto, footboards, good tyres; £26.—Moore, Elm-side, Sherborne.

F.N., 3½h.p., 4-cyl., magneto, perfect condition, new piston rings, gudgeon pins, all bearings correctly adjusted, magneto recently overhauled, recent Michelin non-skids both wheels, reliable two-speed gear, with fre engine, spring forks and saddle-pillar, all spares, including butt-ended tube; garaged in Bath; £22, or near.—Motorist, 1, St. Michael's Terrace, Helston.

32 h.p. N.S.U., spring forks, magneto, in first-class condition throughout, very fast, and splendid hill climber, fitted up with everything of the best, Wright's spring footrests, Advance adjustable pulley, Millennium stand and carrier, Brooks B100 size 4 saddle, long handle bars, large horn, two lamps, many spares, extras costing over £5, will accept £20; ride 100 miles to genuine buyer.—Reynolds, Broadway, Dorset.

SECTION X.

Scotland.

1909 Triumph, excellent condition, Palmer cord tyres, all accessories, spare belt; £36, no offers.—Powrie 9, Rose Crescent, Perth, N.B.

THE Largest Stock and largest variety.—Rex, V.S. Moto-Reve, Excelsior, Douglas, Roc, Minerva, Griffith, Zenith, Indian, Norton. We can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

END of Season Clearance Sale of second-hands, all makes and powers. Let us know your wants; we can supply from £6 upwards; write for special list.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

2½h.p. Peugeot, good condition, light, reliable machine, good climber, with spares, £11; 3½h.p. Rex, 1907 spring forks, rubber belt, good machine, £10; 2-seater body, 25s.—E. C. Gillott, Motor Wks., Portobello, Edinburgh.

32 h.p. Rex, B. and B. carburetter, handle-bar control magneto, footboards, non-skid tyre, all tools excellent condition, perfect hill-climber; may be seen in Glasgow; £25, or offers.—R. MacEwan, Southfield Stirling.

1908 Triumph, perfect, new Dunlop and R.O.M. combination tyres, two spare covers, Watawata and Shamrock-Gloria belts, new Cowey speed indicator, handle-bar mirror, Autoclipse lamp, generator, horn, spare tubes magneto, and engine spares, watch holder; offers.—Corrie Corrielluin, Musselburgh.

SECTION XI.

Ireland and Isle of Man.

32 h.p. 1906 Rex, M.O.V., low, spring forks, Longue mare, Clinchers, two accumulators, not done 800 miles; bargain, £11, best offers.—Cox, Knockaraven Belturbet.

TRIUMPH, 1909, May, perfect condition, Palmer cord tyres, £38; also Millford castor wheel side car, new June, little used; £11.—G. Victor Smith Mountmellick, Ireland.

TRICARS FOR SALE.

RICAR, 6½ h.p., seats three, three speeds; trial; £30.—Baird, The Lodge, Helensburgh.

1 h.p. Riley Tricar; £22, or part exchange.—Particulars, 18, Wollaton St., Nottingham.

1 h.p. Bat Tricar, good working order; £9 cash; must sell.—66, Grand Parade, Haringay.

1 h.p. Twin Tricar, good order, free engine; reasonable offer accepted.—201, Kentish Town Rd., N.W.

REXETTE, 5½ h.p., steel studded tyre, new radiators, fine condition; £28.—16, Riffel Rd., Cricklewood.

1 h.p. Minerva, splendid condition, good tyres, spares; any trial; £12, or offer.—Westwood, Grays, Essex.

1 h.p. Raleighette, open frame, two speeds, perfect order; sacrifice £22.—255, Earlsfield Rd., Wandsworth.

REXETTE, splendid condition, water-cooled, magneto, Roc gear; £35, or close offer.—Rex, 44, High St., Ipswich.

15, bargain.—4½ h.p. tricar, Griffon engine, splendid condition.—Particulars of Noble, Midgate, Peterborough.

OVER, 3½ h.p., excellent condition, free engine, tyres good, cane chair; £22.—Laker, Buckingham Rd., Haringay.

1 h.p. Antoine, magneto, two speeds, free engine; offers; want twin-cyl. cycle.—3,308, The Motor Cycle Co., Coventry.

1 h.p. Tricar, twin, Phelon and Moore gear, Whittle belt, first-class order; £17.—Winckie, 47, Trinity Buxton, S.W.

1 h.p. Rover Tricar, splendid condition, cane body; bargain; room wanted; £13 10s.—52a, Morat Buxton, S.W.

1 h.p. Rex, coach-built, fan, clutch, tyres excellent, guaranteed; £18.—Ramsbottom, 205, Whalley Rd., Blackburn.

RICAR, complete, less engine, open frame, bucket seat, wheel steering; £9.—Charlson, 36, Arrowth Terrace, Bolton.

1 h.p. Tricar, two speeds and free, coach-built car, new tyres and inners, Barnes engine; £30.—153, Hault Rd., Leytonstone.

1 h.p. 2-seater Tricar, coach-built, De Dion engine, water-cooled, three speeds, in good condition; £25.—33, Rochdale Rd., Bacup.

1 h.p. Avon Trimobile, chain drive, three speeds, Palmer cord tyres, in good running order; £25.—Springfield, Monmouth.

1 h.p. Chater-J.A.P., open frame, two speeds, fan-cooled, fine order and hill-climber; £20, or offer.—Box 10, The Motor Cycle Offices, Coventry.

1 h.p. White and Poppe, water-cooled, Chater-Lea frame, bucket seats, wheel steering, two speeds, in drive; £25.—78a, Brownhill Rd., Catford.

1 h.p. 4-h.p. Trimo Tricar, two speeds, free engine, coach body, new tyres on front, back tyre good, just changed; £18.—Smith, 286, High Rd. S. Tottenham.

WHITE and Poppe, 4½ h.p., water-cooled; two gears, clutch, perfect condition; £18; exchange motor car.—Seen, Smith, 158, Fulham Palace Rd., London.

OR Sale, powerful 4½ h.p. water-cooled tricar, closed frame, seats three, coach-built, in fine condition; or reasonable offer.—James, Bloxwich Rd., Willenhall.

REXETTE, 6 h.p., 3-seater, 1907 model, open sprung frame, wheel steering, two speeds; bargain, £25; offer tricar or bike part payment.—48, Walton Rd., Molesey.

PHENIX Trimo, 3½ h.p. Minerva, two-speed, coach-built front seat, runabout attachment; photo; trial; £18.—Tweedie, Wallacrag, Baldwyn Gar, Acton, W.

RICAR, 4½ h.p., water-cooled, two speeds, free engine, handle starting, chain drive, Chater-Lea frame, good order, splendid condition; £20, offers; must be sold.—Rotton Park Rd., Birmingham.

QUADRANT Tricar, 5½ h.p., two-speeds, perfect condition, coach-built; expert examination; any reasonable trial; £25, or offer; exchange motor cycle and car.—Seen at 86a, London Rd., Forest Hill.

CELSIOR, water-cooled, two speeds, wheel steering, footboards, recently overhauled; £15; Hummer, air-cooled, two speeds, footboards, overhauled and painted; £13.—Crabtree's Motor Works, Wisbech.

1 h.p. Phoenix Trimo, run eight months, just overhauled, extra heavy back wheel, non-skid, Cape hood, spares, headlight; owner bought car; cost £45, or nearest offer.—Dr. Moxon, Darby Dale.

PHENIX Trimo, 6 h.p., in thorough going order, specially strong rear wheel; price £37 10s.—L. C. Moxon, Fairfield, Sidcup. To be seen at Mr. E. Moxon, Victoria Rd., Eltham. Apply by letter only.

RICAR, 3½ h.p. Fafnir, chain drive, free engine, clutch, two speeds, handle starting, fan-cooled, two accumulators, three brakes, excellent tyres, lamps, horns, etc.; £22.—Payne's Garage, Garrard's Cross Station.

1 h.p. Water-cooled Humber Tricar, coach-built front, two speeds, free engine, foot bell, new tyres, footboards, in first-rate condition; £24, immediate sale.—N.C.P., c/o Line's Garage, Hurst St., Birmingham.

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WHITE and Poppe 4½ h.p. Tricar, coach-built speeds, free engine, wheel steering, foot c Renolds chains, Palmer cord tyres, acetylene lamps, spares, extra, studded cover; £30.—Aylwin, 1, Cl Rd., West Ealing.

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6.8 h.p. Singer Touring Tricar, twin-cyl., water-cooled, coach-built throughout, R.O.M. contact, car new armoured tread on back, three speeds and reverse; £29, or near offer, cost over £100.—Apply (6), 8, Vesey St., Birmingham.

6 h.p. Rextette, latest model, cost 100 guineas, new condition, including tyres, sprung wheel steering, two speeds, etc., £4 4s. carrier, lun basket, Bleriot headlight, jacks, spares, luxury fitted; 100 miles trial; £32, worth double.—D., 79 Grove, Camberwell.

MUSWELL HILL.—1908 Litette, very little used, new, complete with all accessories; cost £8 year, price 40 guineas; several high-class cars, and motor cycles in stock: write for list: repairs: for and promptly executed; personal supervision to all work; machines bought for cash.—Archer, 3 side Av., Muswell Hill.

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FORECAR, 26in. by 2in. wheels, without tyres 10s.—64, Davies Mews, Davies St., W.

MILLS-FULFORD Duplex Steering, 26 by 2½ P. like new; £5.—A. Russell, East St., Bark

FOR Sale, cheap, Montgomery Flexible Sidecar, 2½ tyre, fit any machine.—Webster, Barnack, ford.

MILLS-FULFORD Castor Wheel Sidecar, £14 to fit Triumph.—Cotton, High St., King's B Birmingham.

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HALIFAX Sidecars are superb value; £4 17 each; equalling others costing double.—F Motors, Square Rd., Halifax.

NEW Flexible Montgomery Sidecar, cost 12 guinea, a-fortnight age; accept 7 guineas.—Millard, nington, Rotherham.

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MILLFORD Sidecar, rigid, cane, £3 10s.; pillar, 3s.; swan-neck, 2s.; stand, 2s.—58, ham St., Wandsworth.

SIDECARS.—Two, second-hand; prices, £3 12 and £4; new ones from £4 15s.—C. A. Edgar Holloway Rd., London.

RIGID Sidecar, left, 26in. wheel, wicker body, holstered green, perfect; £3 5s.—23, Arden Birchfields, Birmingham.

WHOLESALE and Retail manufacturers.—B springs, fittings.—Middleton and Co., Watso Newington Green, London, N.

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BRAND New Latest Genuine Chater-Lea (throu Sidecar, complete with apron, and 2½ in. D tyre; £8 10s.—A. T. Stanton, 619, Lea Bridge Leyton, London.

LATEST 12 Guinea Sidecar, brand new, and throughout with genuine Chater-Lea fittings 26 by 2½ Clincher tyre; 6 guineas.—H. Bert, 9, G St., Clapham, S.W.

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SIDECAR, upholstered red, cushion, rug, rubber wheel 24 by 2½, run same as castor wheel, did condition; first cash £3, bargain.—James Bronshane St., Ballymena.

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CAN'T Deliver any sidecars this week; over with orders. Write for particulars and delivery. All orders taken in rotation. It will you to wait and have the one and only original Oa sidecar; price £5.—Oakleigh Motors, Ltd., 65a, dale Rd., West Dulwich.

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ONTGOMERY Flexible Sidecar, £3 10s. cash; Acetylene lamp, and several accessories for sale. 11, 13, Somerville Rd., New Cross.

MOTOR TRICYCLES.

p. De Dion Motor Tricycle, water-cooled, two-speed, chain driven, perfect condition; £35.—Kemp, Bunr, Mountfield, Sussex.

CIABLE Tricycle, as illustrated in *The Motor Cycle*, February 10th, beautifully upholstered, coach-built, wheel steering, side wheels, with Continentals, rental, two-speed gear, metal-to-metal clutches, new old's chains, only requires engine, front tyre, and ion apparatus; £7, or exchange for higher power ricycle, less engine, low built.—Hughes, Exeter Rd., mere Port.

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GLE Trailer, wicker seat, ball joint, excellent condition, 35s.; rigid sidecar wanted.—Henshaw, Wright, Stockport.

QUADCARS.

RLING Dogart, Panhard engine, running order; sacrifice for best cash offer over £10, or exchange. Smith, Bakewell, Derbyshire.

p. Phoenix Quadcar, twin-cyl., overhauled, new tyres, every accessory; bargain, £40; good exchange entered.—Moldgreen Engineering Works, Huddersfield.

ENIX Quad, two-cyl., in perfect condition throughout, new tyres, and everything like new; great bargain, £45, or near offer.—W. Wilson, The Garage, Lough.

YAL ENFIELD Quad, 3½h.p. De Dion engine, two speeds and free, not in running order, every part of the chain, engine, and gears, perfect; accept low—655, Clare Villas, Wyke, Bradford.

ENIX Quad, 8h.p., 2-cyl., magneto, two speeds, five spare tubes, two covers, and many other spares, thing like new, guaranteed great bargain, £60, or offer.—R. Cripps and Co., Nottingham.

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LMER.—15h.p. Darracq, 1906, 4-cyl., hood, screen, dual ignition, fully equipped, fast car; £125.

LMER.—8h.p. Regal, tonneau, single-cyl., artillery wheels, light, reliable little car; £40.

LMER.—12h.p. M.M.C., tonneau, seats five, 2-cyl., 810 by 90 tyres, wonderful condition at the price, £110.

LMER.—8h.p. De Dion, genuine, seats five, engine under bonnet, solid tyres; £35.

LMER.—12-16h.p. Panhard delivery van, 4-cyl., carry about 25cwt., magnificent condition; £60.

LMER.—16-22h.p. Gladiator, side entrance, 4-cyl., five lamps; great bargain, £125.

LMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen; bargain, £100.

LMER.—12-14h.p. Humber, tonneau 4-cyl., nearly new Moseley tyres, raked steering; £85.

LMER.—18-24h.p. Prunel landaulet, side entrance, 4-cyl., M.O.V., grand hire car; great value, £125.

LMER.—17-21h.p. Mors limousine, 4-cyl., magneto, side entrance, pressed steel frame, silent, reliable; £150.

LMER.—40-50h.p. Lorraine-Dietrich, 1907, 4-cyl., magnificent vehicle; cost over £1,000, sacrifice for £220.

LMER.—16-24h.p. F.I.A.T., side entrance, late type, splendid touring car, fully equipped; £220.

LMER.—15h.p. Darracq, 5-seater, 4-cyl., hood, screen, direct top drive, fast, silent; £95.

LMER.—24-40h.p. F.I.A.T., 5-seater, Roi des Belges body, gate change, hood, screen; £175.

LMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Garage one minute from tram terminus, Tooting. Cars seen here on Sundays before 2. Photos, details per return; terms arranged; exchanges.

p. Vauxhall, 2-seater; exchange good motor bike.—43, Wimbledon Rd., Tooting.

p. Mors, 4-cyl., magneto, 4 and reverse, seats 5, equal 870 by 90 wheels, splendid condition; £50.

p. M.M.C. 4-seater, single-cyl., artillery wheels, three speeds and reverse, fine condition; £25, bargain by return.

p. Peugeot, 2-cyl., three speeds, reverse, magneto, 2-seater, extremely good condition; £50.

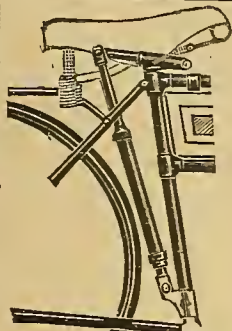
p. De Dion Phaeton Runabout, two speeds, equal wheels, good condition, perfect order; £18 10s.—High Rd., Tottenham. Exchanges. Photos, parcels by return.

p. Swift 2-Seater Car, perfect; £27 10s., or exchange.—Brown, 2a, Seagrave Rd., West Brom.

p. Prunel Handsome 4-cyl. Car, excellent condition; £65, offers.—14, Zermatt St., Chapeltown,

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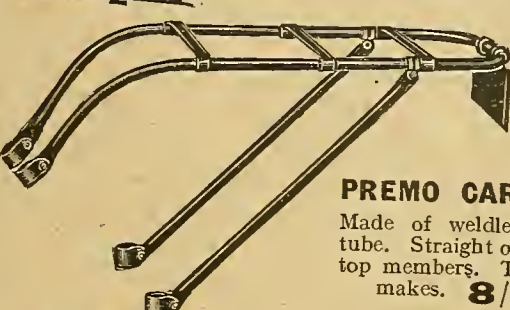
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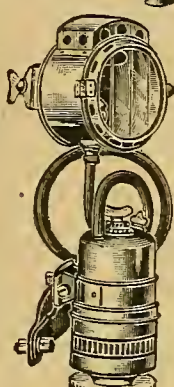
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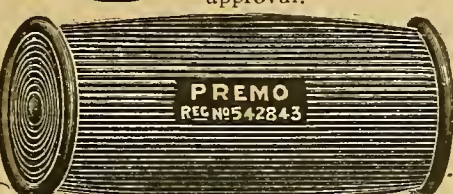
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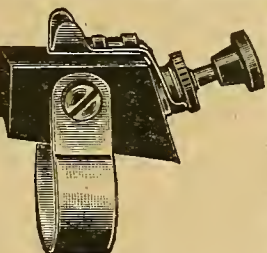
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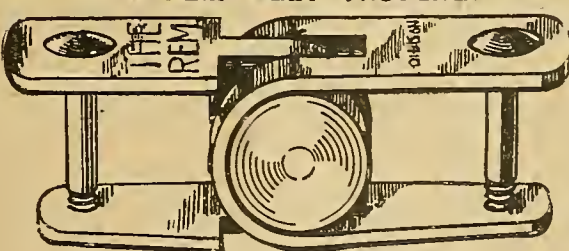
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ECLIPSE.—14h.p. Brooke, tonneau, 3-cyl., three speeds in excellent order; £30.

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau excellent condition; £57 10s.

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ECLIPSE.—10-12h.p. Sorex Cab, 4 seats, in splendid order; £87 10s.

ECLIPSE.—5½h.p. Beeston Humberette, two speeds climbs anything; £28 10s.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone 1135 Putney.

5 h.p. Vauxhall, 2-seater, light car, good condition; £25, offers, or exchange.—20, Potternewton Lane, Leeds.

WHITTLE'S.—Regal, smart 2-seater, 6h.p. De Dion engine, three speeds, reverse, live axle, beautiful order; £36.

WHITTLE'S.—M.M.C., 8h.p., 2-seater, good running order; great bargain, £22 10s. cash.—Whittle's Motor Exchange, Earlsfield.

£25 Cash and 12 monthly payments of £5 buys splendid Panhard limousine.—Dymchurch, Mellison Rd., Tooting.

5½ h.p. Humberette, splendid condition; exchange 2 motor bike and cash, or sell.—West, 2, George St., Croydon.

8 h.p. Argyll, detachable tonneau, in excellent condition; £35.—Write, 34, North Side, Clapham Common, S.W.

6½ h.p. Clyde, Aster engine, guaranteed absolutely perfect, many spares; £45.—12, Belmont Rd., Clapham, S.W.

HALIFAX.—8-10h.p. 2-cyl. Brush, detachable tonneau, three speeds and reverse; £35.—Motor Exchange, Westgate, Halifax.

8 h.p. 2-Cyl. Prunel, seats four, Krebs carburetter, Dunlops, in excellent running order; £52 10s. — 9, Parkholme Rd., Dalston.

5 h.p. 2-seater, splendid condition throughout, comfortable and speedy; £25, or exchange.—Manager, 16, Bethnal Green Rd., London.

6½ h.p. Gladiator, Aster engine, three speeds and reverse; £30, or exchange tricar. — Martin, 229, Streatham High Rd., London.

9-11h.p. Twin-cyl. 2-seater Clement Car, in splendid order, lamps, etc.; £65, or near offer.—Owner, c/o 6, Wood St., Leamington Spa.

8 h.p. Speedwell, genuine De Dion engine, 2-seater, three new tyres, thorough going order; trial, £40.—Carr, 15, Park Hill Rd., Croydon.

ORIENT Motor Buckboard, 4h.p., 2-seater, two speeds, fan-cooled, oil feed from seat, numerous spares, as new; £25.—The Triplex, Wrexham.

10-12h.p. Darracq, swing seat entrance, two ignitions, hood, screen, and Stepney, in fine order; must be sold; £75.—Motor, 34, Beau St., Liverpool.

MODERN Type 9h.p. Oldsmobile, handsome, powerful car, detachable tonneau, recently overhauled throughout; exchange.—334, Clapham Rd., London.

6 h.p. Serpollet, 2-seater, three feed heaters, down draught, fitted for both petrol and paraffin; accept reasonable cash offer.—83, Bird's Royd, Brighouse.

CLEMENT, 2-cyl., 4-seater, magnificent appearance, glass screen, all spares, tools, and accessories; must be sold; sacrifice £70; motor cycle, dynamo, or oil engine part payment considered.—Hamilton, 46, High St., Paisley.

8 h.p. Aster, 2-seater, just painted and overhauled, 3-speed and reverse; also 8h.p. Rex, 4-seater, good condition 3-speed and reverse; also small 2-seater 6h.p. De Dion, good going order; offers for quick disposal.—Hainsworth, Branch Rd., Batley.

6 h.p. Genuine French Helbe Car, single cyl., wipe contact, three speeds and reverse, two bucket seats, roomy sloping boot behind, newly painted crimson, all in good order, smart, fast car; £43.—Grampian Engineering and Motor Co., Ltd., Causeway, Stirling, N.B.

7 h.p. Oldsmobile, latest pattern, artillery wheels, Dunlop grooved tyres, coil ignition, Cape hood, all brass lamps, two or 4-seater as required, in fine condition, quiet running, and economical, suit doctor; £25, or exchange P. and M. motor cycle.—1, Windsor Rd., Palmers Green, N.

1908 6-7h.p. Laurin and Klement (develops more), 2-cyl., magneto, thermo-siphon, hood, spares, equal new, three speeds, reverse, well kept, smartest, most reliable 2-seater on road; 100 guineas for immediate sale; convincing trial; motor cycle or tricar part payment.—Stanton, 619, Lea Bridge Rd., Leyton, London.

CARS FOR SALE.

2-14h.p. 4-cyl. Vivinus, gate change, 2-seater, 760 by 90, good condition, spare tonneau; motor in part exchange; £65, offer.—Page, 162, Acre Lane, Aston.

VOLSELEY, 20h.p., 4-cyl., large limousine body, side entrance, handsome and perfect car; £120; or smaller car in part.—Capt. Hyne, Brunswick Sq., Camberwell.

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PLEASE Send for full covering Motor Cycle Policy from 18s. 6d. per annum.—Bass, Insurance Broker, gar.

INSURANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance Broker, Warwick; fire, 2s. 6d.; third party, 7s. 6d.; accidents, inclusive policy, 18s. 6d.; please write for particulars.

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1 MM. Water-cooled Coronet, M.O.V., new, and perfect, £8 10s., or exchange 6 or 6½h.p.—620, Mansley Rd., Sheffield.

2h.p. Roller Bearing Engine, F.N. carburetter, new rings, pulley; 35s., or give £2 with same for 3½.—Hensen, Hershaw, Surrey.

GINES for cars, cycles, motor boats, and aeroplanes.—Send for particulars to Advance Motor Co., Ltd., Northampton.

FOR Sale, 2½h.p. Peugeot engine (little worse than new), complete with carburetter, coil, two accumulators; £5 10s., or best offers.—A. Todd, Carlton, Hunsley, Thirsk.

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1h.p. Peugeot, complete with Ruthardt magneto, B.B. 2 handle-bar controlled carburetter, induction pipe, exhaust pipe, silencer, almost new; price £12, or exchange twin.—Lovett, 418, Romford Rd., Forest Gate.

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REMIER Magnetos, brand new; 1909 model, single-cyl., £3 15s.; twin-cyl., £4 10s.—Farrar, Square, Halifax.

EBRON, Registered 291-289, vastly superior to platinum, cures misfiring; best contacts for blades, ewes, rockers, magnetos, coils. Jebron has no equal.

EBRON, 2s. 6d. each rivet fitted; Jebron trimmers, 9d.; Jebron screws fit Bosch magnetos DA2, DAV, contact breakers 5a, 5b, 5c, 5s. 6d. pair; old screws Jebronised, 2s. 6d. each. Over 10,000 fitted. Try it.

EBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herford Rd., Plumstead, Kent. Liberal trade terms.

EBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Harry Martin, when making their recent world's records.

IRIDIUM Champion Contacts.—Any parts fitted returned same day, 1s. 3d. each, warranted pure; special iridium trimmers, 9d.; magneto screws refitted, 3d. each.—Williams, 16, Wellington St., Woolwich.

COLLIER'S MOTORIES,

37, Park Cross Street,

(Facing Town Hall.)

LEEDS.**CASH OFFERS and EXCHANGES**

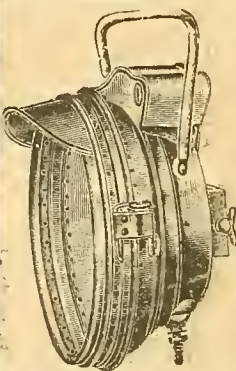
receive every consideration.

Brand New 1909 V.S.: good stuff....	from £48 0
Brand New 1909 N.S.U.'s.....	£27 10
N.S.U., 1909, 4 h.p., castor sidecar.....	£35 0
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MOTO-REVE, Druid forks, magneto & belt.....	£25 0
N.S.U., 1907, 3½, two-speed, low built.....	£21 0
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3½ h.p. ARIEL, M.O.V., 26in. wheels, recommended.....	£15 15
F.N., 2½, vertical, 26in. wheels, magneto.....	£15 5
REX, 3½, 1906, spring forks, M.O.V.....	£15 0
4 h.p. ANTOINE, M.O.V., spray, vertical.....	£15 0
M.M.C., very low Chater-Lea, vertical.....	£12 15
REX, 3½, light low model, M.O.V.....	£12 10
ALLDAYS, 2½, 26in. wheels, spring forks.....	£11 0
REX, 3½, John-o'-Groat's model, 22in. frame.....	£9 10
KERRY, 2½, spray, 26in. wheels.....	£10 10
BUCHET, 2½, long low mount.....	£9 10
REX, 3½, spray, vertical; very cheap.....	£7 0
TRIUMPH, 2 h.p. Minerva engine, spray.....	£9 10
QUADRANT, 2 h.p., low, 26in. wheels.....	£8 10
REX, 3 h.p., long bars, dropped seat.....	£7 10
REX, 3 h.p., good value, vertical engine.....	£6 15
MINERVA, 2 h.p., M.O.V., spray.....	£6 15

Full list on application.

"BIRDLIP" BEATERS.

1909 Twin ROC, two speeds.....	£57 15
1909 Twin VINDEC.....	£64 0
Four-cylinder F.N., 1908 model.....	£27 10
1908 Twin REX DE LUXE.....	£32 10
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6 h.p. Twin ANTOINE, ROM.....	£16 0
5½ h.p. Twin REX, spring forks.....	£17 17

**The BRITELITE.**

Best generator lamp on the market.

Perfect in every detail, complete with clip and extra large generator,

17/6.

Approval against cash.

£3 deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

BROWN AND BARLOW and AMAC Carburetters, with handle-bar control, B. and B., 30/-; Amac, from 20/-. **BIG EXCHANGE ALLOWANCES.**

£6

is more than some dealers ask for a sidecar, but it's cheap when you see what you get. We will send on appro. on receipt of cash. 2½ tyre.

5½ h.p. REX DE LUXE, magneto, spring forks, handle starting, and new art cane sidecar, 26 x 2½ Clincher tyre, £29 10s.

MISCELLANEOUS.

The Latest in Headlights, The BRITELITE.....	17/6
The Latest in Magneto Cut-outs.....	2/-
Lever Belt Patches.....	2/3
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BOSCH Plugs, post free.....	3/-
Second-hand XL'ALL Spring forks.....	11/6
HORNS, double twist, marvels of value.....	5/3
COWEY SPEEDOMETER.....	£3 10 0
New XL'ALL Spring Forks.....	17/6
Swan-neck Seat-pillars.....	4/-
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Rex Pattern Handle-bars, heavy gauge.....	6/6
Enamelled Mudguards, complete with stays: 3in. 2/11, 3½in. 3/6 per pair.	

TYRES DEARER !!! NOT AT COLLIER'S

ALL NEW AND PERFECT.

All except 26 x 2½, 19/6.

24 x 2½ and 26 x 2½, 20/6.

ALL BEST MAKES. Send for Lists (free).

CONTINENTAL TYRES BY RETURN.

Send for list giving allowances.

IGNITION APPLIANCES.

4-Cell Primary Battery, for charging ignition appliances; from 2s. 6d.—Pearce, 23, Repton, Brislington, Bristol.

PLATINUM Contacts (warranted pure); any fitted; 1s. each, post free 1s. 1d.; returned day.—E. C. Potter, jeweller, 72, Myddelton St., Clwell.

MOTORISTS, we are experts on ignition; send coils, accumulators, and magnetos to us for hauling and repairs; all work guaranteed; prompt and dispatch.—The Victoria Garage and Electrical Ltd., Coventry.

TYRES.

HOLDTITE Patches, the absolutely only sure on the market.

HOLDTITE Patches, the only patch that will come off, no matter what heat or speed of

HOLDTITE Patches, small size, 1s. per dozen; free on receipt of 1d. stamp.

SURRIDGE'S Indianrubber Magneto Covers, 2 each, post free.

HOLDTITE Solution, splendidly made; 6d. a per tin.

SURRIDGE, 58, George St., Camberwell, L.S.E.

TUBE, 700 by 75mm., patched, but sound; 12s. approval.—Waters, Madron, Penzance, Cornwall.

BASTONE.—New genuine Peter-Union steel-s non-skid covers, with name on, 24 by 24 price 54s., my price 30s.

BASTONE.—Genuine Clincher A Won motor covers, 28 by 2½, B.E. only; 15s. each.

BASTONE.—New motor cycle covers, ribbed wired edge, 26 by 2, 2½, and 2½, 11s. 6d. each by 2, 2½, 12s. 6d.; beaded edge 2s. extra.

BASTONE.—Tubes, with valves, best quality guaranteed, 26 by 2, 6s. 9d.; 26 by 2½, 7s.; 2½, 7s. 6d.; 28 by 2, 7s.; approval against cash; to being unsold.—Bastone, 215 and 217, Pent Rd., King's Cross, London, N.

2,000 Clincher Tubes, 28 by 2, 2½, 2½, 3s. 11d. by 2, 2½, 4s. 11d.; 26 by 2½, 5s. 6d.; all new.—Booth's Motories, Halifax.

1,000 Clincher Covers, 17s. 6d.: Clincher standard, 25s.; 26 by 2½ Peter-Unions, 17s. Booth's Motories.

5,000 Old Covers and Tubes wanted in part payment for new Continentals, R.O.M., Palmers, rocks; gratifying allowances; right place for Booth's Motories, Halifax.

CHEAPEST House in Trade.—Heavy motor covers, all sizes, 12s. 6d. each; special quality by 2½, 27s. each.—Stockport Garage, Wellington Rd., Stockport.

2,000 Clincher Tubes, 28 by 2, 2½, 2½, 3s. 11d. by 2, 2½, 4s. 11d.; 26 by 2½, 5s. 6d.; all new.—Halifax Motor Exchange, Westgate, Halifax.

HALIFAX.—Clincher A Won covers, 17s. 6d. have in stock over two tons of brand new motor cycle covers, any size per return; approval cash; 17s. 6d. each; 24 by 2½, 14s. 11d.; rubber st 26 by 2½, 25s.—Halifax Motor Exchange, Westgate, fax.

LUCKY Farrar.—Bought two tons tyres before advanced; Clincher covers, 17s. 6d.; tubes, 4s. all sizes; Continentals and other makes equally cheap. Square Rd., Halifax.

700 by 85 Stepney, complete, £3 15s.; 760 Michelin new non-skid, 47s. 6d.; wired motor cycle, 11s. 6d. each; beaded, 13s. 6d.—128, Rd., S. Tottenham. Cash approval.

RUBBER Studded Covers, 26 by 2½ by 3in. thick 6d.; ditto, 7-16in. thick, 27s. 6d.; ditto, 3in. 37s. 6d.; best value obtainable; sections free; known size made; re-treading, 12s. 6d., or heavy only, from James Fox, 136, Suffolk St., Birmingham.

REPAIRERS.

ACER, Ltd., for repairs.—64, Grosvenor Rd., H. W. Tel.: 438 P.O., Ealing.

COMPRESSION Restored, cylinders ground to guaranteed; pistons fitted.—Acer, Ltd.

ENGINE Repairs in all branches.—Overhauling, bushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges.—List —Acer, Ltd.

MOTO-REVE Repairs a speciality: Hellesen's series, 6s. 6d.—White's, Brooks Alley, Liverpool, 3782.

TRY, Gibbs and Co. for re-boring, overhauling pistons, etc.; work guaranteed.—Stoney St. Rd., Coventry.

CLEMENT-GARRARD Interchangeable Parts makers Garrard-Maxfield Motor Mfg. Co., Rd., Birmingham.

OXY-ACETYLENE Welding.—Broken cyls., cracked water jackets, valve seatings, piston any broken castings.

OXY-ACETYLENE Welding.—Aluminium cr a speciality, overhauling, cyls. ground, new fitted, all work guaranteed.—West London Welding Essex Place, Chiswick. Tel.: 536.

THE MOTOR CYCLE

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

RIDING IN ALL WEATHERS.

HERE is a certain fascination about riding in the winter time. The air is exhilarating, if not intoxicating, and the motor cyclist returns home from his spin refreshed in body and mind. The man need fear no chills if he be warmly clad, this issue clearly shows him how to clothe suitably. The many articles of clothing detailed in these the motor cyclist can easily make a selection. Usually, the writer favours a thick Norfolk jacket with riding breeches. The latter keep the legs tidily warm, and if a pair of chamois leather garments are worn inside, the cold must be severe to penetrate. On very cold days a smart waistcoat may be worn over the ordinary waistcoat and over all one of the excellent frieze motor jackets, of which there is at present quite a number on the market. The legs should be protected by gaiters of good quality, and thick boots and socks should be worn. This is merely the writer's opinion as to how to dress on a motor cycle. Should it be desired an ordinary lounge suit may be worn, though it will not be quite so effective against the cold and over it there should be a complete suit of leather or tanned overalls. This keeps out the chill winds effectively, and adequately prevents the suit from suffering damage. Gloves are a somewhat difficult problem. There are scores of good ones on the market, but the trouble is that they are more than not too good. The writer is too old a hand to know that should a repair or adjustment become necessary, the average rider will not remove his gloves to touch anything hot, nor will he take the trouble to undo his tool bag and put on an old pair

should he carry them. Therefore he advises riders to wear a cheap pair of woollen gloves and over them a pair of hedger's leather gloves, which can be bought for about 1s. It is far more economical to spend 5s. in five different pairs of these gloves than spoil a 25s. pair at one fell swoop. A cheap and effective, though not a slightly means of protection against the inclemencies of the weather is the suit of oilskins recently referred to by a correspondent, while the sou'-wester hat, which is an extra, is warranted to protect the head from wet. So much for the protection of the man.

Attention to the Motor Cycle.

As regards the machine, the most vital part to protect from moisture is the magneto. A splash of wet mud on the high tension terminal generally puts the magneto temporarily out of action, and so it is quite obvious that the position forward of the engine is the wrong one. One or two British and most German motor bicycles carry the magneto behind the crank case, and here it is most unlikely to suffer from wet. In some Teutonic mounts the magneto machine is carried horizontally, and in this case it must be pointed out that a special form of magneto is used. The magneto, like a well-known cheap clock, will run in any position, but in the ordinary type the lubricating wicks are placed vertically, and if the machine is placed on its side the wick does not dip into the oil. Consequently in the special model above referred to the lubricators are differently placed. In the case of most English models the forward position is adopted, and so the rider must make the best of a bad job. The magneto should have a cover

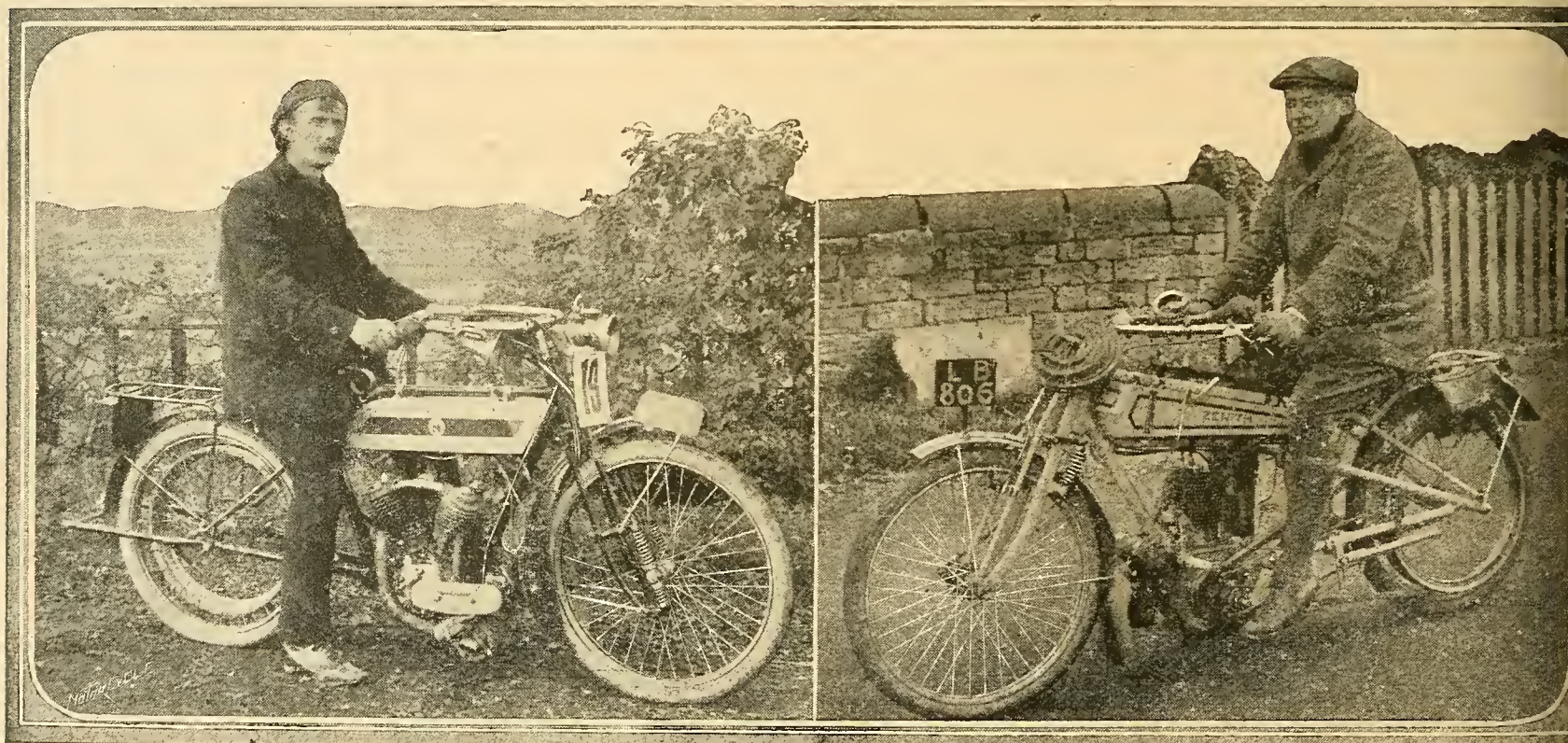
Riding in all Weathers.—

either of leather or rubber. In the writer's opinion, the former is preferable, as at times the latter becomes dangerously moist through capillary attraction, and in any case it is a wise precaution to see that the cover does not actually touch the high tension terminal. As a further safeguard an extra mud flap with side wings may be used. In wet weather the transmission is always a trouble. Belts are always more or less a nuisance; chains are better, but not fool-proof, and they need careful attention. If the machine is used frequently in the winter months the chains should always be cleaned with a stiff brush soaked in paraffin, and afterwards dressed with chain lubricant. Chains are satisfactory and not dangerous if well looked after, but a worn chain should be at once replaced. Probably the best transmission for winter is the shaft drive.

Useful Tips.

In damp, foggy, and wet weather all moving parts, however small, should receive a drop of oil, and all the bright portions of the machine should be smeared with vaseline. Tyres are a most important item for careful consideration. Unfortunately, the perfect non-skid tyre has yet to be made. The cover which is successful on greasy country roads

fails on asphalt, wood, and setts, so the rider has put up with a compromise. For country use, where the machine seldom, if ever, has to negotiate the streets of even a moderate sized town, steel studded tyres on both wheels render the motor cyclist practically immune from side-slip, but for town riding rubber studded or combination rubber and metal studded tyres are to be recommended. Before winter conditions really set in the tyres should be removed and the rims should receive a coat of paint inside and out, after which the tyres should be examined; free from cuts and the tubes are in good condition they may be replaced. If the machine is only to be used occasionally it should then be placed on a stand, and the front wheel should not rest on the ground. The belt should be removed, and if of leather, scraped and dressed with Collan oil ready for use and hung up in a convenient place. The machine itself should, of course, be kept dry, but rubber tyres suffer from warmth and light. Therefore the machine should be kept in a place where the light is not strong, and the tyres should occasionally be sponged over with a damp cloth. The long evenings give the motor cyclist plenty of time to look after his machine, and if it is kept in good condition it will always prove its gratitude by running well.



Open hill-climb at Barnsley. The winners in the touring class.

T. Dunk who made fastest time in the touring class on a 5 h.p. twin Rex.

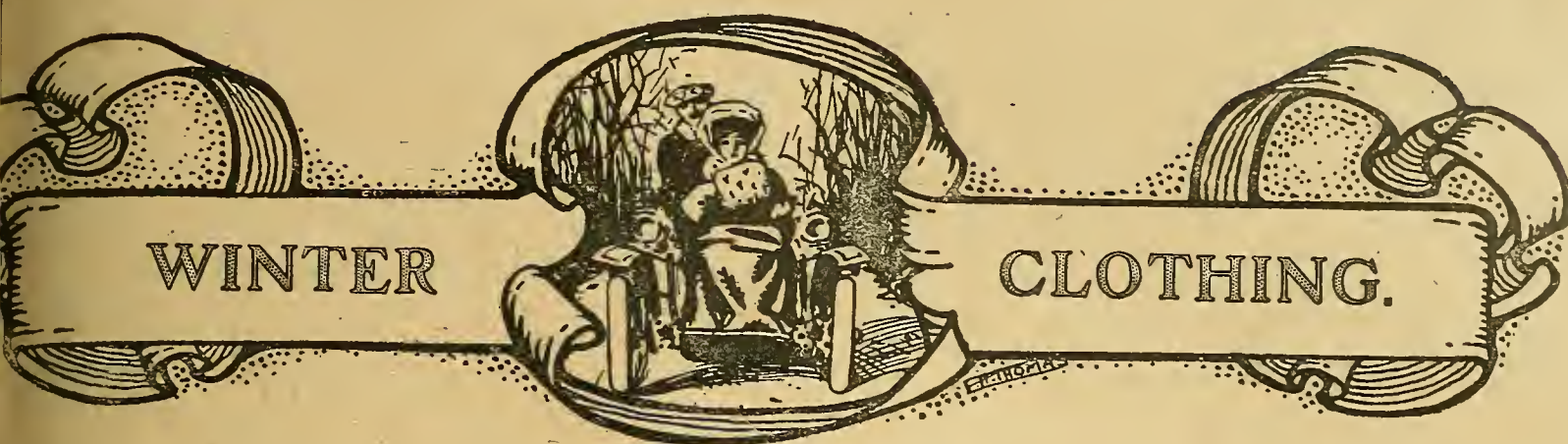
R. T. Exshaw, first on formula, riding a 3½ h.p. Zenith-Gradua.

A report of the competition appeared in the issue of October 6th.

STEADY PROGRESS.

IN 1903 H. A. and C. R. Collier came into prominence through their successes on Canning Town Track. They and their father, H. H. Collier, steadily went ahead with their business, gradually developing it, even during the most trying years the motor cycle industry has seen. Even then they were sufficiently enterprising and patriotic to support their country in the International Cup Race, though more important makers stood aloof, and now they have earned their reward. Matchless motors at the present time hold almost all the speed records

worth holding, and, owing to the works being largely extended this year, they are turning out a far greater number of machines than previously. Messrs. Collier and Sons must not be thought only to construct racing machines. On the contrary, their touring motor bicycles are of the best. They have lately produced an exceedingly neat two-speed epicyclic hub gear of the Dupont type. It can be fitted to any motor cycle without altering the frame, as it is only 7½ in. wide and weighs 30 lbs. It is operated by a single pedal, or by a lever if desired.



was in a lecture given some two years ago before the members of the A.C.U. by Mr. H. G. Cove on the subject of motor cycling that the excellence of Burberry material for this pastime was pointed out to the audience. As Mr. Cove was a practical his remarks were received with great interest,

in taking of his suggestions. Messrs. Gamage, 33, Haymarket, W., have produced motor clothing of the highest possible order. The material is light, warm, and yet perfectly waterproof. It is, moreover, provided with various means of ventilation which is highly healthy, also beneficial to the motorist at any time when he is to resort to unexpected adventures. The most common form of motor cycle clothing sold by this



Burberry's special leather coat for motor cyclists. The coat has a fur collar and is fur-lined inside. The same style of garment can be obtained in cheaper materials.

consists of a coat provided with a fur flap and cuffs, while the leggings are of two kinds, one the ordinary pull-over type, consisting of a separate covering for each leg, and the other complete leggings with patent fastenings, boot protectors, and a strap for fastening round the sole of the shoe. The latter appealed to us as being the most of its kind we have ever yet seen, since it secures the advantage of keeping the front portion of the body warm and amply protecting the seat in the rider's saddle should get wet. The illustration which accompanies this article is of a hand-fur-lined leather coat, of which Messrs. Burberry are a speciality. It is of the finest possible material, and therefore sold at a high price. It is interesting to note that Burberry clothing was worn by Lieut. Shackleton and his companions in the South Polar Expedition.

So long established a firm as Messrs. A. W. Gamage, Ltd., Holborn, E.C., have naturally carefully considered the question of clothing for motor cyclists. For cold weather they have placed upon the market a handsome frieze coat with fleece lining, the collar being so arranged that under ordinary circumstances it is buttoned like a double-breasted coat. When required the lapels may be turned over and the coat will button tightly round the neck, and in very severe weather the collar may be turned up and so effectually exclude the cold blasts from the rider's neck. This feature is common to all similar coats sold by the same firm.

Another coat, similar to the above, is provided with a good quality detachable leather lining, the special advantages of which are obvious. Yet another coat is sold, which is rather a cheaper quality, the lining of which is not detachable. A complete motor cycling suit has also been placed on the market by this enterprising firm. The coat is lined with leather, while the breeches are lined with wool. Motor cyclists will agree that there is nothing like leather to exclude the cold, and Messrs. Gamage have made a speciality of a chamois leather waistcoat and under garments, which form a soft and warm protection from chills. The waistcoat is made in several styles and qualities, one being provided with long sleeves which button tightly round the wrists and prevent the cold from reaching the arms. There is also a special type of waistcoat of much better quality and appearance, which can be worn externally. As regards waterproofs: Gamage's have paid very careful attention to these. Among the various types we were shown, we may mention a dark macintosh coat known as the Ramsey, with detachable flaps, which can be let down and buttoned round the knees, the object of this being that with the Ramsey coat the rider may wear an ordinary Norfolk suit and leggings and yet be protected from the inclemency of the weather. A speciality is also made of motor cycling overalls, consisting of a coat and breeches. Some correspondence has lately appeared in *The Motor Cycle* regarding a suit of oilskins for 10s. Messrs. Gamage inform us that they are quite prepared to furnish oilskins at this price if necessary.

The Service Co., Ltd., 292-293, High Holborn, W.C., are always to the fore in looking after the interests of motor cycle riders. For winter riding they have introduced what they term their "double-breasted cold weather coat," made of Yorkshire frieze and lined with leather. It is sold at a moderate price, and should command a ready sale. These coats are sold in various forms. The Service Co. have chiefly made their reputation as vendors of motor clothing in their

Winter Clothing.—

most excellent "All-weather" suit, which consists of a macintosh coat, and leggings of light yet thoroughly waterproof material. Two types of leggings are used—one with a flap in front to protect the lower portion of the body, and the other with separate leggings. The Service Co. do not use patent fasteners with their overalls, as they find that they are apt at times to come off; they therefore prefer buttons. A neat bag provided with straps is made to carry this outfit, which may be conveniently strapped upon the luggage-carrier. The company have paid special attention to gloves of every kind and at every price.



Specially high-legged boots for winter motor cycling sold by the Para Rubber Co.

When we examined these at their Holborn depot, the type which especially appealed to us was "The Asbestol." This is quite impervious to wet, moisture, heat and, in fact, is practically indestructible.

A firm which has specialised on motor cycle clothing is the Para Rubber Co., 93, John Bright Street, Birmingham. Its most expensive suit is made of heavy Irish tweed. The coat is double breasted, lined with camel

fleece, and fitted with a special inside pocket containing a leather tool roll. The breeches are provided with a detachable lamb's wool lining, and if trousers are ordered an under-strap is fitted. A cap can also be supplied to match the suit. High-legged boots with protected



The "Duke" oil-skin suit. It seems to be the general opinion that to ward off continuous rain from the underclothes, oil-skins are the only effectual covering. The Para Rubber Co. supplied the suit illustrated.

lace holes are another speciality of this firm. T uppers are made of selected box calf leather, and strap encircles the rider's calf, as depicted in the illustration.

The T.T. boots are a special form of foot gear introduced by Charles Ager, 6, Smithford Street, Coventry, and are particularly suitable for winter use. The standard style of boot is 12½ in. high from the stout sole to the top of the leg, and lined with warm material, combining maximum protection and comfort with minimum wind resistance, and looks smarter than ordinary boots and leggings. A number of riders in the T.T. Race wore these special boots and expressed themselves perfectly satisfied with them. The same firm markets well-cut leggings fitting closely to the ankle and leg. These are made in two heights—11½ in. and 12½ in.—in both black and brown leather.



A new model T.T. boot made by C. Ager, especially recommended for winter riding.

Those riders who do not care for leather breeches for wear during the cold winter months should inspect the motor cyclist's apron sold by Alfred Dunhill, Ltd., 359-361, Euston Road, N.W. It is easily put on and off, and affords the desired protection against cold without the necessity of wearing the garment when at the machine. It is made in waterproof leather cloth, black or brown leather, and Regent leather, which is free from grease or surplus dressing and quite waterproof. The same firm make waterproof jackets and overalls in leather and macintosh materials in several different styles.

For those who do not require the more expensive qualities of winter motor cycle garments there is nothing better than a suit of overalls such as are sold by Brown Bros., Ltd., Great Eastern Street, E.C. These are made of fawn coloured waterproof material, and are shown in the accompanying illustration. The jacket is double-breasted, with wrist straps, and the leggings are made of the same cloth with special snap fastenings.



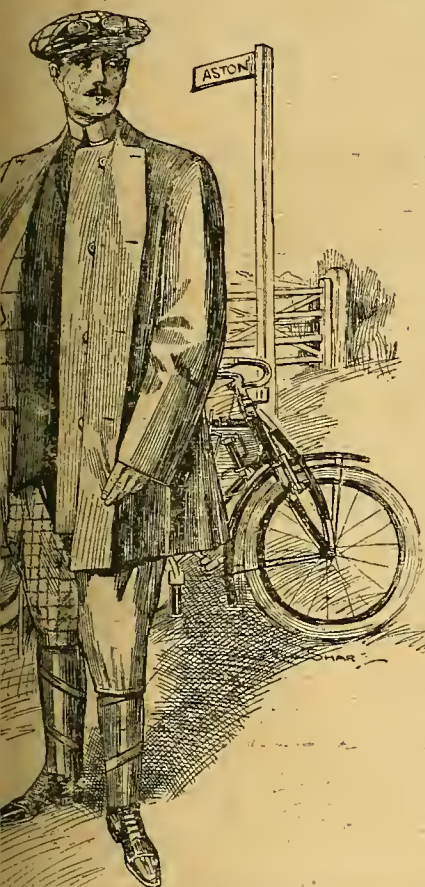
A suit of overalls made of fawn waterproof material, as sold by Brown Bros., Ltd.

othing.—

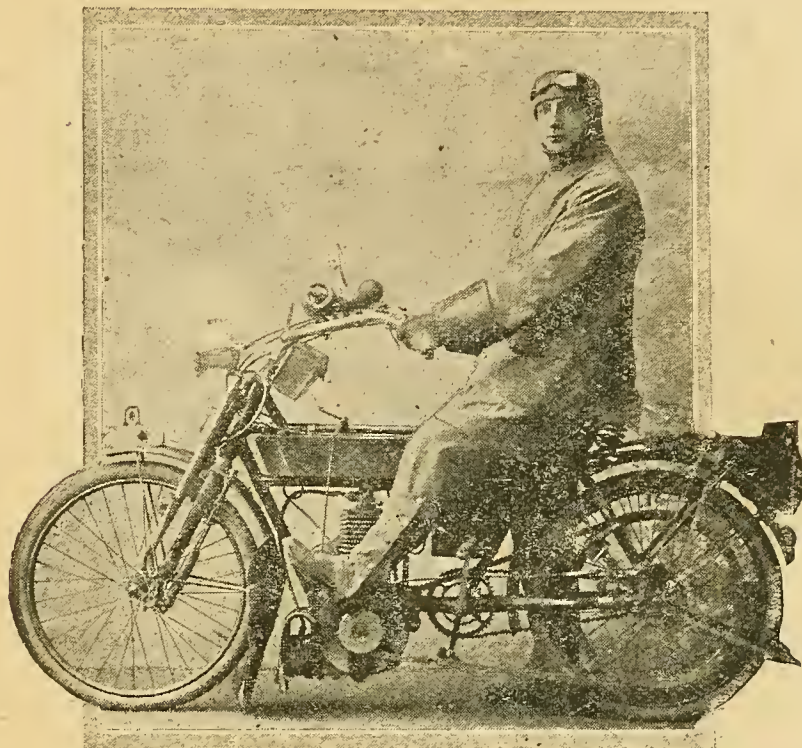
cyclists whose all-weather riding kit is incomplete will be interested in the "Dry knee" jacket and other garments made by the Dunlop Rubber Co., Ltd., Manor Mills, Salford Street, Aston, Birmingham. This jacket, which is the subject of the annexed illustration, is a waterproof garment with waterproof knee covers, which can be buttoned up inside the coat when not required; the sleeves are fitted with wind cuffs, and the coat has a storm front and ventilated back. The

"knee" jacket, made by the Dunlop Rubber Co., Ltd., the knee covers can be buttoned inside the coat when not required as shown.

The jacket is another garment made by the same



firm especially for motor cyclists, and is intended for the severest weather. The Dunlop Rubber Co. have also several styles of caps specially suitable for winter wear. These have flaps which can be let down to cover the ears and back of the neck, and are very warm.



For all weather riding, Reg Samson has introduced five speciality fittings. One is the waterproof coat and overall leggings he is wearing, two is the large front mudguard flap fitted to his machine, three a magneto cover which leaves the contact breaker and terminals get-at-able, four is a large size pouch to fit under end of carrier, and five a pouch fitted to handle-bar for carrying a spare tube.

NON-SKIDS, LAMPS, AND ACCESSORIES.

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Co., Westcombe Hill, Blackheath, S.E. The

illustration shows that the Telco coupler

a motor cyclist to attach a pedal bicycle to

hine, giving it complete freedom from side-slip

owing a companion to be carried. Fittings are



The Telco cycle coupler, which is claimed to eliminate all possibility of sideslip.

stocked for almost every make of motor cycle, and the manufacturers are prepared to design and supply special fittings when required.

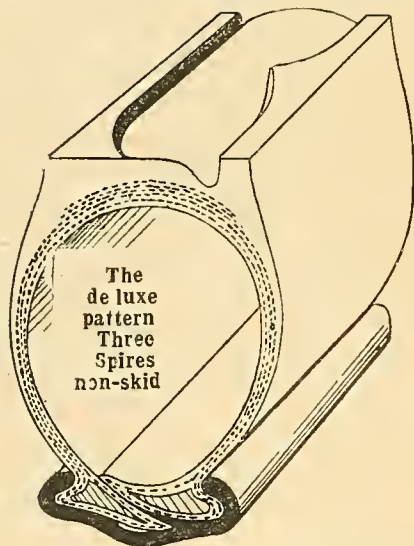
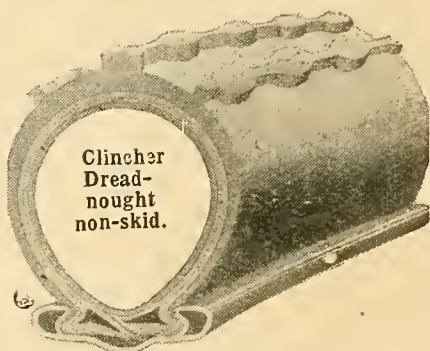
While on the subject of non-skidding devices, and the stability of tyres on treacherous surfaces, the combination steel and rubber non-skids made by the R.O.M. Tyre and Rubber Co., Ltd., 31, Brooke Street, Holborn, E.C., should not be forgotten. This firm have made a distinct impression with the R.O.M. tyres since they were first introduced. In a side-slip test described in *The Motor Cycle* of May 5th (page 322) the tyres acquitted themselves very well, proving their anti-skidding qualities. A reprint of the description of this test is obtainable from the above address on application.

The "Jack-no-skid" was one of the earliest attempts to overcome the bugbear of side-slipping. Many readers know this device, but to the uninitiated we will explain that it consists of two legs or supports with small wheels at their extremities. The legs are under the control of the rider, who can raise or lower them at will, and they are hinged to the chain stays a few inches from the rear axle. When lowered they come into contact with the ground, but give to the inequalities of the surface. Any tendency for the machine to cant to either side (which is the commencement of a side-slip) causes one or other of the small wheels to arrest the lateral movement of the machine and prevent it slipping; they also act as a stand. Many improvements have been made recently to this device, and the patentee and maker, W. Hayes, 44,

Non-skids, Lamps, and Accessories.—

Balls Pond Road, N., is prepared to supply and fit them free on approval.

To enjoy motor bicycling on muddy or greasy roads—which is, unfortunately, their usual winter condition—it is absolutely essential that the machine be fitted with a good non-slipping tyre. One suitable tyre is made by the North British Rubber Co., Ltd., Castle Mills, Edinburgh, and is called the Rubber-studded Dreadnought. Reference to the illustration shows that the tread consists of three longitudinal ridges made up of studs joined by bars in such a manner that the ridges are continuous right round the circumference of the cover. The cover is thick and moulded substantially on car tyre lines, yet it fits the ordinary Clincher rims, giving a little more air space, therefore greater comfort.

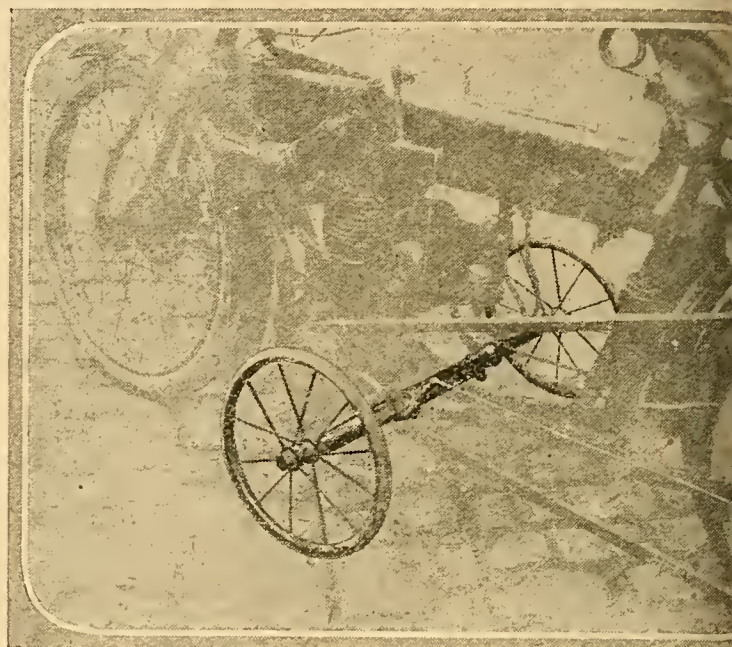


A non-skidding cover which has met with considerable success is the Three Spires, made by the Coventry Rubber Co., Coventry. An improved pattern cover for 1910 which should be largely in demand when its good qualities are known is the modèle de luxe. It has a substantial tread, and is particularly suitable for heavy machines of $3\frac{1}{2}$ and 5 h.p. The design of the tread is such that

it grips forwards and sideways, and a great point is that the non-skids last as long as the cover itself. We are about to test one of these covers, and will report on its wearing qualities in due course.

Those motor bicyclists who are on the look-out for an anti-skid more stable than studded tyres would be well advised to investigate the claims of F. Swift's device for preventing side-slip. Mr. Swift, whose address is Hoar Cross, Burton-on-Trent, has fitted a pair of auxiliary wheels to his Roc machine to keep it almost upright. The wheels—which are similar to those used on an ordinary baby carriage and fitted with solid rubber tyres—are fitted one at each end of the footrests. The inventor assures us that his own anticipations have been exceeded, and the device is thoroughly trustworthy when the roads are greasy. We suggested to Mr. Swift when he brought the machine to our office that in canting over at a corner one of the small wheels would very probably touch the ground before the rider expected, and in such an eventuality might possibly upset the steering and the rider's balance. His retort was that the rider hardly knew that one of the small wheels had touched the ground, for immediately either of the wheels did so they revolved and automatically pushed the machine into a more vertical position, and almost before the rider was aware of it, as there was no jar. The wheels

being in close proximity to the ground are very helpful for supporting the bicycle when stationary. Mr. Swift, who, by the way, is a motor cyclist scaling 1

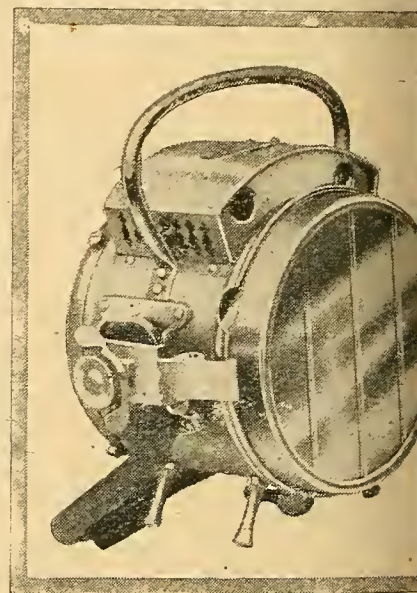


The above device for preventing sideslip is being used by a Burton rider with great success.

20 stones, will be recalled by many readers as "The Terrible Turk" of "The Circus Girl." He has previously experimented with a non-skid device of his own on the lines of the Jack-no-skid.

The Latest in Lamps.

A really excellent motor cycle lamp burning acetylene gas is the Polkey, made by George Polkey, Pitsford Street, Birmingham. This lamp is available in two sizes. The large reflector has a lens of about 5 in. diameter and divided front glass. The body is substantially constructed from thick sheet brass, riveted, and the hinge and spring catch of the door are excellently made and fitted. The burner is a patent self-cleaning one, being provided with screw buttons fitted with fine needle points which can be screwed through the burner holes to cleanse them, and then screwed back



The improved pattern Polkey lamp with Mangin lens mirror reflector.

until they are again required. The method of fitting this lamp on a motor cycle is by means of sockets at the sides, which fit on a special frame bracket clipped to the handle-bar stem of the machine. A bail handle and feet are provided if desired, so that if it should be necessary to make an adjustment or repair at night the lamp can be used to good purpose. In this case it is advisable to carry a fairly long rubber tube to connect the generator to the lamp. The smaller lamp has a 4 in. mirror reflector and a socket at the back. Both sizes are finished in brass.

Lamps, Lamps, and Accessories.—

lated. We have had some experience of the lamp, and found it an excellent light giver—in it illuminates the road so far ahead as well as sides that large objects are seen almost as distant as in daylight.

of the first (if not the first) acetylene gas lamps used in this country on pedal bicycles was the

The makers of this lamp, the Badger Brass Manufacturing Co., 32-34, Featherstone Street, E.C., have recently marketed a separate generator motor cycle lamp which is sold under the name of Seabrook-Solar.

We had one in use for some time, and find it is made and gives a fine light. The generator differs in construction from most others. The carbide holder is a removable cage with a wire sieve at the bottom.

aided by the vibration of the machine allows the decomposed carbide to fall through into a compartment, from which it can easily be removed. The great advantage of sifting the carbide in this manner is that water-clogged ash does not

and the unused carbide and interfere with the generation of gas. The water on its way from the air to the generating chamber is made to flow in a horizontally placed tube at the base of the

air, containing a woollen wick. This causes a full and even flow of water to the carbide, and our experience is that the needle valve can be turned on without any flooding taking place. The generator

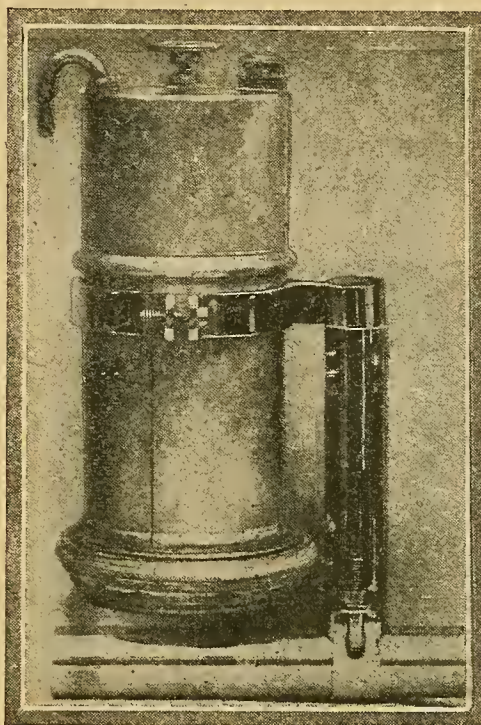
gas in the Solar generator is very even, and it is a considerable advantage to have the carbide sifted automatically while the lamp and generator are in use.

A neat serviceable lamp with separate generator recently designed and made for motor cycles by Powell and Coker, Chester Street, Avenue Road, Birmingham, is their No. 120 motor bicycle lamp.

The features of this lamp are a hooded reflector to cast the light down on the road, a double convex lens, double glass, and aluminium reflector. The generator has an adjustable bracket, enabling it to be fixed in any position no matter in what position it is placed on the machine.

The new pattern Autoclipse lamp cannot fail to receive a hearty welcome from motor cyclists. This lamp is now fitted with a lens mirror at the back in place of the metal reflector, the light being accurately focussed through the front lens, and consequently magnifying the light considerably. The new model is wider than the old one, and has a metal shade round the back of the front lens. The lamp has been improved and is stronger than before. The mechanism for reducing the glare of the light is, of course, improved. There is no better motor cycle lamp than the Autoclipse, and the sole makers, Brown Bros., Ltd., Great Brunswick Street, E.C., may confidently look forward to an increased demand now that it has been so much improved. A clever device which is fitted to a cheaper type of gas lamp called the Veena, and sold by the same firm,

enables the burner to be lighted without dismounting—a boon on cold dark winter evenings. At the side of the lamp is a spring controlled trigger actuating an up-to-date description of the flint and steel device beloved of our forefathers. All that is necessary is to turn on the water in the generator, and after waiting a few moments for gas to generate, the trigger is pulled out against the spring and released. The result is a bright spark from the flint which lights the gas.

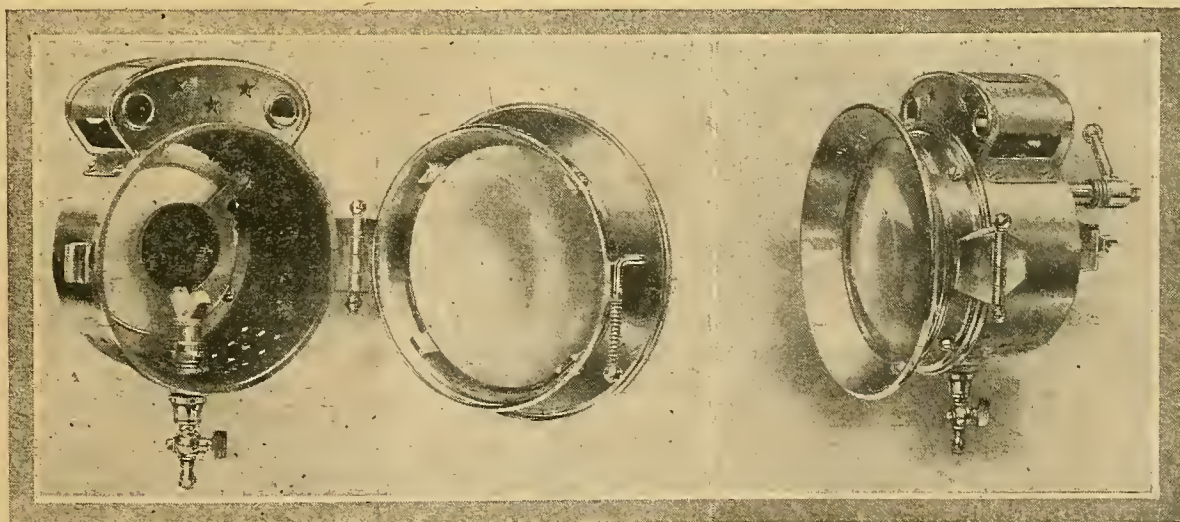


A new pattern generator and bracket called the F.R.S., made by S. Hall and Sons, Ltd.

The new generator and bracket which is the subject of the annexed illustration is the product of S. Hall and Sons, Ltd., 18-20, Swinton Row, Edinburgh. Most generators of this type divide at about the centre, but the new model F.R.S. is all in one piece, and only the bottom ring unscrews. When the ring is screwed off, the carbide container, carbide sieve, and the dust box all come out through the base. The upper portion forms the water

reservoir in the usual manner.

The advantages of an electric motor cycle lamp are obvious. There is nothing so clean, so easy to manipulate, and so simple to maintain, while there is only one point about the electric lamp about which there can be any doubt, namely, its light giving properties as compared to acetylene. We were doubtful as to how a new pattern electric lamp submitted to us by C. A. Vandervell and Co., Warple Way, Acton Vale, W., would compare with the older and more troublesome type of lamp, but after giving it one or two rather in-



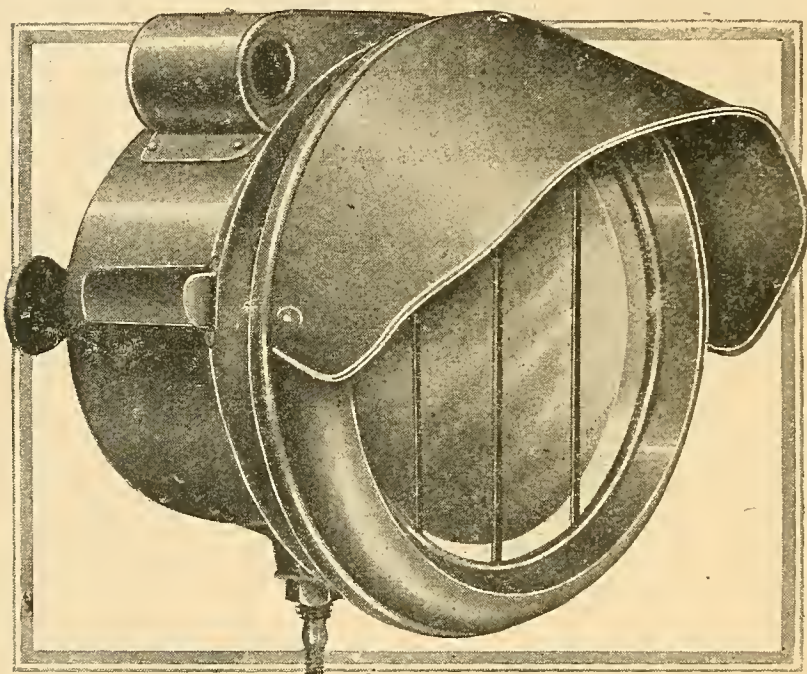
The new model Autoclipse motor cycle lamp with lens mirror reflector accurately focussed with the front lens. In the left hand view the eclipsing mechanism to damp the glare of the light is in action; the operating lever can be seen in the other view.

complete tests it seems as if our doubts may be dispelled: The lamp under trial has had a very severe

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Non-skids, Lamps, and Accessories.—

testing for durability on very rough roads, but it is so well made that, despite the tremendous shaking it received, it seemed none the worse, and never left the bracket. As regards the latter, the makers of the C.A.V. headlight are designing a special adjustable fork bracket which can be attached to any make of motor bicycle. The lamp is possessed of a very fine scientifically constructed reflector, which is mainly responsible for the lamp's efficiency. The bulb has a metallic filament, and since it suffered in no way from the severe treatment above referred to we should imagine it to be highly suitable for work in motor cycle lamps. The current is supplied from a 4-volt C.A.V. accumulator, which switches direct to the frame, the other wire terminating with a plug switch fitting into the centre of the lamp.



A new pattern separate generator lamp, sold by A. W. Gamage, Ltd.

Those readers who possess machines fitted with battery ignition, and who only use their machines occasionally during the winter months, will find dry batteries suited exactly to their needs, as they can be left to look after themselves without any charging or attention during the whole winter. A proportion of the current is, of course, lost even while at rest, but not sufficient to materially affect their use. There are no better cells than the Hellenes, sold by A. H. Hunt, 115-117, Cannon Street, E.C.

All the year round riders encounter a big proportion of muddy roads, and consequently a good deal of cleaning has to be done either personally or by deputy. To render the lot of the winter rider a happier one the Advance Motor Mfg. Co., Northampton, have marketed a combined detachable luggage carrier and rear mudguard, which can be taken off and replaced in a very short space of time, so facilitating cleaning of this portion of the machine. In some districts the rear mudguard very soon becomes clogged with mud, and it is a great advantage to be able to remove and cleanse it without depositing the mud on hub, belt rim, and spokes. A detachable guard is also useful in case of a puncture.

Although most modern engines are easily started, an engine is usually a little more sluggish at starting in cold weather, owing to the vaporisation of the petrol spirit being somewhat less rapid than in

summer. To overcome this difficulty Messrs. and R. Jacobs, 39c, King William Street, E.C., a device called White's Easy Starter, which is an attachment for fitting on the main air orifices of the well-known makes of carburettors. It consists of two circular plates perforated with holes which register with one another. One plate is fixed, the other is movable by means of a small lever, enabling the main air inlet to be decreased sufficiently to get a strong pull on the jet, and thus enabling the engine to be started easily in the coldest weather. The same firm also specialise in spare tube and cases, called the Electary, which are particularly useful during the winter months, as it is very necessary to keep tubes and spares free from wet and damage. The cases are now made in three sizes—(1) for belts and large inner tubes, (2) for standard 7/8 inch belts and 2 1/4 inch air tubes, and (3) a lightweight pattern 7 3/4 inch diameter and 1 3/4 inch deep. To enable the case to be attached to the side of the carrier machine clips are supplied which fix in any position to the shape of the carrier.

The protection of the magneto machine from rain and mud is one of the first essentials in bad weather. In fact, a magneto cover is never out of place all year round. If these covers are of indiarubber they require to be made of the best material, otherwise they will tear very quickly, and will not stand the oil which is bound to get on them. Mr. R. Surridge, 58, Gedge Street, Camberwell, S.E., is shortly placing a cover on the market, made of the best rubber, which is practically untearable; he has also something good in air tubes, made of extra thick rubber.

Better Lighting Arrangements.

In order to secure better lighting arrangements and a safer riding position, Templeton Brothers, 5, Sauchiehall Street, Glasgow, have included among their numerous accessories a loose lamp bracket which can be slipped over the fixed bracket, enabling the lamp to be turned and the light projected on to any part of the machine, and a seat-pillar specially designed to secure a very low riding position. Clearance is left for the peak of the saddle, allowing the saddle to be placed well forward. This seat-pillar is suitable for old pattern high frame machines.

To keep one's luggage perfectly clean is no easy matter, even in summer, so in winter the problem is much more difficult. An ordinary carrier bag is exposed to the mud as it flies off the tyre and band, and no matter how well protected the machine may be, a certain proportion of it settles on the bag. Messrs. J. B. Brooks and Co., Great Charles Street, Birmingham, having recognised this trouble, have now made it possible for motor cyclists to enter an hotel or friend's house with perfectly clean luggage, simply by the use of a new carrier bag with removable inner case. As its name implies, it is a case within a case. The inner one is completely protected, and after a long ride can be withdrawn from the outer one absolutely unsoiled and ready for immediate transmission to one's room.

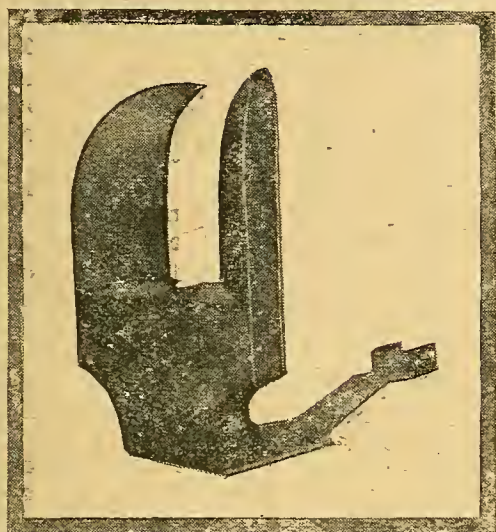
The Weatherall leg shield consists of a light constructed skeleton framework over which is stretched waterproofed material as used for high class motor cart hoods. The shields fit on both sides of the machine, and are attached to the footrests and

is, Lambs, and Accessories.—

An extension of the shield protects the rider's abdomen in bad or cold weather; this is hinged at the top of the leg guards, and can be folded out of the way when not required. The Premier Motor Co., Aston Road, Birmingham; sell the Weatherall; also indiarubber handle covers, which are better than horn or celluloid.

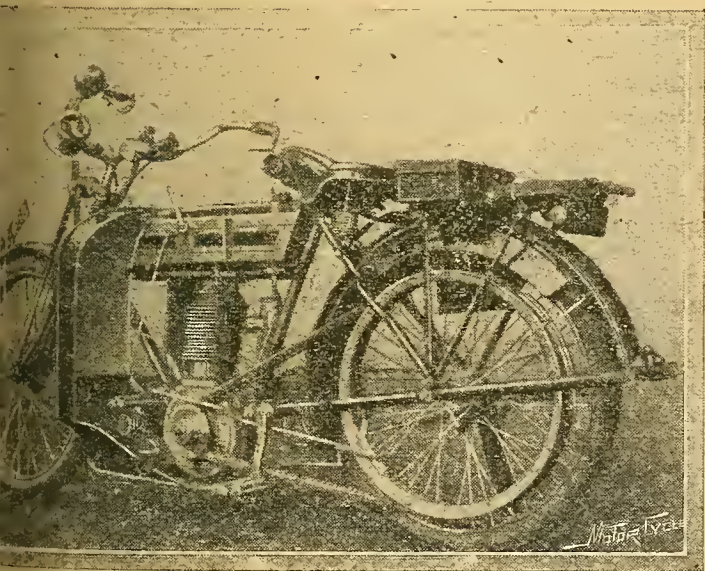
Various attempts have been made from time to time to render the motor bicycle a more weatherproof machine, to dispense with so much cleaning, and to protect the rider from the severity of the weather.

The necessity for special clothing beyond the ordinary garments during the winter months. Such ideas have taken various shapes and are called Miller shields, back wheel guard, etc. The front shield is made the width measured at the rider's knees when seated in a natural position and is so constructed that it collects



The Miller mud-shield detached from the motor bicycle.

the air and directs it on to the cylinder. The rider is fully protected from his feet to his knees, and the shield continuing underneath the engine is joined to the rear wheel guard, thereby efficiently protecting the engine, magneto, and carburetter. One fault of the Miller mudguard is that it allows liquid mud to run down its edges on to the hub bearings and into the chain, where it spoils the bearings, and is flung by the swiftly moving belt or chain on to the rider's clothes. Miller's rear guard is constructed to catch the mud and carry it away past the belt and chain



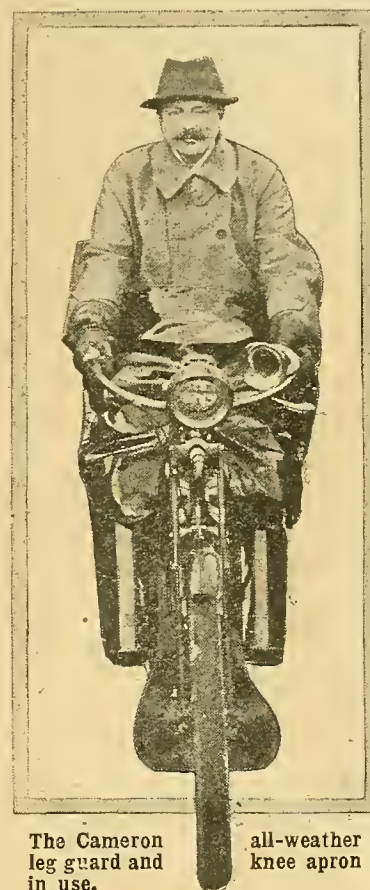
Equipped with the Miller mudshield, underscreen and special rear mudguard fitted to a Triumph. The gap in the centre of the leg guards is to allow a stream of air to impinge on the engine.

the edges of the fixed guard, thus preventing it from blowing out at the sides. A somewhat similar guard is used for the front wheel. These shields are made by A. Miller, Brighouse, Yorks.

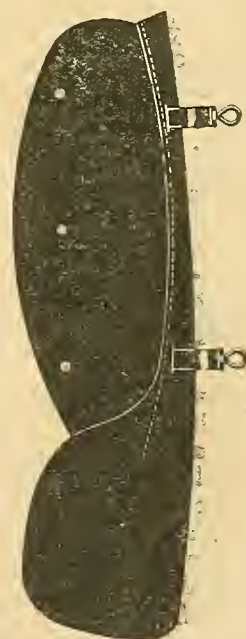
Another mud shield designed more for the protection of the rider than the machine, although serving the double purpose to a great extent, is the Cameron weather guard. This consists of two metal shields which resemble the greaves of ancient days, so constructed that they can be attached to the footrests at their lower ends, and at their upper ends to a clip placed athwart the top of the tank and fastened to the top tube of the machine. The thighs and upper parts of the body are shielded by a waterproof apron which buttons on to the shields. The apron is quite free at the top, being held in position whilst riding by the pressure of air. When the apron is not required to be used it can be rolled up out of the way and strapped to the top of the shields. From experience gained by the use of these leg guards for a short time

we find that they have the additional advantage that in cold weather one's nether limbs are kept warm by the heat from the engine. Cameron's weather guards are made at 30, West High Street, Inverurie. They have been patented by Mr. Charles Cameron, M.B.C.M., J.P.

It is nearly always easy to tell when the manager of a firm is himself a motor cyclist by the goods which he offers to the public. Mr. Hammond, the manager of Messrs. Hunt's Stores, Ltd., 104, Newgate Street, E.C., is himself an active rider, and consequently we are not surprised to be able to tell our readers that the accessories sold by his firm are of a thoroughly practical nature. During a recent visit to their well-stocked showroom we were shown a leather mud flap, strengthened by steel brackets and provided with steel clips to attach to the front mudguard. Provided as it is with side wings, it amply protects the magneto and the rider's legs from wet and mud. The magneto itself can also be adequately protected by one of Hunt's patent leather magneto covers, which would effectually exclude all possibility of moisture reaching this vital portion of the motor cycle. The same firm stock special legging overalls constructed of macintosh material of double texture, which protect the front portion of the body and fasten round the waist with a strap, while the overalls fasten

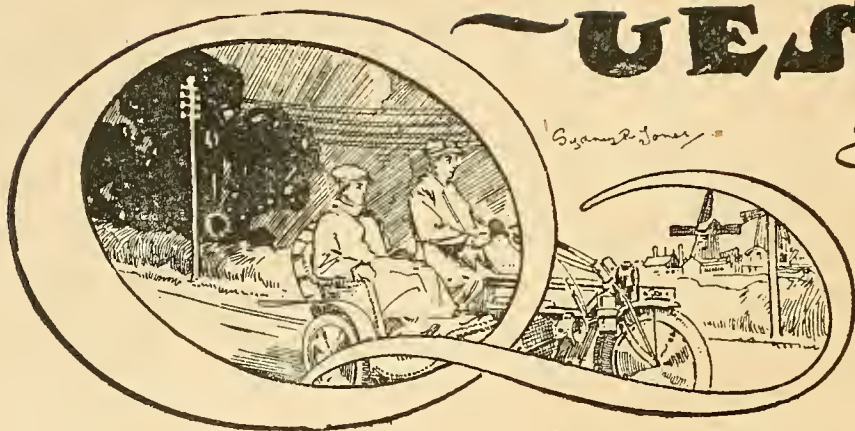


The Cameron leg guard and all-weather knee apron in use.



An auxiliary mudflap sold by Hunt's Stores. On heavy roads it is much more effective than the ordinary kind.

QUESTIONS AND REPLIES



A selection of questions of general interest received from readers and our replies thereto. When particular machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Inland Revenue Tax Exemptions.



Kindly tell me if it is lawful to ride a motor cycle for trade purposes without paying the tax. I am a working man, and want to use it for my trade.—C.W.O.

If the machine is used solely and entirely for business purposes, and bears the name and address of the owner on it in one-inch letters, it should be exempt from the Inland Revenue tax.

Accumulators.



I have just purchased a motor cycle, and find the accumulator runs down when on the road, and am told it is always necessary to carry a spare, one as there is no means of telling how much current is left in the accumulator. I shall be glad if you will tell me if this is correct, as it appears to me that there must be something made and sold to test the accumulator capacity before starting on a run.—H. M.

You can test the current in an accumulator by a test lamp or a voltmeter. When fully charged it will show 4.2 volts. When it has run down to 3.8 it is not safe to use it any longer. It is always advisable to carry a small spare accumulator. If yours is continually running down, it has an internal short circuit, or is otherwise out of order, and should be sent to the makers for repair. On no account allow the accumulator to rock or jolt about in the tank. It should be fixed securely.

Belt Slipping on Low Gear.



I have a 5 h.p. two-speed twin with which I use a sidecar. The machine is belt-driven, and I have trouble with the slipping of belts. I have tried all kinds except the Whittle. The trouble is when hill-climbing. I cannot, of course, climb hills on the high gear, and when I put the low gear in, no matter how tightly the belt is adjusted, it always begins slipping. Is there a remedy or should I fit a chain drive?—H. A.

We should imagine that the trouble is chiefly due to the engine pulley not being the correct angle. If you take your machine to a competent local repairer and get him to true the groove for you to the correct angle of 28°, we think the trouble will cease. Another possible cause is that the belt is too small. Nothing less than a lin. belt

should be used for passenger work. We take it that you have satisfied yourself that it is the belt that slips. We mention this, as with some epicyclic gears it is most difficult to make the low gear brake hold, and the symptoms are the same as belt slipping. If you follow the above hints we do not think you would need to adopt chain drive. It would probably be difficult to use your existing gear with chain transmission.

The Result of Using Bad Oil.



My 6 h.p. air-cooled Sarolea engine has only run about eight hundred miles, yet on removing the cylinders there was a great deal of carbon on top of piston, and the rings were quite charred and burnt in, so that in getting them off I have had to break them out. Can you tell me the best way to get rings off when burnt in like this? I have never had this occur before with any other (single-cylinder) engine, and I cannot see why a twin should get like that, unless it is the fault of the oil.—C. L.

When the rings are badly burnt into the piston grooves, all you can do is to soak the whole lot in paraffin, and gently remove the deposit with an old penknife. Undoubtedly oil of the best quality will make a great deal of difference. Trouble of this kind is often experienced with air-cooled engines which have an abnormal amount of work to do.

Drawing Water into the Cylinder.



It would be interesting to know if the following system, recently applied very satisfactorily to aeroplane engines, has been tried on motor cycles, viz.: To draw in water at each suction stroke, which water is instantly flashed into steam by the explosion, so making the engine to an extent steam-driven; thus obtaining better cooling and stronger pulling at slow speeds. If any readers have tried this experiment, their experience might possibly be of great value.—H. U.

The idea you describe was tried on motor cycle and motor car engines some considerable time ago. We have seen a small water tank fitted above a small single-cylinder motor cycle engine, with a small pipe leading the water to the engine, and although the owner of the machine told us it increased the power, we could not at the time trace any great advantage from its use.

The Amount of Opening of the Inlet Valve.



My a.i.o.v. engine runs well, but has a very petrol consumption. The buretter is a Longuemare, when engine is running a spray of petrol is blown out through the air ports at the bottom. It only lately done this, and I lowered the level in the float chamber. What is the remedy?—B. S.

Before making any further alteration to your carburetter you might try a stronger and larger spring, also regulate the opening of the inlet valve, then note the behaviour of the machine. This should effect the desired improvement; if not, try a smaller

Cures for Sluggish Starting.



I own a 3½ h.p. N. which at present is a very poor starter. Please let me know what it would be possible to do with accumulator ignition to get the machine to start it with, and switch over to the magneto when the machine gets away. If this can be done would you please let me know how and if the present method would suit?—J. E. W.

There is no reason why the machine should not be made to start perfectly easily with the magneto. Bad starting is nearly always due to the carburetter receiving too much air at low speeds. If you examine your carburetter you will find that there is a circular shutter fixed with a screw. Loosen this screw, close the shutter partly, and so exclude some of the air, and this will certainly make the machine start more easily. It is of course possible to fit accumulator ignition and to use the same coil, but you will have to obtain an insulation plot for the contact breaker from the United Motor Industries, 49, Poland Street, W. The wiring diagram was published in *The Motor Cycle* of April 22nd, 1903. We do not advise the fitting of accumulator ignition, as it would only add unnecessary complications, and it is quite a simple matter to make the machine start easily by the aid of a little careful adjustment. First clean the contact breaker of the magneto is quite clean and free from oil; likewise the contact points should be quite bright and flat. Rub the end of the carbon pencil with a fine file or sandpaper, and also rub the points of the plug with a fine file, not exceeding half a millimetre.



WINTER RIDING.

By B. H. DAVIES.

Our valued contributor gives his ideas on winter road work. He recommends: (1) The machine you like best (only a $3\frac{1}{2}$ h.p.); (2) A low gear; (3) A well-shielded magneto machine and sparking plug; (4) Leather belts rather than rubber; (5) A hot air jacketed carburettor; (6) Thinner lubricating oil; (7) Special mudshields; (8) A waterproof coat; (9) Handle-bar muffs; (10) A thick cap with T.T. ear laps; and thinks winter riding in general very healthy and a fine sport.

For many motor cyclists only indulge in winter riding when the conditions approximate those of summer, e.g., on one of those rare days when the wind has dropped, and the sun is out, and the dried roads present a hard if somewhat even surface. On such occasions as these the machine may be taken out without any special preparation and the rider need only protect himself by the quantity of clothing he normally wears. For some, however, others for whom the term "winter riding" has a truly terrifying connotation—are almost compelled to ride every day throughout the winter months for business purposes, where the local train service is so poorly adapted to the season. I have never figured among that number. I have done a great deal of winter riding in all sorts of weather on various occasions, for pure pleasure and to test my hardiness, and my experience may perhaps be of some use to others who are contemplating the advisability of regular winter work on the road. For a medical man called on me last week to advise me on the outfit required for working a scattered practice right through the winter.

Suitable and Unsuitable Districts.

Understand that the first point to study is the locality where the would-be winter rider happens to reside. I have been extremely sorry to ride daily throughout the winter in a certain district of Durham where I once resided. Terrific winds raged from the high ground, violent enough to produce a chill and to absorb threequarters of one's available energy whenever they had to be faced; the roads were rutted, and never dried, while their surface was oft that ruts of eight or ten inches in depth was no means uncommon; hills with wicked bends and stretches of single figure gradient were to be met on almost every route; so that even a machine of 5 h.p. twin would often have been unequal to the struggle, even if I had been game enough to attempt it, which I wasn't. But, by contrast, in my own county of Northampton winter riding is a simple matter. There are no bad hills; the roads are broad, hard, and open, drying quickly, and never deeply rutted. Here even a machine may ride far and fast in all weathers, and the only difficulty is to keep warm. Obviously, therefore, the road conditions are the prime factor in determining whether winter riding is likely to prove a healthy or enjoyable.

The next question is what type of machine is the most suitable. I have conscientiously tried every con-

ceivable kind. The high-powered twin is obviously ruled out of court by its weight and general unhandiness; this is of small moment in summer, but it is very objectionable in winter, and, further, a big twin cannot be driven as slowly as a $3\frac{1}{2}$ h.p. single. I have tried the ultra-lightweights, which at first sight would appear ideal for slow driving and handiness, but, whether by prejudice or not, I prefer a medium weight machine for winter work. Personally, I think the small belt of an ultra-lightweight always gives more trouble than that of a medium-weight, because the engine pulley is unnecessarily small. In winter, when the belt is so often wet and gritty, a fair-sized engine pulley is essential; in addition, I find that a lightweight, which is often quite roadworthy in summer, will not infrequently curl up before the triple combination of wind, heavy going, and gradient during the winter. Of course I weigh thirteen stones odd in my riding kit, and lighter riders may not find the same objections as myself. I am therefore left with only the medium-weight, medium-powered machine to recommend, premising the addition of a two-speed gear if the winter riding is to cover a district containing hills which normally puzzle motor cyclists. Any really good $3\frac{1}{2}$ h.p. single should serve excellently for winter work. For those who like them, the shaft and chain drives are doubly desirable in winter. Personally I eschew them, because my nerves have never quite recovered from seized transmission gears of these types in my earlier days of motor cycling. Memories of the resulting spills make it impossible for me to enjoy a ride under rigid transmission; I like to know there is something in my transmission which will slip if anything jams, and, frankly, I am too big a coward to ride on either shaft or chain drive, although I know they must be a great deal better than they were in the days of my own experiences. This dislike of mine is no doubt fad, prejudice, oh! a lot of horrid things, but it is deeply rooted in my nature. As cowardice debar me from using the comparatively weatherproof drives which other riders may prefer, I simply remove my rubber belt at the approach of winter and substitute a good make of leather belt, which is less vulnerable to weather, though it needs more attention.

I hear a good many winter riders are going in for free engines; they say that running a machine along the road is too chancy a business to be attempted on wet roads. If ever there was a proceeding which evoked skids, it is suddenly letting in the clutch, with the machine at rest, on a high gear. For years I have used the jump mount without any accidents. on

Winter Riding —

all kinds of surfaces, by the simple safeguard of using hobnailed boots. Here again other riders differ from me.

Weatherproof Ignition.

As regards special equipment, a weatherproof ignition is the prime essential, and the tank position of the magneto, coupled with a rubber cover for the sparking plug and its terminal, about hits the mark. No other system is absolutely dependable when there is a lot of surface water about, although a large magneto shield, supplemented with smearings of vaseline, will meet ordinary emergencies. After a weatherproof ignition, a low gear is the next essential. I regularly gear $5\frac{1}{2}$ or 6 to 1 in winter, and find I could with advantage gear lower still in really bad weather, if engine bosses allowed me to. It spells easy starting, sure climbing, and slow progress across patches of dangerous slime, while there is no fear of overheating. Third on my list of winter specifics stands the use of water-cooled engine lubricants. Thick air-cooled oil spells a gummed piston at every stop. Fourth on the list comes some provision against a frozen carburetter, attained either by supplying hot air to a jacket surrounding the vaporiser, or by removing the gauzes from the inside. No rider need be seriously afraid of his carburetter catching fire; it is only necessary to shut the petrol tap and flap away with a cap for a minute or so.

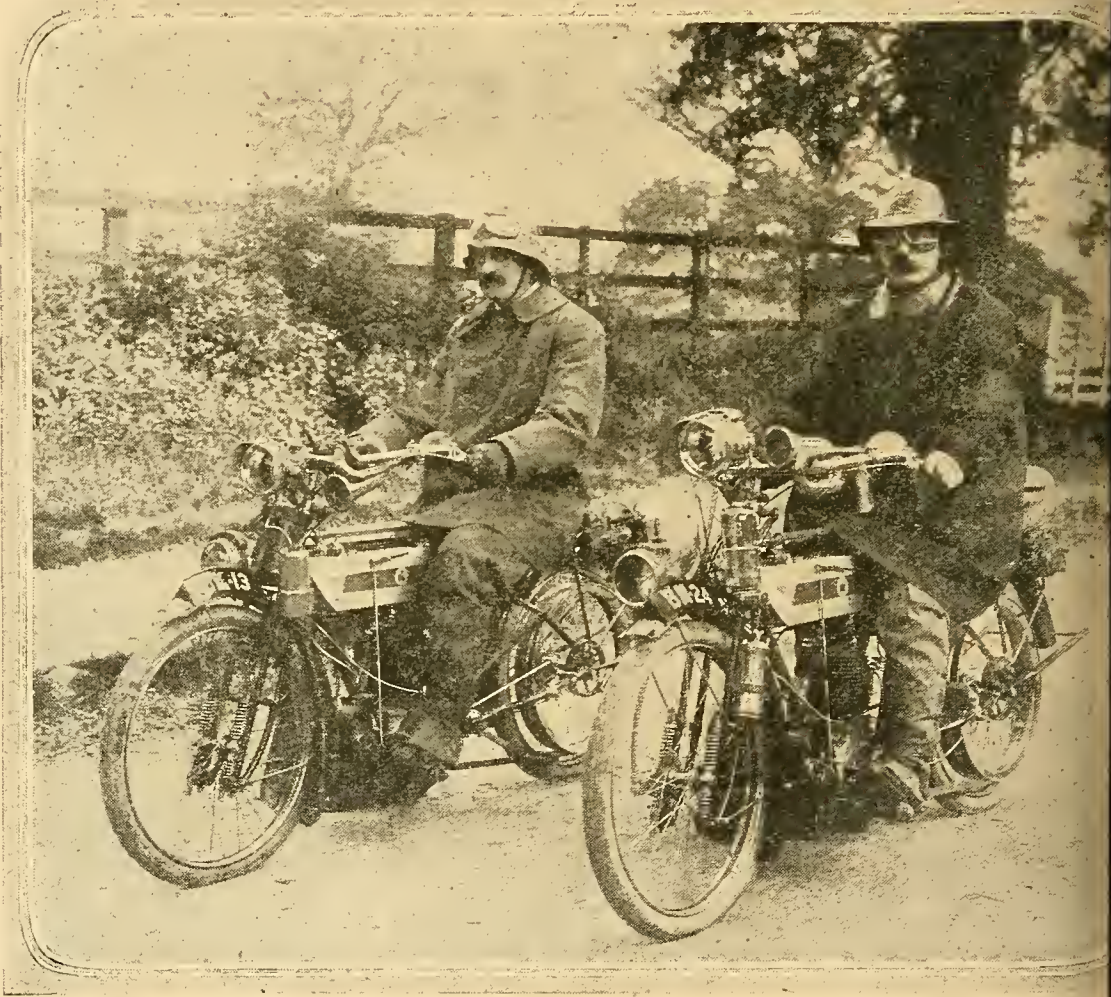
Leaving the machine, we may next consider the rider's personal preparation. I suffer from a bad circulation due to a heartstrain contracted through rowing untrained in a boat race, and as a consequence I imagine I know a good deal about keeping warm; I am sure few riders are ever so cold as I have often been. I find it is a great mistake to burden one's *person* with too much clothing. If all the covering needed to keep one warm in riding is permanently worn on the body, moments of extremely unhealthy perspiration will be common during brief dismounts, even if the mercury is several parasangs below zero.

Protection for Rider and Machine.

We may therefore begin by considering how much of the necessary protection may be permanently attached to the *machine*, and left thereon whenever we dismount.

A good many patent devices of this type are now on the market. One of them, besides protecting the machine and the belt as far as is possible, also provides a pair of half-jack boots (I don't know how else to describe them), which are fixed to the foot-rests. Imagine a huge pair of angler's waders split transversely right up from the instep to the thigh, with the back half taken right away. These

about supply most of the requisite leg protection; a rider only need wrap his legs in sufficient swaths to keep them warm and dry when he is dismounted. Having very cold toes, I personally wear silk socks next the skin, wool socks over these, then ordinary boots, then snowboots. On the rest of the leg I wear ordinary clothing, supplemented by puttees (why do more riders wear puttees?—they are ideal for motor cycling generally) and button-round waterproof thigh flaps. Coming higher up, there is a very good device sold by more than one firm for shielding the abdomen. I made and used it years ago, so I will describe my own plan. A light steel bar about two feet long, fixed across the machine, secured to the top of the tank well forward. A waterproof apron is stitched to this cross-bar, and is normally carried rolled up and reefed down by straps. When the weather gets wet or cold it is unfurled, and after mounting is stretched



The pleasures of winter riding. There is a peculiar fascination about riding through crisp, frozen air, when the roads are hard and dry, provided that the rider is suitably clothed for a sudden change in the weather.

out over the rider's knees and middle by two long elastic thongs, slipping over buttons on the outer coat. This is a clumsy method of fastening, as it necessitates removing first one hand and then the other from the steering bar to attach the elastics. The elastics slipped loose before each deliberate dismount, they simply snap in the case of a sudden or involuntary dismount.

Handle-bar Muffs.

As regards the hands, gloves thick enough to keep my hands warm are so very thick that I get no feeling of anything, and in consequence I use handle-bar muffs permanently attached to the steering grips, and wear quite thin gloves only. The rest of the body demands a very thick coat—nothing short of full leather is much good—with waterproofs over all.

ding.—
 k cap with T.T. ear flaps and a padded front,
 a warm neck scarf, is essential. I find the
 my anatomy which are most subject to cold
 feet, ears, hands, forehead, and stomach.
 ne healthiness of winter riding when properly
 here can be no question. It makes me

awfully fit and gives me a perfectly leonine appetite.
 About its pleasures there is also no doubt at all.
 There is always a keen pleasure for any chap with a
 sporting turn of mind in doing something difficult,
 and winter riding, if tackled daily in all weathers, is
 one long course of triumphing over difficulties and
 hardships, which stimulate pride and satisfaction.

AMULREE HILL-CLIMB.

official results of the open hill-climb pro-
 moted by the Edinburgh M.C.C. and described
 n page 780 last week have now been declared.
 With two exceptions the preliminary awards
 d last week are correct. The complete
 re as follows:

nger Class (four entries).—F. H. Annandale
 Matchless and sidecar), 2m. 26 $\frac{4}{5}$ s. Only
 or to get up.

-cylinder Touring Handicap (twelve entries).
 . K. Thomson (3 $\frac{1}{2}$ h.p. Triumph). Only
 or up.

-cylinder Handicap (eleven entries).—*A. A.
 wo-stroke Scott), figure of merit 527; J. R.
 er (5 h.p. Rex), figure of merit 403.

ole Speed Gear Class (nine entries).—*A. A.
 wo-stroke Scott). Only competitor up.

-cylinder Touring, Scratch (twelve entries).—
 ll M'Gregor (3 $\frac{1}{2}$ h.p. Matchless), 2m. 37 $\frac{1}{5}$ s.
 mpetitor up.

-cylinder Touring, Scratch (nine entries).—

Reay S. Morrison (5 h.p. Rex). Went furthest up.

Single-cylinder Unlimited, Scratch (nine entries).—
 J. W. Adamson (3 $\frac{1}{2}$ h.p. T.T. Triumph), 2m. 17 $\frac{1}{5}$ s.,
 fastest time. Only competitor up.

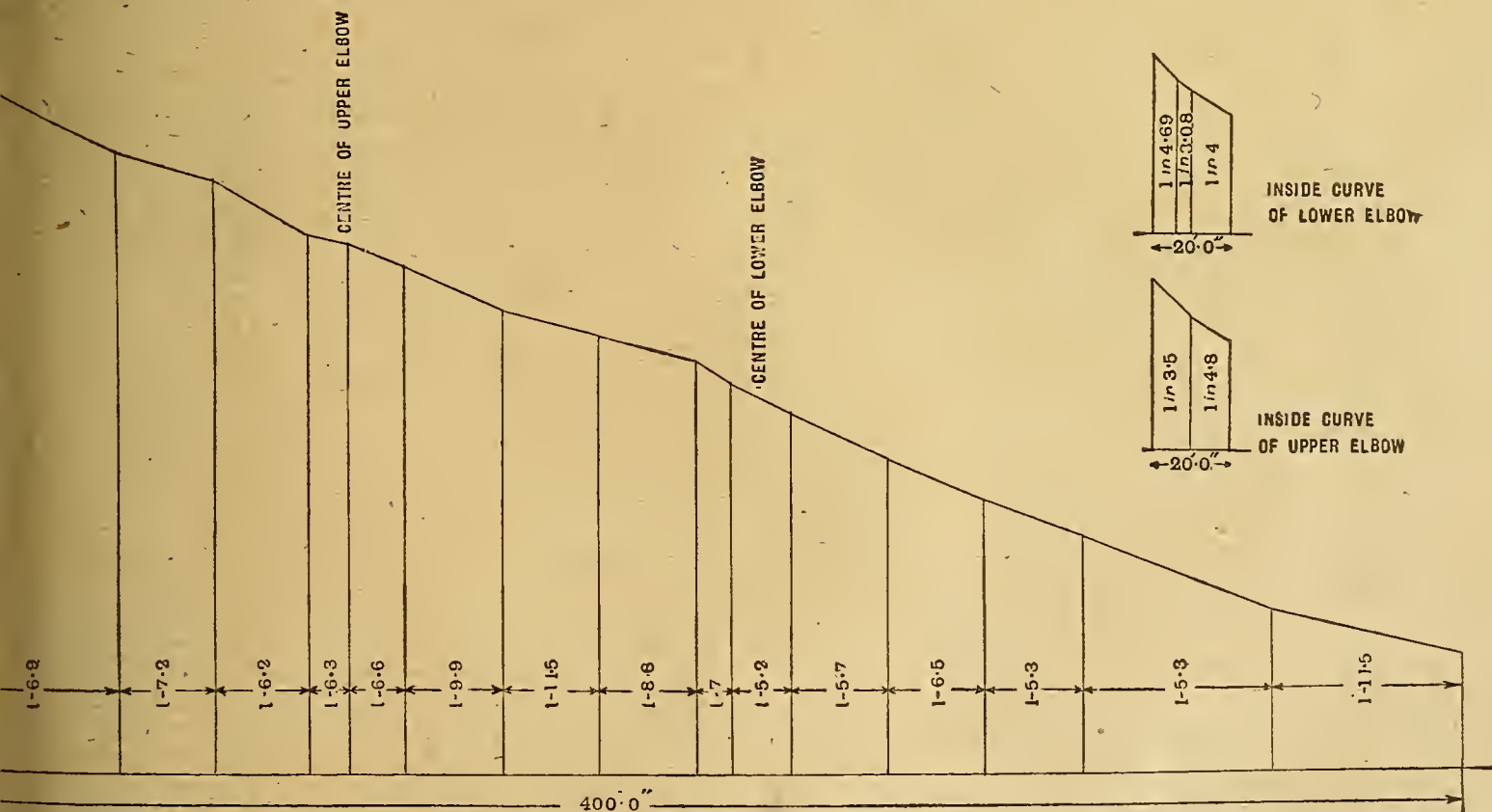
Multi-cylinder Unlimited, Scratch (eight entries).—
 F. H. Annandale (8 h.p. Matchless), 2m. 23 $\frac{4}{5}$ s.
 Only competitor up.

Unlimited Scratch (sixteen entries).—1, F. H.
 Annandale (8 h.p. Matchless), 2m. 34 $\frac{1}{5}$ s.; 2, Camp-
 bell M'Gregor (3 $\frac{1}{2}$ h.p. Matchless), 3m. 5 $\frac{2}{5}$ s.; 3,
 *Eric S. Myers (two-stroke Scott), 3m. 16 $\frac{3}{5}$ s.

*Trade rider.

Out of fifty starters, twelve reached the top of the
 hill and eight made clean ascents, *i.e.*, without
 pedalling or other assistance.

It was stated in the first report that no one climbed
 the hill in Class IV. This is wrong, as A. A. Scott
 was successful, and made a better performance than he
 did in Class II., as he was allowed to use both gears.
 R. T. Exshaw entered as a private owner, not a trade
 rider as we were at first informed.



section of Pitmackie Brae (Amulree Hill). Average gradient, 1 in 7.69. This gradient was the first portion of the Edinburgh M.C.C. Hill-climbing
 Competition described and illustrated in the issue of October 13th. (From a survey by Mr. Bruce Syme, Muirton Bank, Perth.)

of the machines entered in the Quarterly Trials,
 are reported in another part of this issue, was
 h.p. lightweight Phelon and Moore. In
 nce it is a replica on a small scale of the
 . P. and M. The dimensions of the engine are
 mm., and the weight is 125 lbs. The frame
 low, the distance from the top of the saddle
 ground being about 28in. Druid spring forks

are fitted. The excellent P. and M. two-speed gear is
 retained, but it is much lighter. The carburetter is
 of new design, and has an adjustable petrol level,
 the adjustment being effected by means of a milled nut
 on the needle valve, while the jet has a loose pin
 running through it which effectually prevents chokage.
 The gear ratios are 5 and 9 to 1, the same as those on
 the 3 $\frac{1}{2}$ h.p. when geared for sidecar work.

THE TWIN INDIAN.

A GOOD deal has been heard of late regarding the Indian twin-cylinder motor bicycle and its performances in the hands of W. H. Wells and G. Lee Evans. A brief description of the more important points of the Hedstrom engine, which is fitted to all Indian machines, will therefore be of interest to readers.

are adjustable as to length. The valve mechanism consists of two cams, one to operate the two inlets, the other the two exhausts.

The arrangement of cams and levers, also exhaust lifter, will be best understood by reference to the line illustrations (figs. 1 and 2) and the lettering under the figures.

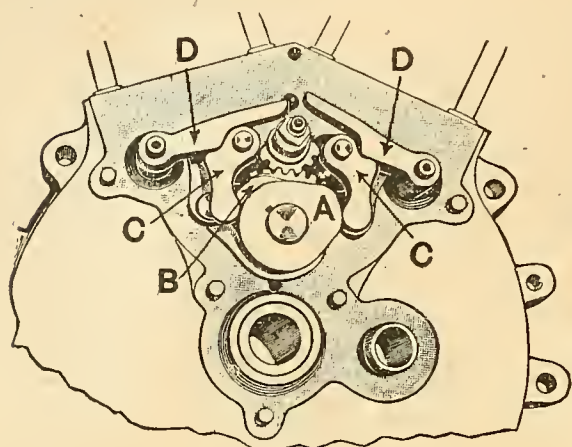


FIG. 1.

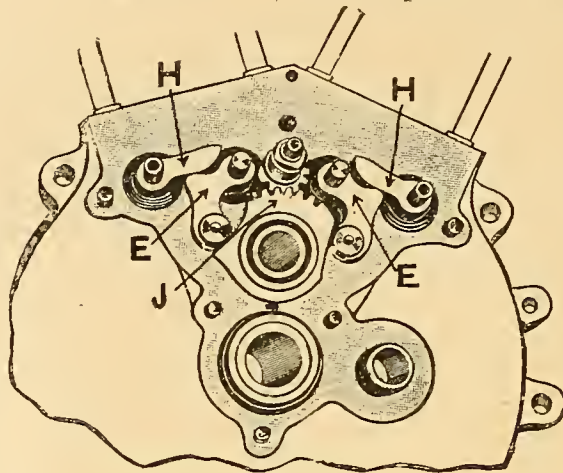


FIG. 2.

Fig. 1.—Inlet and exhaust valve timing mechanism with cover plate removed. A. Inlet valve cam. B. Exhaust valve cam. C.C. Inlet valve cam levers. D.D. Inlet valve tappet levers.

Fig. 2.—Exhaust valve timing mechanism showing inlet cam and tappet levers and cover plate removed. E.E. Exhaust valve cam levers. J. Cam plate operated by toothed gearing for lifting exhaust valves for starting and controlling speed.

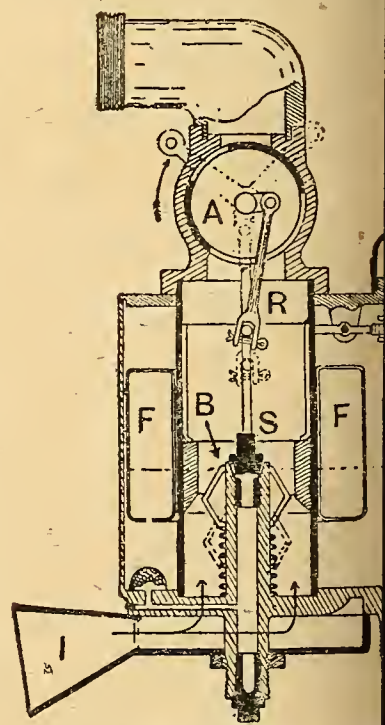
The cylinders are set at an angle of about 60° , and have detachable combustion heads and valve pockets. Both valves are placed in the same pocket, and the sparking plug is in the centre of the head. Both valves are mechanically operated, the inlets by long tappet rods and overhead rocking levers, the exhaust valves by the usual levers and tappets. Both sets of tappet rods

The two to one timing gear wheels are inside the crank case, as also the gear wheel which drives the magneto train of wheels. A novel feature not fitted to any other motor engine we know, is the little perforated spool placed between the top of the exhaust spring and the underside of the valve pocket. This is instead of carrying the coil of the spring right up to the cap of the pocket, where they soon lose their temper by heat, which is claimed is partly conducted away by the perforated spool.

Lubrication is by splash, but the crank case is suitably cast at its base to form a pocket or extension on each side. These pockets act as reservoirs for a considerable quantity

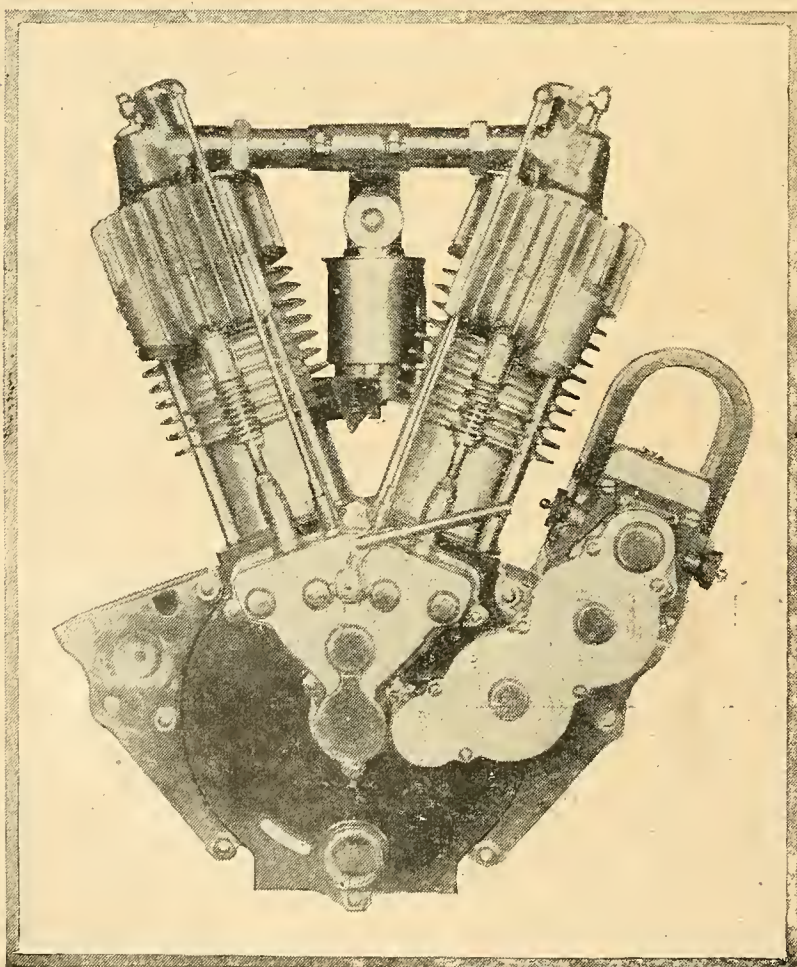
of oil which is constantly being caught up by the revolving flywheels. In a closely fitting base a sufficient quantity of oil merely has a retarding influence on the flywheels, due to friction between the wheels and the crank case, and the Indian reservoirs appear to be a good feature. They allow a reserve supply of oil to be carried in the crank case without the oil rising above a certain point. There is also a small inspection window to enable the oil level in the reservoir to be seen.

The Hedstrom carburettor differs from most spray carburettors fitted to British motor cycles, and this brief review of the engine would be incomplete without a short description of it. It is very much on the lines of the early De Dion spray carburettors. The annular float surrounds the spraying chamber, and the weighted needle which it controls is in a tubular chamber at the side. The jet is of the Longuemare type, inasmuch that it is conical and is provided with fine grooves arranged diametrically, through which the petrol sprays. To vary the quantity of air



The ingenious spray carburettor fitted to Indian motor cycles.

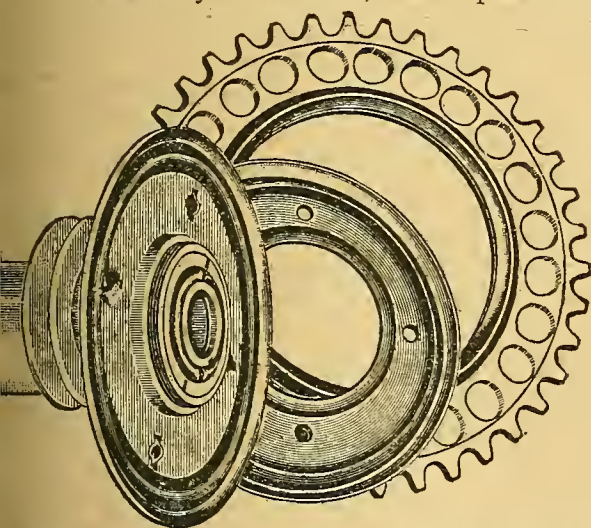
- A. Throttle.
- B. Movable adapter.
- R. Rod connected to throttle spindle.
- S. Spraying cone.
- F. Annular float.
- N. Weighted needle.
- I. Air inlet.



The twin cylinder M.O.I.V. Indian engine showing the disposition of the magneto in front, and the carburettor between the cylinders.

dian.—

pass through the carburetter, the air adapter, of a double cone, is made to slide on the and is connected by a rod and lever to the handle. In the position shown in the second, the adapter entirely closes the air around the jet. A movement of the throttle in the direction of the arrow opens the throttle, so that the air space around the jet is always proportionate to the amount of the opening. The dotted lines indicate the position of the adapter when the greatest possible quantity of air is passing through the apparatus, and with the throttle fully open. The movable adapter, by regulating the amount of depression or vacuum in the carburetter, controls the amount of spirit issuing from the jet, and thereby the quality of the mixture. This is the chief departure from standard British practice in the transmission. This is by means of a belt-driven model is provided for those who prefer it. In connection with the chain drive, a shock-absorbing friction clutch is fitted to the counter-shaft chain wheel. This is of the "Hedstrom" construction, and consists of two steel plates with V grooves and a V bronze ring fastened to a wheel which receives the drive from the counter-shaft. The plates are fixed to the counter-shaft, and the bronze ring is placed between them, the bronze ring, fitting in the grooves of the plates, gives the necessary adhesion, the plates are

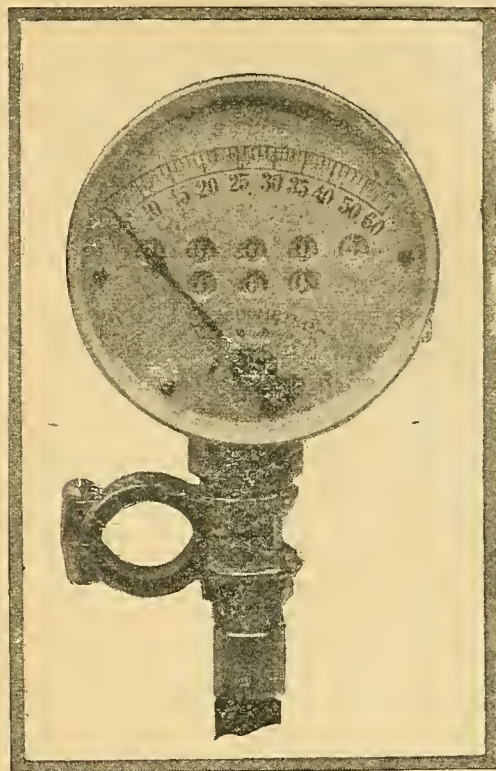


friction clutch which is described in the accompanying article.

together by four bolts and nuts with spring washers, and varying degrees of slip can be obtained by turning the nuts up or down on the bolts. We now deal with most of the specialities of the motor except the handle-bar, which we will leave for a subsequent article in the cycle portion of the machine. In respects, the Hedstrom motor and Indian motor present several most interesting features to us, and, as we have proved by examination of the working parts of the engine, very great improvements on those parts which are called upon to perform. There is therefore nothing to hinder any motor cyclist from trying the Hendee product, and after a trial he is satisfied with the method of construction and transmission, well, he can rest assured that the time and expense have not been spared to make the machine reliable. Mr. W. H. Wells is open to orders of the superiority of Indian productions, and is found at 184, Great Portland Street, W.

A NEW JONES SPEEDOMETER.

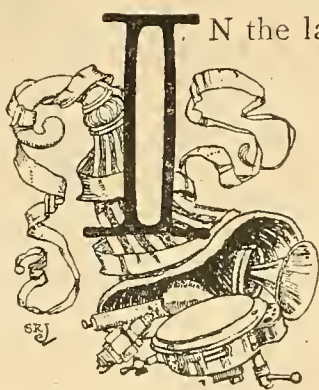
THE latest development in Jones speedometers for motor cycles will shortly be obtainable from Messrs. Mark and Co. (London), Ltd. The first of the new model was recently sent to us for inspection. It is called the No. 32, and can be supplied in either nickel or brass finish in the excellent style common to all speedometers of this make. It indicates speeds up to sixty miles per hour, and also records, on the upper row of figures, the total distance covered in miles and tenths. Below this row there is the "trip" or day odometer, which is provided with an instantaneous resetting device. Another feature of this instrument is the maximum speed hand, which can be instantaneously reset by pressing the stop on the right. This maximum



hand is carried forward by the black variable speed hand, but stops automatically at the highest speed attained, until released by the resetting stem. The speedometer will be supplied with fittings to suit any of the leading makes of motor cycles on the market, with spring forks or otherwise. The dial measures 3 in. The indicator is attached to the handle-bar, and is driven by a flexible shaft and gear wheel attached to the front hub.

The Service Co., Ltd., 292-293, High Holborn, W.C., were, we believe, the first firm to publish a catalogue dealing exclusively with motor cycle clothing and accessories, and for their enterprise in this direction they deserve to be congratulated. The publication we are about to review is exceedingly complete. In it all the best makes of motor bicycles are listed and nearly every known accessory, and of the latter one or two call for special attention. There is the Turbinamo, which is a useful little instrument for charging accumulators, as it can be connected up to the ordinary domestic water tap. Quite a novelty is the Service Three-in-One metal sparking plug case, in which three plugs may be safely carried. The case renders them absolutely secure from damage, and takes up little room in the tool bag. Yet another innovation is the exhaust whistle and cut-out combined. Whysall's patent seat is a fitment which commands the motor cyclist's attention. The seat is extremely comfortable, and possesses a collapsible back. In dismounting or mounting the rider has only to pull a lever on the handle-bar and the back quickly drops out of the way. Another novelty is the S bag, which fits in the back portion of the carrier frame, thus utilising a space hitherto wasted.

THE END-TO-END SIDECAR RECORD.



IN the last issue we gave brief particulars of the new John-o'-Groat's to Land's End sidecar record established by M. Geiger, with W. Lamm as passenger, on October 5th, 6th, and 7th. The machine used was a 7 h.p. twin-cylinder V.S., with Millford sidecar. Mr. Lamm has now sent us some further news giving the chief incidents during the journey. Leaving

John-o'-Groat's at 3.53 a.m. on the 5th inst., timed away by J. Robertson, of Wick, strong head winds were encountered for the first hundred miles. Trouble commenced early, for at Dunbeath (forty miles from the start) it was found that the tool bag had disappeared, together with the spare tubes. Time was too precious to return and search for the missing articles, so the journey was continued with but a screwdriver, a pair of pliers, and a belt punch, and it says much for the reliability of the machine that the whole distance of 886 miles was covered without any necessity for the use of further tools.

Punctures, however, were dreaded, and no time was lost in procuring another repair outfit, though, strange to say, this was not an easy matter, and for a time some indiarubber solution, glass paper, and patches obtained from a carpenter at Bonar Bridge were all that could be procured.

Snow and Rainstorms.

Up to Bonar Bridge snowstorms had been prevalent, which added to the discomfort of the record breakers. Inverness was reached at 10.20 a.m., and here a hunt was commenced for spare tubes, but in vain. The journey to Perth was resumed in pouring rain, the time of arrival being 4.35 p.m. Here after much trouble two tubes were obtained. Between Curriemore and Kingussie sheep on the road often caused a hasty pull-up. From Blair Athol to Stirling heavy rain, together with a strong head wind, hindered the

progress of the record breakers considerably. Run from Stirling was continued in darkness became extremely difficult to find the proper way. Occasionally people living by the roadside hurriedly roused in order to enquire the correct way. At Carlisle a policeman's help had to be charitably rousing a garage proprietor for petrol. Days soon after passing Shap, to the great relief of those who drove throughout. No incident of note occurred during the day, and once past the thickly populated Preston, Wigan, and Warrington district good progress was made. At Gloucester the time was 2.55 p.m.

Record Breaking with a Stable Lantern.

The second night on the road began with a heavy rain at Bridgwater, and the experiences were worse than on the previous night. First both the generator and the dynamo were wrong, and Geiger and Lamm were left in the dark. The latter set off in search of a lantern of some kind, and in the next village was able to get hold of a stormproof stable lantern. This lantern served to light a path all through the night. It can be well imagined that the passage of the sidecar was a difficult task to keep the lantern in position, as it was impossible for it to be properly held. The desire for sleep was naturally very great, but both stuck to their task. The roads deteriorated towards the journey's end, and the right course was found very difficult to follow from Exeter to Land's End. Land's End was finally reached at 7.38 a.m. on the 7th inst., J. T. Taylor, of Penzance, being present to certify the time.

No stops were made for meals, refreshment, or sleep, all being carried on the sidecar.

The engine and the gear of the V.S. machine gave no trouble at all, and the Mills-Fulford sidecar and Peter Union tyres also behaved splendidly. The seals affixed to the vital parts of the machine, as *The Motor Cycle* were found to be intact at the journey's end.

The total time occupied was 51h. 45m.

OCCASIONAL COMMENTS.

By "IXION."

Tyres for Winter Riding.

The greatest drawback to winter riding is the possibility of punctures. In summer a puncture is merely a trifling nuisance in these days of quick drying solutions and reliable slip-jointed tubes; but in winter it is far more serious. A tyre has to be tackled with bare hands, and if the cover is a tightish fit the hands are sometimes almost dead with cold before the double operation of detaching and replacing is concluded. I strongly advise riders who contemplate regular winter work not to attempt roadside patching, but invariably to carry a pair of spare tubes, leaving all patches to be done at home. I always carry a couple of big tyre levers in winter, so that I can get a grip on them without removing my thick gloves; thus my hands are only bared for the sixty seconds or so required for the insertion of the new tube, and a little rib slapping after the fashion of a cabman is

resorted to to get my hands thoroughly warmed before the gloves are removed. Further, a first-class skid is absolutely necessary for winter work. Smooth tyres no motor cyclist who is out during the bad months will enjoy himself. I can never say which tyre is the absolute ideal for the purpose, but I am rather inclined to bar the rubber-studded tyre. It is first-class in summer, when any mud encountered is thinly smeared over a hard underfoot, but in winter it doesn't seem to go deeply into the road, because its studs have so little penetration. I am a great believer in the deep grooved Palmer; its grooves are cut so far into the tread that they penetrate well through most winter weather, and give as good a grip of the road as in summer. Steel-studded tyres, whether of the ordinary order or of the R.O.M. combination order, alternating rubber bars, are better than any rubber non-skid.

Indian

Moto-cycles



HENDEE MANUFACTURING CO.

184, GREAT PORTLAND STREET, LONDON, W.

Telephone: 1749 Mayfair.

Telegrams: "Hendian, London."

SOMETHING TO SMILE OVER

The Single Cylinder

INDIAN

makes its debut by establishing

World's Records

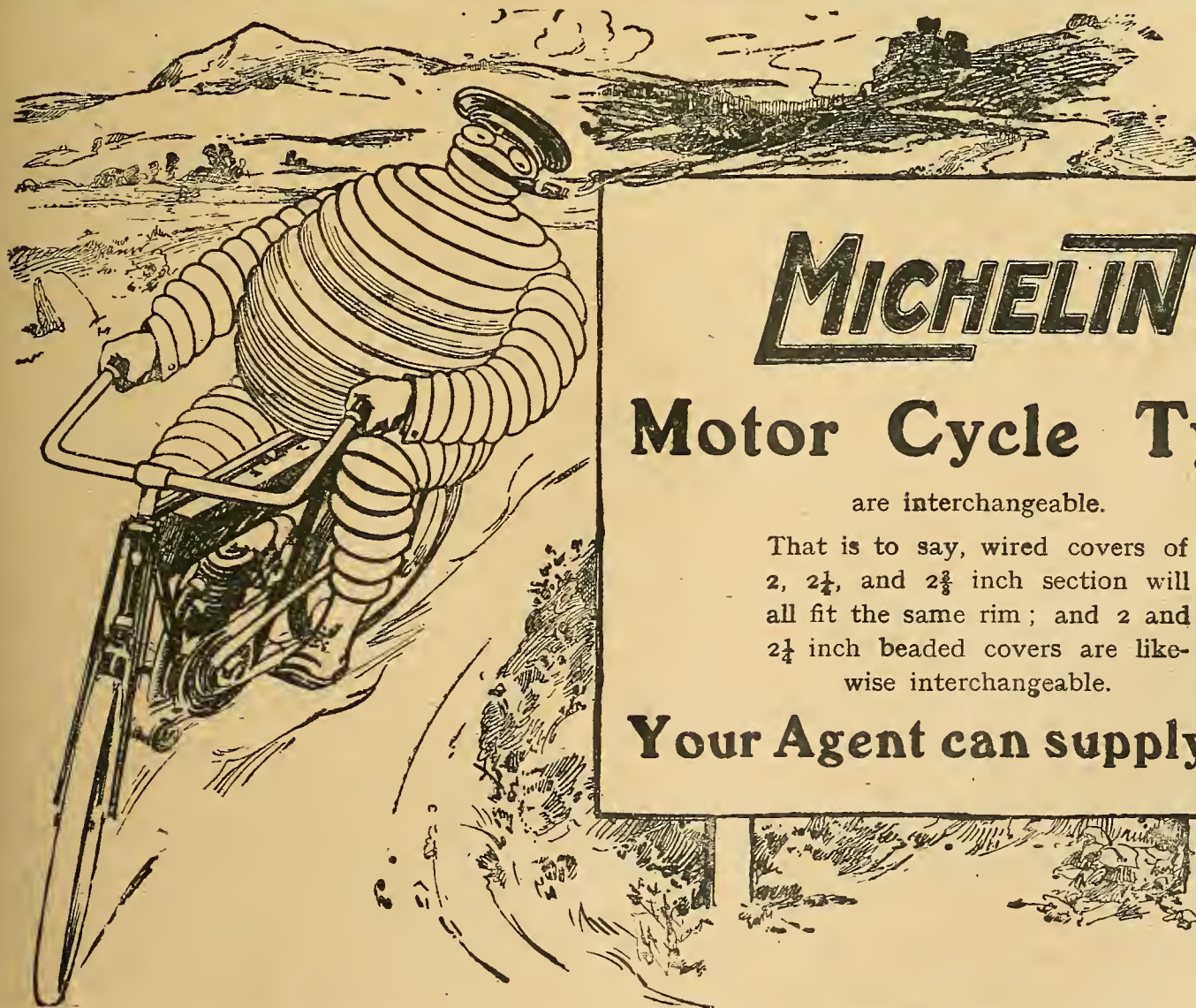
G. Lee Evans on a 497 c.c. Indian did 100 MILES in 1 HOUR 54 MINS. 19½ SECS., and 105 MILES 60 YDS in TWO HOURS at Brooklands, on Saturday, October 9th, thus creating two World's Records for single cylinder machines under 500 c.c. This is the sort of thing that makes the rider of an INDIAN proud of his mount and wear that continual smile of contentment.

Introductory List now ready
—free for the asking.

EXHIBITING
STANLEY SHOW, STAND 132

NOV. 19th to 27th.

S. A. H.



MICHELIN

Motor Cycle Tyres

are interchangeable.

That is to say, wired covers of 2, 2½, and 2¾ inch section will all fit the same rim; and 2 and 2½ inch beaded covers are likewise interchangeable.

Your Agent can supply you.

In answering these advertisements it is desirable to mention "The Motor Cycle."

1st

BROOKS
ANTI-VIBRATORY
MOTOR CYCLE
SADDLES & SEATS.

Tourist Trophy Race 1909.

It is a fact worth emphasis that in the above race the machines of four out of the first five riders were fitted with the world-famed BROOKS Saddles.

These riders occupied first, second, third, and fifth positions, and their success makes telling testimony to the merits of the BROOKS, for no fitment can influence speed and staying-power as the saddle can.

First in **that** race, the BROOKS is also first in the race for popularity—and the reasons?—

Because its every model is the direct result of the practical experience of the practical rider—

Because its comfort-giving qualities make for health and happiness awheel—

Because it is perfect in design, material, workmanship, and finish.

Remember, no other Saddle can embody the BROOKS Compound Springs—the springs which absorb all vibration within themselves—and, by their compensating action, eliminate all tendency to bounce.

These are fitted to every model, and make possible that perfect comfort which enables the rider to undertake the longest ride without fatigue.

In short, the BROOKS is first—always in a position of unassailable supremacy—first in its ideal combination of the two essentials—comfort and durability.

Our Saddle Manual tells you more—let us send you one. Dept. B45.

J. B. BROOKS & CO., LTD.,
The Saddle Specialists,
BIRMINGHAM.



In answering this advertisement it is desirable to mention "The Motor Cycle."

Occasional Comments.—

the country roads, but not quite so sure-footed in towns, when a thin film of grease is laid over a hard, smooth sub-surface of asphalt, or wood, or stone, on which the steel has no grip at all, while the amount of rubber grip is less than on the Palmer or other all-rubber treads. On the whole, I think the Palmer is hard to beat for this particular purpose, though it has one drawback, namely, that it rolls if it isn't pumped up very hard, and soft tyres spell comfort when the road is frozen hard.

The Importance of a Good Lamp.

One reason why so many riders lay their machines up for the winter is that the days are short, and so a good deal of night riding is necessitated. Some of the riders who habitually funk night riding should essay it afresh under three conditions: They should gear their machines as low as possible, make up their minds to be content with quite a low average speed (say twelve to sixteen miles per hour), and try a really first-rate modern lamp. The terrors of night riding are mostly due to a silly fallacy which dies hard, namely, that motor cycling demands a legal limit average. This is due to a second fact that machines geared 4 or $4\frac{1}{2}$ to 1 often strike twenty miles per hour as their natural average unless they are very delicately driven, and in summer overheating may result if they are geared lower. In winter a machine may quite safely be geared as low as the adjustable pulley allows, and it will then keep down to a much lower average without calling for frequent alteration of the levers. At this pace night riding is perfectly safe and comfortable, provided a good lamp is used. It is well worth while paying from 30s. to £2 for a good lamp which will make night riding at the pace described perfectly easy and cosy. To supplement the good lamp a good generator is needed. I myself employ either a big, costly generator of the automatic variety or, alternatively, two of the smallest, cheapest, and simplest type. These only cost a few shillings apiece, and one may be mounted at either end of a special double tongued tank bracket.

Pace in Winter.

Where a good many novices err is in taking bad roads too gingerly. I am a great believer in maintaining a fair pace over bad roads of any sort, deep mud and deep sand alone excluded. We often see comparative novices sliding miserably along at about eight miles an hour over slime, stones, ruts, and bad surfaces generally. At such speeds the machine is difficult to steer, and has no powerful forward impetus with which to over-ride sideways tendencies. It is the same principle which decides the factor of safety for aeroplanes. I was reading F. W. Lanchester on "Flight" the other day, and he stated that to be absolutely proof against side gusts and wind eddies an aeroplane ought to maintain a speed of something like ninety miles an hour. I am not advising motor cyclists to emulate this speed under any circumstances, but, emphatically, speeds of from sixteen to twenty-five miles an hour are often a great deal safer on bad roads than the jerky progress we sympathetically watch so often. So many riders are afraid to quit holding the handle-bars; they set their levers to give a generous engine speed—sufficient to cope with ordinary rises, etc.—and then drive on the switch or

valve lifter, perpetually cutting out, letting the machine slow almost to a standstill, and then letting the engine in again with a bang. This mode of driving spells extreme mental discomfort, and promotes sideslip even more than grease does. On bad roads gear low and drive at a good steady pace, avoiding all jerky alterations of speed, and especially avoiding those ultra-slow speeds at which balance almost ceases to be automatic. I well remember my first crossing of the Grampian road in the days when that highway was one long stripe of grass, ruts, boulders, and new metal. I tackled it as slowly as possible, and experienced many anxious moments, a huge amount of vibration, and several skids and spills. Returning south a week later, I tried a very different method, and gave the machine its head. I rattled down into Blair Atholl very comfortably at high speed with far less vibration and no tumbles, although the road was in a far worse condition than before. The biggest mistakes a winter driver can make is to be ultra-cautious.

Tricycles for Winter Use.

I often wonder the motor tricycle has not retained many devotees for winter work. There are still lots of sound old Ariel and De Dion tricycles of the two-wheels-astern type to be picked up for an old song, and they are probably the best machines on the road for all-round bad weather work, though they, too, require a two-speed gear for really hilly country. My friends tell me their surface carburetters will volatilise the modern heavy petrols quite efficiently, though, personally, I should fit a spray. Then, again, there is the plan of fitting a forecarriage minus its bucket seat, which many riders tried in the early days of the Trimco. If the tricycle adopted has the two wheels in front, care should be taken to weigh the front wheels down. They bounce about horribly and upset the steering if the front axle is left naked. But, after all, most of us who ride daily throughout the winter do so with some business end in view, and a large, well-filled box over the front axle will be rather a convenience to us than otherwise. Motor cyclists who habitually ride right through the year in all weathers might do worse than get the power unit of a modern motor bicycle built up into an Abingdon tricycle frame with the two wheels astern. The point to remember is to design the frame so as to give a long wheelbase, with plenty of room to balance the weight well forward and between the axles. This is easily done if the engine is carried forward of the bottom bracket. A machine on these lines was marketed some years ago by the Abingdon Co., but did not catch on, probably on account of that bugbear storage accommodation.

Mr. Greenup, of Coomassie, in describing his motor cycle experiences in Ashanti, West Africa, says there are excellent roads in course of construction, and before long he anticipates many motor cycles will be in evidence, and even motor lorries. Mr. Greenup's machine is fitted with the Roc clutch and two-speed gear. A friend owns a similar mount, and these, according to Mr. Greenup, are the only two motor bicycles that have ever been seen in Ashanti. The makers, A. W. Wall, Ltd., have received quite an interesting letter from this gentleman, who is full of praise for the utility of their conversion sets.

Time to
light lamps

Special Features

Sydney R. Bond

October 20 .. 5.56 p.m.

,, 23 .. 5.50 ,,

,, 27 .. 5.42 ,,

CURRENT
CHAT

"The Motor Cycle" Show Issues.

Three special issues of *The Motor Cycle* will be published in connection with the Stanley Show. The first, dated November 10th, will contain early information of the machines and novelties to be exhibited. The following issue (November 17th) will form a forecast and guide to the Stanley Show; in this issue we shall also deal with accessories and novelties of interest to motor cyclists exhibited at the Olympia Show. The third show number will be a complete description of the machines and accessories on exhibition written by our own staff after a personal inspection of the exhibits. Each of the three issues will be profusely illustrated with photographs and drawings.

The T.T. Fund.

The hon. sec. of the Aberdeen and District M.C.C. last week forwarded 25s. as a contribution from the club towards the expenses in connection with the Tourist Trophy Race. This amount we have forwarded to the A.C.U., which brings the total to £137 10s. 6d.

A Reminder.

Correspondents who do not observe the rule which is to be found at the head of the first page of "Questions and Replies" in every issue are liable to have their queries overlooked or delayed. A stamped envelope must accompany every query, whether intended for publication or not, and stamped and addressed envelopes must be sent by those readers who ask for experiences with different motor cycles and accessories.

Six Days' Motor Cycle Race.

The six days' motor cycle race at Brighton Beach, U.S.A., proved to be a failure. Nine teams of three riders each had duly entered, but only five teams lined up for the start. There were but five hundred spectators present—the organisers had expected many thousands—and after eleven and a half hours of riding, rain having fallen briskly for some time, a postponement was agreed upon. At the time the riders were called off the track, the New York M.C.C. team was leading, having covered 599 miles, the Harlem club lying second with 580 miles.

Accidents in London.

At the City Court, Dr. Waldo held an inquest on L. R. Edwards, a traveller, who was knocked down and killed by a horsed van in New Bridge Street, E.C., and during the evidence remarked that he had been struck lately by the increased frequency of street

accidents in London. In 1891 the number of such accidents reported in the Metropolis was 5,784, by 1905 the number had jumped up to 11,800, in 1906 there were 14,272 cases, and in 1907 the number was 17,055. Between 1905 and 1907 they had increased by 62%, and during the same period the number of fatalities had risen by 80%. Of course, there were a great many motors about nowadays, but these accidents were not so much due to motor vehicles as to carts and vans. The foreman of the jury said that as a rule carmen appeared to think that the road belonged to them, and they should take more care. The road belonged just as much to the ordinary pedestrian as carmen.

Dangerous Corners to be Widened.

The Stockton Rural District Council have undertaken the most praiseworthy task of widening dangerous corners

WINTER RIDING.

Special Articles and Illustrations.

A.C.U. QUARTERLY TRIALS.

M.C.C. RACE MEETING AND GYMKHANA AT
BROOKLANDS.

and rendering them safer for motor and other traffic. They recently instructed their road surveyor to inspect all the dangerous corners in the district and report. They have also been offered land by Mr. Fawall and Lord Boyne to widen respective corners between Redmarshall and Carlton and at Thorpe Thewles Station, both of which have been accepted.

Speed Limit at Richmond, Surrey.

On Monday last ten-mile limits came into force at Richmond, Surrey, over the following lengths of roads: Kew Road (from St. John's Grove to the Quadrant); the Quadrant, George Street, Hill Street, Petersham Road (from Hill Rise to Compass Hill); Petersham Road (from Dysart Arms to Fox and Duck); Hill Rise and Richmond Hill, otherwise the Terrace; Lower George Street, Sheen Road (from Lower George Street to Alton Road).



Two Royal motor cyclists, Prince George of Greece and Prince Waldemar of Denmark. The motor cycle they ride are the Elleham, a popular Danish make.

M.C.C. RACE MEETING AND GYMKHANA.

THE unfavourable climatic conditions were the means of almost spoiling the first private race meeting and gymkhana of the Motor Cycling Club at Brooklands last Saturday. The entry list was a large and representative one, and all had anticipated an enjoyable afternoon's sport, but it rained almost incessantly, making matters uncomfortable not only for the spectators (of whom there were a good number), but especially for the competitors in the races, as the track was a mass of puddles. There were three motor cycle and two car handicap races, succeeded by six gymkhana events, three each for cars and cycles. The races were contested on the outside track, whilst the gymkhana events were held in the straight alongside the paddock. The names of thirty-eight motor cyclists appeared on the programme, most of the riders having entered for several events. There were, of course, a number of absentees on account of the wretched weather. The method of deciding the handicap in the races was as follows: Competitors were timed on a preliminary run of one lap of the track from a flying start, and the handicap was framed for all events on this performance. Competitors who improved more than five per cent. on their preliminary run were disqualified. The first race was timed for noon. It was confined to touring motor cycles with engines not exceeding 500 c.c. capacity. Distance two laps of the track. There were twenty-one entries. Fast speeds were impossible owing to the numerous water splashes. The effect caused by the bicycles dashing through the water reminded one of a water chute. It can be well imagined that misfiring and belt slipping were common. The result of this event was: 1, T. F. Maw (4 h.p. two-speed Roc); 2, Chas. de Foubert (3½ h.p. Triumph); 3, F. George Smith (3½ h.p. Triumph). Time 11m. 20s.

A Long Start in Event 3.

The same conditions as in Event 1 also applied to Event 3, except that the engines had to measure between 344 c.c. and 1,000 c.c. capacity. Fourteen started in this event, Geo. Brough being on the limit mark, and Capt. Sir R. K. Arbuthnot, Bart., R.N. (whom we were glad to see in competition again), on scratch. The limit men had almost completed a lap before the scratch man received the word to go. The result was: 1, W. A. Sale (3½ h.p. Rex); 2, T. F. Maw (4 h.p. Roc); 3, Clifford Gibbons (3½ h.p. Deacon-Minerva). Winner's time, 10m. 9s.

Event 5 was for any type of motor bicycle with engines not exceeding 1,000 c.c. Distance, three laps of the track. There were twenty-two entries, but only half that number competed. The fastest speeds were accomplished in this race, and at the conclusion the riders of the mudguardless machines were a sight to behold, water and mud having been flung into their faces. Gwynne, Arbuthnot (scratch),

Deuchar, and Pond appeared to be travelling the fastest. Strangely enough, the first five to finish exceeded their preliminary canter by more than five per cent., and were consequently disqualified, the undernoted being declared winners: 1, A. V. Deacock (3 h.p. Wanderer); 2, Malcolm Campbell (4 h.p. J.A.P.); 3, E. C. M. Baulkwill (3½ h.p. Triumph). Winner's time, 12m. 58s. Deacock's 3 h.p. Wanderer is a fast little machine, and proved itself capable of holding its own with several machines of higher power.

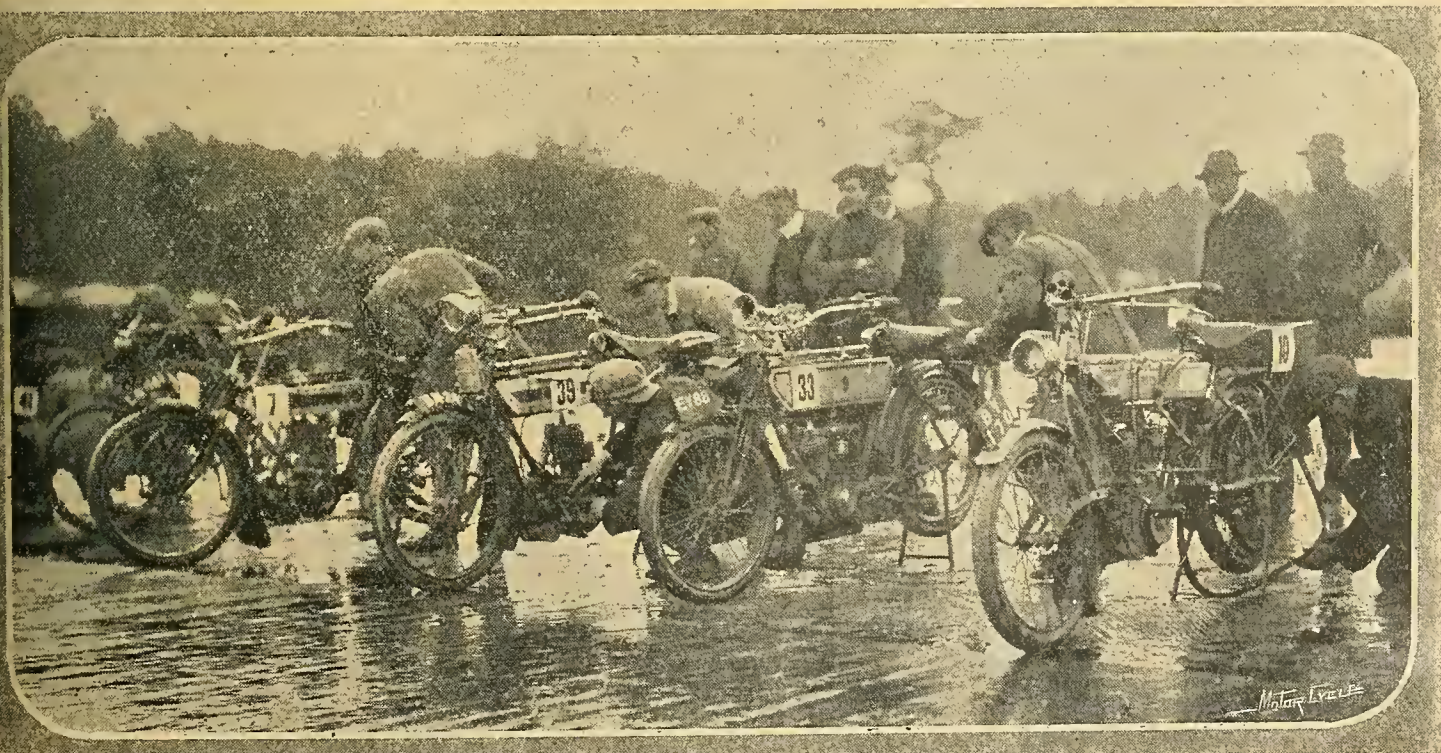
The Gymkhana Events.

After a brief interval, the gymkhana events were commenced under slightly more favourable weather conditions. The motor cycle "Lifebelt" race proved highly amusing. The competitors had to sprint 100 yards to their machines with the driving belts in their hands, one end of the fastener having been removed. The competitor who refitted his belt and rode 100 yards to the finishing line in the quickest time was declared winner. F. G. Smith (3½ h.p. Triumph) won, with Bertram F. G. Fowke (2¾ h.p. De Dion) second. May we here suggest that if a "lifebelt" race be held another year, to add a finishing touch of humour, the competitors be made to use the driving belts as a skipping rope in racing to their machines!

The next event for motor cyclists was the "Tortoise" race, this event being run in three heats and a final. Competitors were apparently allowed to do what they liked to their machines. Consequently the wideawake riders had their belts almost too slack to drive the machine, and by judiciously applying the brake if the machine exceeded about two miles per hour the event was reduced to a balancing competition. Several crawled along so slowly that they were unable to keep their balance. Heat winners were Karlake, Olsson, Bell, Stanton, Baddeley, and Holroyd. The final was won by Harry G. Bell (3½ h.p. Triumph, Mabon clutch), J. S. Holroyd (1¼ h.p. Motosacoche) being second.

The "Circle" race concluded the meeting. Competitors had to ride round a series of obstacles, the first home being declared winner. Those competitors who rode machines fitted with a clutch or two-speed gear were at a distinct advantage, for they were able to wield and manage them with much greater ease on the low gear or by slipping the clutch. There were several heats, the final resulting: 1, Harold Karlake (2¾ h.p. De Dion engine, N.S.U. two-speed); 2, Bertram F. G. Fowke (2¾ h.p. De Dion).

The prizes were distributed to the successful competitors by Mrs. Charles Jarrott. The judges were Charles Jarrott and R. H. Head; timekeeper, F. T. Bidlake; chief marshal, A. J. Ilsley; starter, V. Hart. The hon. secretary of the meeting was S. H. Fry, who with other officials are to be congratulated on the success of the meeting.



The "Lifebelt"
Race in progress.
The competitors,
who numbered
17, are hastily
fitting the fastener
and belt, after
which they had
to ride 100 yards
to the finishing
line. The picture
conveys some idea
of the state of
the track.

THE A.C.U. QUARTERLY TRIALS.

LAST Saturday was by no means a favourable day for trials, at any rate from the competitors' point of view, as muddy roads, fitful rainstorms, and a south-westerly gale rendered the conditions as unpleasant as possible. As, however, the A.C.U. is anxious to prove that the modern motor cycle is capable of being used in the worst weather, it is a good thing that some days are dark and dreary.

Despite the adverse weather, only five of the fifty-seven entrants failed to start. Several newcomers figured for the first time in a public trial on Saturday, among which we may mention the 2½ h.p. P. and M., the new 3½ h.p. Brown, the 3½ h.p. two-stroke Rex, the 3 h.p. Clyno, the 3½ h.p. James, and the A.C. sociable—a tricar carrying the two passengers side by side.

It was not actually raining at 9 a.m., when the fifty-two competitors were started by C. A. Smith from the Chequers Hotel, but the day was dull, the roads were thick with mud, but for the most part too wet to be greasy. We left Uxbridge just ahead of Miss Hind, who was the first competitor to start, and, with Archibald Sharp and H. G. Cove on board the little four-cylinder Adams (kindly placed at our disposal by the Adams Manufacturing Co.),

and Dayrell, on a 5 h.p. machine of the same make, came up in excellent style. Douglas and Hill, both mounted on Douglas machines, came up in splendid form, both surmounting the crest at a good speed and without touching the pedals. R. M. Brice (3½ h.p. Brown), F. C. Wood (4 h.p. N.S.U.), J. Harwood (3½ h.p. Triumph), D. F. Steeves (5 h.p. N.S.U.), F. W. Applebee (5 h.p. Rex), and O. C. Godfrey (3½ h.p. Rex), also came up in excellent style. W. Pratt (3½ h.p. P. and M.), B. Mariani (new lightweight 2½ h.p. P. and M.) (both on low gear), R. C. Griesbach (3½ h.p. Triumph), E. A. Colliver (3½ h.p. Triumph), A. L. Barker (5 h.p. Clyde), G. T. Gray (3½ h.p. N.S.U.), G. L. Fletcher (2¾ h.p. Douglas), J. Marshall (3½ h.p. Triumph), W. F. Newsome (3½ h.p. Triumph), P. W. Bischoff (3½ h.p. Triumph), W. Cooper (3½ h.p. Triumph), B. V. Jones (3¾ h.p. twin Premier), C. C. Cooke (3½ h.p. Triumph), G. E. Stanley (3½ h.p. Premier), W. Smith (3½ h.p. Scott), A. R. Abbott (3½ h.p. Triumph), T. A. Womersley (3½ h.p. Premier), H. Newey (3½ h.p. L.M.C.), and F. A. Applebee (3½ h.p. Rex), all made good ascents but did not appear to be quite so fast as the first dozen mentioned. Of the remainder of the motor bicycle riders H. Williamson (3½ h.p. Rex two-stroke) came

T. H. Tessier, H. Martin, and F. W. Dayrell, all riding twin-cylinder Bat-J.A.P.'s, passing Banbury Cross. Tessier distinguished himself on both the test hills, but what many will regard as more noteworthy is that all three men made non-stop runs.



hurried ahead of them to Dashwood. Fortunately, the rain held off, and the going was not so very bad, except under trees, where the surface was of a slippery nature, and undoubtedly heavy all along the course. Straight and Reynolds on J. R. Nisbet's Humber overtook us at Beaconsfield, and eventually we all arrived at Dashwood in good time. On the hill the surface was a little better, and as the wind was south-westerly and high banks protected the road, it did not seriously hamper the men.

As the competitors arrived at the foot of the hill, they were stopped by A. G. Reynolds (who took the times at the start) and H. G. Cove (who marshalled them), and were then sent up singly. This is an excellent arrangement, as it allows the officials on the hill easily to read the numbers on the armlets, and prevents the men in many cases being hampered by traffic. Of the latter there was a considerable amount at first, but all the drivers of the horses and carts behaved in a thoroughly sportsmanlike manner, and never was a competitor purposely impeded. The first mechanically-propelled vehicle to be timed was a steam tractor hauling a furniture van, which came up in splendid form. Both the driver and his attendant were tremendously enthusiastic, the former getting every ounce out of his snorting monster, the latter running ahead to tell Straight to take his time.

Of the competitors Miss Hind, on her 5 h.p. Rex, made an excellent ascent. But to the most casual observer Tessier, on his 7-8 h.p. Bat, eclipsed the performance of all the others. Martin, on a 6-7 h.p. Bat, also did extremely well,

up slowly on low gear, F. Smith (3 h.p. Clyno) pedalled, W. G. Ayling (2½ h.p. Blumfield) pedalled, E. Clark (2¾ h.p. Douglas) pedalled, V. Underhill (3½ h.p. L.M.C.), H. Bevir (3½ h.p. L.M.C.), and C. Cross (3½ h.p. L.M.C.) came up slowly. C. J. Janssen (2½ h.p. Moto-Rève) pedalled lightly, and S. A. M. Witham (2½ h.p. N.S.U.) pedalled lightly. For the first time on record all the motor bicycles which reached the foot ascended the hill. In both hill-climbing (at any rate as far as Dashwood is concerned) and silence, considerable improvement was noticeable. Two competitors started at the foot with their cut-outs open and then closed them on approaching the officials on the hill, which fact was naturally recorded in the officials' notebook. Of the passenger machines the following tricars: Dr. O. Van Vestrant (5-6 h.p. A.C.), R. Spurrett (5-6 h.p. A.C.), G. Seymour (5-6 h.p. A.C.), J. Portwine (5-6 h.p. A.C.), B. Weller (5-6 h.p. A.C.), J. Weller (5-6 h.p. A.C. sociable), F. Eagles (6 h.p. N.S.U. and sidecar), and J. Davis (3½ h.p. Phänomen and sidecar), all made good ascents, while the only failure to ascend the hill was G. West's 5 h.p. Rex and sidecar, the low gear operating rod of which was broken. From the top of Dashwood the usual route to Banbury was followed. Over the Wheatley-Islip loop road the surface was greasy, but the going considerably improved on the fine broad main road to Banbury. Just on the London side of Stokenchurch we came across J. Weller in trouble with a choked petrol pipe. At the top of Aston Rowant the surface was abominably slimy.

The A.C.U. Quarterly Trials.—

We had been asked to check the riders at the Red Lion, Banbury, and in company with A. J. McDonald (A.C.U.) and H. G. Hill (Oxford M.C.C.) we awaited the arrival of the first batch of competitors who were expected soon after 12. At 12.26 T. H. Tessier, H. Martin, and F. W. Dayrell arrived together, and reported the roads to be very heavy going. A telegram from the A.C.U. secretary announced that fifty-one competitors and their machines had left Dashwood, the $3\frac{1}{2}$ h.p. James being very late. This machine did not reach Banbury, and we subsequently heard that its rider retired owing to shortage of petrol. Between 12.30 and 1.15 p.m. the garage at the Red Lion was packed with machines, there being forty bicycles, five tricars, and two sidecars out of the fifty-one that had left Dashwood.

It is one of the rules of the Quarterly Trials that, during the hour luncheon stop at Banbury nothing whatever may be done to the machine or tyres, except replenishment of petrol, and if necessary the use of a little paraffin or petrol to facilitate starting. One or two were forced to break this regulation. J. Portwine lost eighteen minutes adjusting the coil on his A.C. tricar, T. A. Womersley had to dismantle

foot they turned left, and finished the journey through Chalfont St. Peters. For some inexplicable reason, several men took the wrong turning, and twice completed the circle!

After the fine performances on Dashwood, strange to relate there were many failures at Amersham. Tessier again distinguished himself, and Douglas, Fletcher, Dayrell, Marshall, Griesbach, Bischoff, Newsome, Applebee, Wood, Pratt, Jones (who cleverly overcame belt slipping by pressing his foot on the belt, thus using the former as a jockey pulley), Harwood, Cooper, Newey, and Womersley also made good ascents. The less fortunate ones were: E. Clarke, pedalled; R. M. Brice, dismounted; E. A. Colliver, pedalled; Williamson, punctured and tried to climb hill on rim, but failed; A. L. Barker, pedalled; Janssen, pedalled slightly; Hill, pedalled slightly; Fletcher (belt fastener pin broke), F. Smith, Godfrey, Abbott, Cross, and F. A. Applebee, dismounted; Bevir, pedalled; Mariani, assisted his machine by pushing on the ground with his feet; Cooke, dismounted; Gray, pedalled; Stanley ($3\frac{1}{2}$ h.p. Premier), who was only one mark behind Marshall, who should be the winner of the aggregate cup (subject to confirmation), stopped on the hill through a choked silencer. The A.C. tricars driven by Spurrett and Seymour and the N.S.U. and sidecar driven



Competitors at the Red Lion, Banbury, restarting after the luncheon interval. From left to right: E. A. Colliver, W. Cooper, W. F. Newsome, J. Marshall, C. C. Cooke, and P. W. Bischoff.

the carburetter on his $3\frac{1}{2}$ h.p. Premier, F. C. Wood (4 h.p. N.S.U.) strapped on his stand and rear mudguard, C. J. Janssen (2 h.p. Moto-Rêve), who did not appear to understand the rules, washed his engine, etc., with paraffin and oiled the magneto.

Between 2.6 and 2.12 p.m. the whole of the competitors left in the order of their arrival. B. Mariani ($2\frac{1}{2}$ h.p. P. and M.) was assisted to start in the road outside the yard, which is a contravention of the rules. The bulk had already left when Miss Hind, the only lady competitor, who has been absent from the last one or two Quarterly Trials, arrived on her twin Rex. She had suffered considerable delay from a punctured rear tyre. Having no pump, she rode on the rim to Islip, where she fitted a new tube. Snatching a hasty meal at Banbury she was off again in less than fifteen minutes, as, being outside the maximum time, there was no necessity for her to stop the full hour. Near Uxbridge further stops were caused by the breakage of the exhaust lifter, and she then retired.

As usual, times were taken on a second test hill at Amersham. Nowadays, instead of going up Gore Hill, competitors turn to the right, and in the town near the Market Cross right again and make the ascent of the formidable Rectory Hill, which is much steeper than, though not so long as, Gore Hill. At the summit they turn sharp right, and again descend past the station, but this time at the

by Eagles came up well, but B. Weller missed the hill, and went on to Uxbridge.

It was almost dark before the majority reached the finishing point. Though rain fell heavily at times during most of the afternoon, it fortunately ceased during the latter part of the journey.

Subject to confirmation by the judges, non-stop runs or performances in which only traffic stops were recorded, were made by W. Pratt ($3\frac{1}{2}$ h.p. P. and M.), E. A. Colliver ($3\frac{1}{2}$ h.p. Triumph), R. C. Griesbach ($3\frac{1}{2}$ h.p. Triumph), W. Douglas ($2\frac{3}{4}$ h.p. Douglas), A. L. Barker (5 h.p. Clyde), T. H. Tessier (7-8 h.p. Bat), H. Martin (6-7 h.p. Bat), F. W. Dayrell (5 h.p. Bat), F. C. Wood (4 h.p. N.S.U.) H. Bevir ($3\frac{1}{2}$ h.p. L.M.C.), B. V. Jones ($3\frac{3}{4}$ h.p. twin Premier), J. Marshall ($3\frac{1}{2}$ h.p. Triumph), W. F. Newsome ($3\frac{1}{2}$ h.p. Triumph), P. W. Bischoff ($3\frac{1}{2}$ h.p. Triumph), C. J. Janssen (2 h.p. Moto-Rêve), H. Newey ($3\frac{1}{2}$ h.p. L.M.C.), J. Seymour (5-6 h.p. A.C. tricar), R. Spurrett (5-6 h.p. tricar), B. A. Hill ($2\frac{3}{4}$ h.p. Douglas), J. Harwood ($3\frac{1}{2}$ h.p. Triumph), and F. W. Applebee (5 h.p. Rex).

Trouble was experienced by the following: B. Mariani ($2\frac{1}{2}$ h.p. P. and M.), assisted machine Rectory Hill; G. T. Gray ($3\frac{1}{2}$ h.p. N.S.U.), traffic stop near Aylesbury, and stopped to lend competitor spanner (non-stop under consideration); F. Smith ($3\frac{1}{2}$ h.p. Clyno), stopped Rectory Hill; H. Williamson ($3\frac{1}{2}$ h.p. two-stroke Rex), puncture and belt

The A.C.U. Quarterly Trials.—

trouble; G. L. Fletcher (2½ h.p. Douglas), broke belt fastener Wheatley and Rectory Hill; E. Clark (2½ h.p. Douglas), failed to start bottom of Dashwood Hill; G. E. Stanley (3½ h.p. Premier), stopped Rectory Hill, silencer choked; R. M. Brice (3½ h.p. Brown), stopped Rectory Hill; W. Cooper (3½ h.p. Triumph), broken belt fastener near Banbury; T. A. Womersley (3½ h.p. Premier), sleeve of carburettor loose foot of Dashwood and Banbury; C. Cooke (3½ h.p. Triumph), stopped Rectory Hill; C. Cross (3½ h.p. L.M.C.), stopped Rectory Hill; W. Smith (3½ h.p. Scott), fouled plug foot of Dashwood; A. R. Abbott (3½ h.p. Triumph), stopped Rectory Hill; O. C. Godfrey, stopped Rectory Hill; F. A. Applebee (3½ h.p. Rex), stopped Rectory Hill; B. Weller (5-6 h.p. A.C. tricar), missed hill at Amersham; C. Broughton (5 h.p. A.C. tricar), air lock in petrol pipe, Adderbury; J. Portwine, needle valve stuck Dashwood, chain off near Bicester; and F. Eagles (6 h.p. N.S.U. and sidecar), puncture at Wycombe.

Those who retired were: Miss Hind (5 h.p. Rex), exhaust lifter broken; W. S. Ayling (2½ h.p. Blumfield), accumulator failed three miles from Uxbridge; 3½ h.p. James, exhaust valve broken Dashwood, and other troubles; J. Weller (5-6 h.p. A.C. sociable), stopped up petrol pipe and burst back tyre; nothing was heard of V. Underhill (3½ h.p. L.M.C.) after he left Banbury; G. West (5 h.p. Rex and sidecar), gear rod broken, arrived outside maximum time; as did also J. Davis (6 h.p. Phänomen and sidecar), who experienced lamp trouble.

A telegram from the R.O.M. Co. reads: "Over forty per cent. of those who made non-stop runs used R.O.M. tyres."



M.C.C. Gymkhana. Capt. Sir R. K. Arhuthnot, Bart., R.N. (3½ h.p. Triumph), scratch, awaiting F.T. Bidlake's word to start. The captain made the fastest lap of the day in all classes. A 24 h.p. car was next in order of speed.

A.C.U. ANNUAL RACE MEETING.

The annual race meeting of the Auto Cycle Union will be held at the Canning Town track on Saturday next, 23rd October, when an interesting programme of motor cycle races will be carried out. The leading track riders will be competing, including H. A. Collier (the winner of the recent

Tourist Trophy Race), C. R. Collier, H. Martin, and H. V. Colver. The track is very accessible from all parts of London, as there is a continuous service of electric trains to West Ham Station, which adjoins the track. We are afraid that owing to such short notice the entry list will suffer.

CLUB NEWS.

Bradford M.C.C.

The last reliability trial of the year was held on the 9th inst. The prize was a gold medal presented by the Royal

Automobile Club to all affiliated clubs having a membership of over seventy-five. The course was secret, a committee of three being deputed to arrange the course and time sheets for competitors. Watches were sealed as in the last few trials, the official starter wiring and stamping seals as each man had his route and time card handed to him. The route worked out as follows: Bradford, Howarth, Colne, Skipton, Clitheroe, Whitwell, Trough of Bowland, Lancaster, Garstang, Preston, Chorlton, Bolton, Bury, Rochdale, Little-



Quarterly Trials. The only lady competitor, Miss Muriel Hind (5 h.p. Twin Rex) at Banbury. She made only a brief halt here, having lost time on the journey from Uxbridge.

borough, Blackstone Edge, Sowerby Bridge, Halifax, finish Odsal Bank Top, Bradford.

The checking was not easy, as the checkers were not cognisant of the course until the start. Eleven checks were taken, and the finish is declared as follows:

	Points lost.
1. T. Bullus (3½ h.p. Phelon and Moore)	0
2. F. Scriven (3½ h.p. Rex T.T.)	1½
3. C. Sidney (3½ h.p. Phelon and Moore)	9

Walthamstow M.C.C.

Owing to the bad weather the Clacton run has been postponed until the 24th inst., starting at 9.30 sharp. A paper-chase will be held on November 6th. Three prizes will be given by the hon. sec. First motor bicycle; first sidecar and tricar over 4 h.p.

Oxford M.C.C.

A members' hill-climb was held on Trondown Hill on the 14th inst. The single event was won by F. Alden (3½ h.p. Triumph), whose figure of merit worked out at 68.9. F. Cooper (5 h.p. Vindec) heading the multi-cylinder class with a figure of 19.6. The A.C.U. formula was used. There were eight competitors.



The judges at the M.C.C. Brooklands Gymkhana. Charles Jarrott (in centre) and R. H. Hall on the right.

Western District M.C. (London).

The paperchase held by the club last year having met with great success, a similar event will be held on the 24th inst., meeting at the Milford Hotel, Isleworth, at 10 a.m.

WINTER OR SUMMER,

the rider of good taste with a desire to
be in the front rank selects the

BAT

With
SPRING
FRAME
and FORKS,

on account of its general excellence.

IT IS a motor cycle so ingeniously constructed as to entirely isolate the rider from all vibration—so symmetrically designed as to command admiration from even the “man in the street”—so powerful as to literally eat up the chosen steepest hills in the country—so speedy as to show “a clean pair of heels” to all other makes—so flexible as to be observed daily threading its way through the densest city traffic, and withal so reliable as to emerge from the most severe 1,000 miles reliability trial ever held without so much as an adjustment.

WE
FIT

J.A.P. ENGINES.

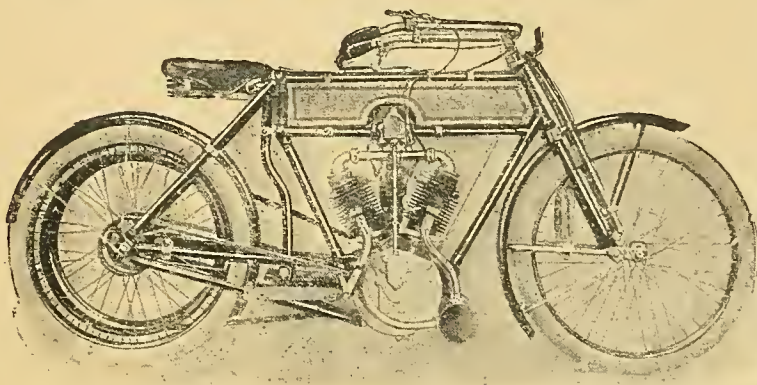
AUTOMATIC LUBRICATION.

GEAR DRIVEN MAGNETO IGNITION,
ENTIRELY PROTECTED IN TANK.

What we do not fit has much to do with
making the BAT so superior.

WRITE FOR LISTS.

The BAT Motor Manufacturing Co.,
Penge, London.



3½ h.p., £47 10s.; 5-6 h.p., £58; 7-8 h.p., £60.

HUNT'S, The City Motor and Cycle House, NEWGATE STREET, LONDON, E.C. Great Annual Sale, Commencing Friday, Oct. 1st.

Bargains in the Motor Cycle Department.

OUTER COVERS.

Special clearance line of 26 x 2½ in. beaded Continental Covers. Sale price, 17/11 each.

Clincher Rubber-studded Covers, 26 x 2 in. or 26 x 2½ in. Sale price, 27/11.

The Grose Steel-studded Cover; a good non-skid for winter riding. Sale price: 26 x 2 in., 29/6; 26 x 2½ in., 32/6; 26 x 2½ in., 37/6.

CARRIERS.

The Lyett Tubular Rear Carrier; size 22 x 8 in. Sale price, 5/6.

MAGNETO COVERS.

The “Hunt,” best enamelled leather. Sale price, 1/10½.

TOOL ROLL.

The Compact, to carry in toolbag, leather, size 15 x 7½ in. Sale price, 2/9.

SADDLES.

Lyett Coil Spring, size 11 x 10 in. Sale price, 7/11.

“ ” ” 12½ x 11½ in. “ 10/6½.

GOGGLES.

The All Rubber, with two sets glasses. Sale price, 1/8½.

HANDLE-BARS.

Long 22 in., stem ½ in. or 1 in. Sale price, 6/3.

ACCUMULATORS.

The “Hunt,” guaranteed. Sale price: 15 amp., 3½ x 2 x 5½ in., 9/6; 20 amp., 4 x 2 x 6 in., 10/6; 40 amp., 4 x 3½ x 6½ in., 17/6.

HANDLE-BAR MIRRORS.

Size of convex mirror, 3 in. Sale price, 4/9.

“ ” ” 4 in. “ 5/9.

PLUGS.

Mica. Sale price, 10½d. The Oleo, 1/4. Magneto ditto, 2/11.

SPANNERS.

Motor Cycle Box Spanners, per set. Sale price, 2/3½.

The King Diok No. 2. Sale price, 3/4½.

The Seabrook, plated, length 9 in. Sale price, 2/3.

CLOTHING.

The North Road Double Texture Waterproof Overalls. Sale price, 18/11.

Double Texture Waterproof Coat to match same, with collar, rain and windproof sleeves. Sale price, 19/3.

Single Texture Waterproof Overalls. Sale price, 4/11.

Single Texture Coat to match same, 12/11.

GAUNTLETS.

Best Cape Tan (lined). Sale price, 4/11.

HORNS.

Three-note Fanfare Sale price, 6/3.

Treble-twist Deep-note Foghorn 5/11.

Ditto, small size 4/11.

EXHAUST SYREN.

Plated, size 1 in. Sale price, 9/6.

LAMPS.

“Puleo” 4½ in. Lens Mirror Head Lamp, complete with four-hour generator and tubing. Sale price, 18/11. Equal to any lamp costing 30/-.

The Hunt Tricar Petroleum Lamp. Sale price, 7/3.

OILCANS.

The “Puleo,” brass or plated. Sale price, 8½d.

VOLTMETERS.

The “Reliable.” Sale price, 2/11½.

The “Auto.” 3/11½.

WATCH AND CASE.

The Acme, for fitting to handle-bar, with guaranteed watch. Sale price, 7/6½.

TEST LAMPS.

Special line. Sale price, 10½d.

EXHAUST VALVE SPRING REMOVER

The Hunt. Sale price, 2/3.

The “Duco.” 2/4½.

OIL PUMPS.

Plated, length 3½ x 1½ in. Sale price, 3/4½.

CARBIDE.

Best quality. Sale price, per lb. tin, 4d.

Postage and carriage extra on all sale goods. Illustrated sale list post free.

In answering these advertisements it is desirable to mention “The Motor Cycle.”

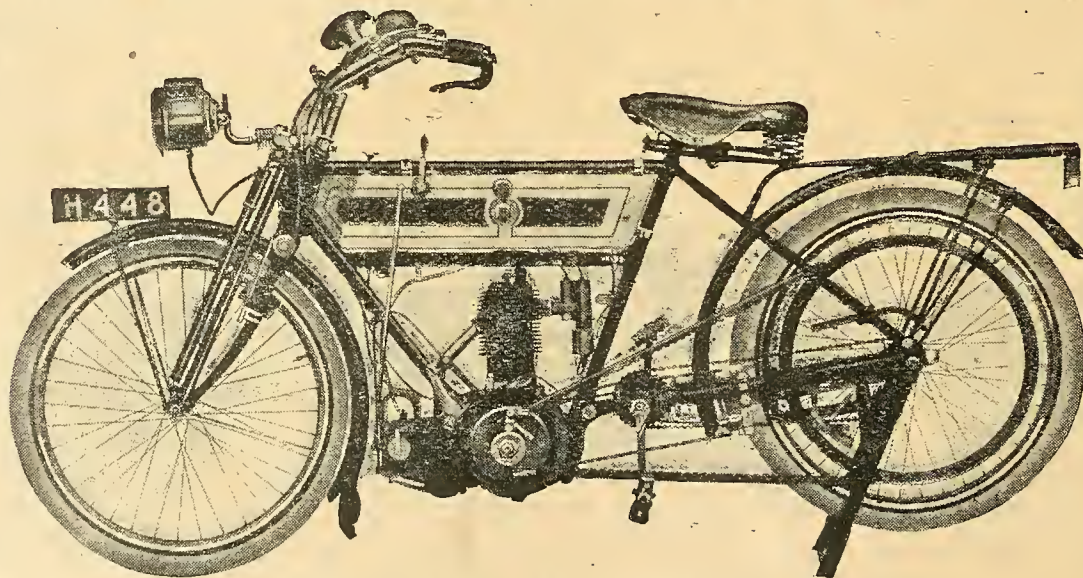
Sole Manufacturers: THE HANOVER RUBBER CO., 29/31, Old Street, LONDON, E.C.

Yours faithfully,
H. COLLIER & SONS, Ltd.

Lists on application.

THE GRADUA GEAR has scored a first place in every Hill Climb in which it has competed on Formulæ of efficiency.

COVENTRY HILL CLIMB - - FIRST	HERTS COUNTY A.C. HILL CLIMB FIRST
BARNSELY HILL CLIMB - - FIRST	OXFORD v N.W. LONDON - - FIRST



Suitable for
all weathers.

Any gear for
any road.

Multiplicity
of gear ratios
with mini-
mum work-
ing parts.

The **Gradua Gear** has a fine all round record for reliability, speed, hills, and traffic work

Converted TRIUMPH, gear operated by Pedals
12 Gns. (fitted).

Both Zenith and Zenette (spring frame) Gradua machines are on view at Sherwell's, 46, York Street, Westminster.

ZENITH MOTORS, Ltd.,

WEYBRIDGE. (Phone No. 4.)

In answering these advertisements it is desirable to mention "The Motor Cycle."

Club News.—

South Manchester M.C.C.

The winter programme was commenced with a "smoker" in lieu of the usual monthly meeting, members being invited to bring a friend with them. It proved a great success, and a most enjoyable evening was spent. It is intended to hold some similar gatherings during the winter months.

North-west London M.C.C.

The gymkhana, held on the 9th inst., proved most enjoyable, although, owing to a misunderstanding, operations were not commenced until 4.30 p.m. However, once started, the four events were run off quickly. The winners of the different competitions, subject to being passed by the committee are: Potato race.—F. G. Blundell ($3\frac{1}{2}$ h.p. Triumph). Egg and spoon race.—F. G. Blundell ($3\frac{1}{2}$ h.p. Triumph). Plug-changing competition.—E. A. Colliver ($3\frac{1}{2}$ h.p. Triumph). Balloon race.—P. Goddard ($2\frac{3}{4}$ h.p. Douglas).

Sheffield and Hallamshire M.C.C.

The finals of the Sheffield-Holyhead-Sheffield reliability trial took place over a fifty miles course in Derbyshire, and resulted in a win for J. Haslam ($2\frac{1}{2}$ h.p. J.A.P.), who takes the club shield and gold medal. J. N. Dunstan, of Doncaster, on a $3\frac{1}{2}$ h.p. Rex, takes the second prize, value £22s. The ride proved most trying to the two competitors concerned, as after the first twelve miles the roads were in a terribly greasy condition, and the rain coming on pretty heavily did not improve matters.

The closing run was held on the 9th inst. to Thornhill, Tamworth and Derbyshire, where a football match was arranged between Mr. Dover's and Mr. Haslam's elevens. This proved most exciting, resulting in a win for Mr. Haslam's side by seven to five.

The club having taken up strongly the question of "The

Autocar League," recommends all motor cyclists to fill and send in the necessary form to the secretary of "The Autocar League" as a very big step in the right direction.

Sheffield motorists are hereby advised that a lecture on magnetos will be given by Mr. Bennett, of the Bosch Co., on Thursday, November 4th, at headquarters, the King's Arms Hotel.

Richmond and District M.C.

At a meeting of the committee held on the 13th inst., at Dr. Paul's residence, it was decided to hold the annual dinner on Wednesday, November 17th, at the Trocadero Restaurant, Piccadilly Circus, W., at 7 for 7.30 p.m. It is hoped that this, the last event of a very successful season, will be the occasion of a record gathering of members and friends, and the hon. sec., Mr. H. C. King, Walton House, Surbiton Road, Kingston-on-Thames, will be glad if members will advise him at the earliest possible moment as to the probable number of their party, as it will be of great assistance to the furtherance of the arrangements. The presentation of the cups and medals will be made to the various successful members.

Coventry and Warwickshire M.C.

At a committee meeting of the above club, held on Wednesday last, it was decided to hold the annual dinner about the second week in January, when the cups and prizes won during this year will be presented to their respective winners. Mr. J. Van Hooydonk has kindly consented to give a lantern lecture on the Holyhead Road early in December. This will be of special interest to the Coventry club on account of the two successful Coventry to Holyhead runs which were held last year and this year. Several suggestions from members were considered regarding novel competitions, and an announcement will be made at a later date, when the committee has decided exactly what form they will take.

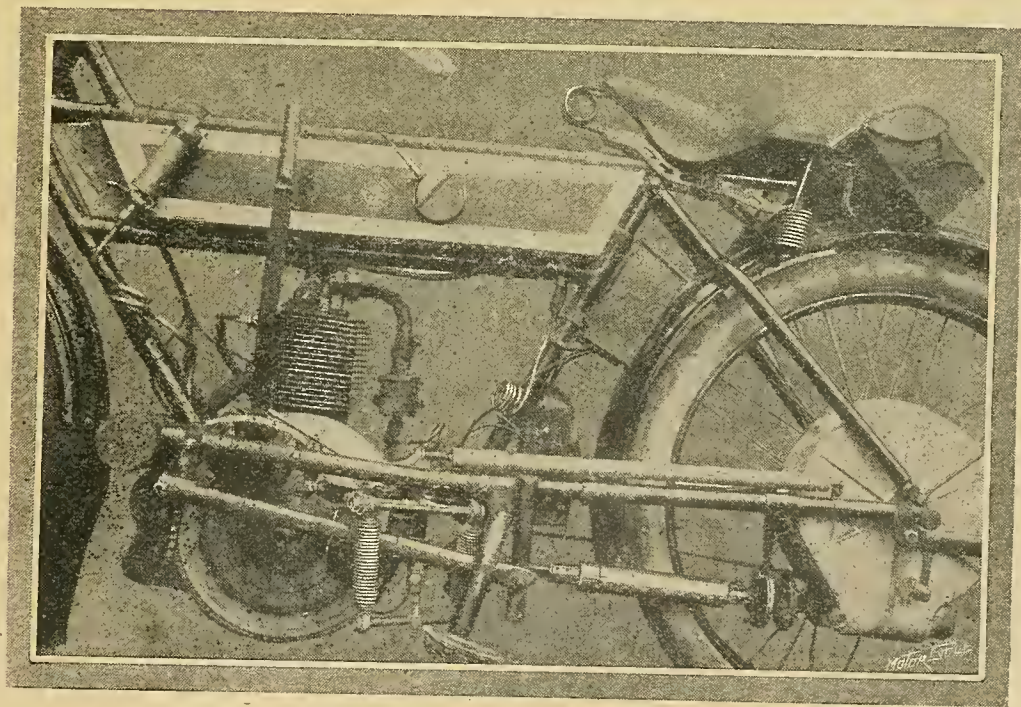
AN INFINITELY VARIABLE GEAR.

SO far, designers' attempts to solve the change-speed gear problem of the motor bicycle have been confined to two-speed devices, with the exception of gears like the Gradua, Osborne, etc., which are variable by means of an expanding and contracting pulley. A week or two ago I was shown a specially-built motor bicycle, which has a friction drive giving gear ratios from zero to about 10 to 1, and the design certainly has possibilities. The machine and its drive are illustrated herewith. One great advantage of a gear of this kind is its extreme simplicity. There are no gear wheels of any kind used or necessary, although on the machine under notice a worm drive is employed. But here is the fly in the ointment. As its name implies a friction drive is really two surfaces rubbing past one another, and we all know how great must be the amount of pressure necessary to enable a revolving disc to rotate another disc and propel a motor bicycle and rider by friction alone. Of course, the amount of frictional resistance depends largely on the nature of the materials in contact and the sizes of the driving and driven members, and Mr. S. R. Ridgway, who designed and demonstrated the bicycle illustrated in my presence, claims to have discovered the most suitable materials for the purpose, both as regards wear and efficiency.

However, there are still considerable improvements to be made in the way of reducing the power absorbed by the drive, for the 80×80 mm. engine refused to climb a certain 1 in 8 hill unless the gear ratio were very low indeed.

Still, Mr. Ridgway's machine is deserving of much

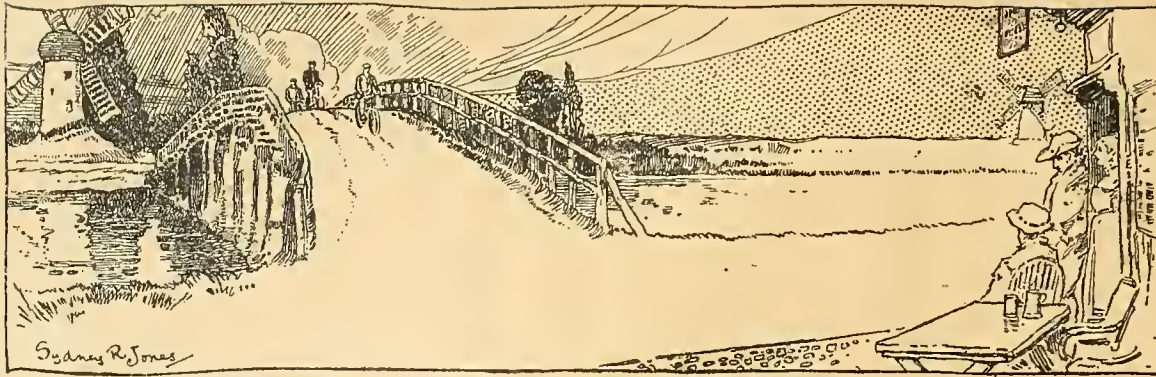
praise, and I have no doubt the illustration will interest many in view of possible developments. The propeller-shaft is telescopic, allowing the position of the friction roller at the end of it to be altered in relation to the driving disc, i.e., the nearer the driven roller is moved to the centre of the disc by the operating lever shown, the lower is the gear ratio. The amount of



A variably-g geared friction-driven motor bicycle made by Ridgway & Co., Birmingham.

pressure of the rubbing surfaces can be varied by a foot lever working over a ratchet (this lever is on a line with the magneto in the photograph), and by this same lever a free engine can be obtained. Readers desiring further details should write Mr. S. R. Ridgway, Coventry Road, Birmingham.

IXION



LETTERS to the EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A Simple Carbide Carrier.

[4309.]—The ordinary long carbide tin (circular), if covered with a section of 2½ in. old inner tube of its own length, and strapped, say, to down tube with a couple of boot straps, looks neat, and forms the most efficient carbide carrier possible.

AW 2.

The Interest in the T.T. Race.

[4310.]—In the issue of October 6th I notice "Road Rider" says that "motor cyclists as a body do not take a very keen interest in the T.T. Race, and make a poorish response to the appeal for subscriptions to defray its expenses." Whilst this is no doubt true of motor cyclists as a body, perhaps it will interest you to know that, besides doing our little bit towards meeting the expenses of the T.T. Race, no less than over one-third of our members were present to witness the race. I wonder whether any motor cycle club can beat this. It is needless to say that they all thoroughly enjoyed the race, and declare it to be the most sporting event they have ever seen.

F. DOODSON,

Hon. Sec. South Manchester M.C.C.

Hill Climbing.

[4311.]—It may interest motor cyclists to know that a gradient of 1 in 2½, with an extremely bad surface and practically no start (because it is in a lane at Ravenraig Castle, rising from the beach at Kirkcaldy), was surmounted on Saturday, October 2nd, by Mr. R. Robertson, jun., of Kirkcaldy, on a 6 h.p. twin Rex in standard touring form, including stand, lamp, and horn.

Mr. Robertson would like very much to see another motor cyclist attempt the incline. The following persons witnessed the ascent: Mr. Sinclair, Rosslyn Street; Mr. McIntyre, Rosslyn Street; Mr. Nicoll, Carlyle Road; and myself, all of Kirkcaldy.

JOHN MIRTLE REDPATH.

Road Dangers at Night.

[4312.]—I wish to bring to your notice a case which may be of interest to other motor cyclists. I was recently returning from Halstead to Brentwood on my 5 h.p. 1909 Rex, when I ran into a herd of cattle which were wandering about the road in charge of a man who had had quite enough to drink. The results, which might have been much more serious, were a good shaking and damage to the extent of £2 to my motor bicycle. I was riding very slowly and had a good lamp (Premier), but the cattle were impossible to see until I was right on them; it was only by shouting at the top of my voice that I prevented a small car from following suit, as the driver pulled up within inches of the herd. I know of at least one other case of the same sort, and it strikes me that this practice of driving large herds of cattle on the road at night with no warning light is a highly dangerous one. Could not one of the big motoring associations communicate with the county council authorities to pass some byelaw compelling drivers to carry a lamp in front and in rear of the herd they are driving? The law of the road as regards lamps applies to every vehicle, which has to keep to one side, whereas cattle are all over the road, and drovers are not compelled to carry a light.

CF 417.

[More than one attempt has been made to induce county authorities to issue a byelaw compelling cattle drovers to carry lights after dark, but so far without success. United action is the only way to secure this much-needed reform in the lighting laws.—Ed.]

Inconsiderate Driving.

[4313.]—Re inconsiderate action of car drivers towards motor cyclists, on Tuesday, Oct. 5th, at about 4 p.m., when about three miles out of Sheffield, going towards Worksop, I met, coming towards me, a large car, travelling at well over the legal limit, and on the wrong side of the road. Although about 200 yards away when first sighted, the driver still held on, forcing me to take to the ditch at the roadside, which resulted in a bad skid and fall. Luckily, I came off with a few slight scratches, but my motor cycle was rather severely damaged about the front wheel and forks. The car proceeded as though nothing had occurred.

ALEX. McWILLIAM

[We are confident that many motor car drivers know that motor bicyclists have great difficulty in preventing a skid slip on greasy surfaces if they are forced on to the side of the road. Nevertheless, we publish the above letter with the hope that those who are unaware of it, and may happen to read Mr. McWilliam's letter, will give motor cyclists the room they can when meeting or overtaking them.—E]

A Reply to a Challenge.

[4314.]—We have read Messrs. Collier and Sons' challenge, which appeared in *The Motor Cycle* of October 13th. It strikes us that if any challenge were to be issued the one of same rested with us, seeing that the Matchless machine won the Tourist Trophy Race, with the Indian second. We should think, however, in view of the fact that the Indian won the hill-climb the following day for multiple cylinder machines that competed in the T.T. Race, honours are somewhat even, though possibly in favour of the Matchless, owing to the one event being of more magnitude than the other. As regards comparisons as to efficiency, we can only think that the official handicapper of the A.C.U. must have voiced the general opinion expressed when he essayed to put Mr. G. Lee Evans on his 714 c.c. Indian on the same mark with Mr. H. A. Collier riding a 964 c.c. Matchless, giving Mr. C. R. Collier on his 738 c.c. Matchless 10s. and Mr. H. V. Colver on a 964 c.c. Matchless 20s. at the Brooklands meeting.

Now that our London depot is open we are quite too busy for the balance of this year to indulge in any more racing, but we hope to have the opportunity of meeting the Matchless machines in open competition another year, both at Brooklands and also in the T.T. Race.

HENDEE MANUFACTURING CO.,

W. H. WELLS, Manager London Depot

The Inspection of Our Roads.

[4315.]—The Royal Automobile Club, Automobile Association, Auto Cycle Union, Motor Union, National Cyclists' Union, Cyclists' Touring Club, and the Roads Improvement Association do their best to safeguard the rights of road users by erecting warning boards, direction posts, etc., on our roads—work which the different county councils should do, but do not till someone is killed.

In my ramblings throughout the United Kingdom I have been impressed by the lack of such warnings and directions whilst those one sees generally need repainting. Until a happy day when all roads are nationalised, it is useless expecting the local authorities to do their duty in this matter. Hence I venture to suggest, with much diffidence, that all associations enumerated above combine, and have a permanent staff of road inspectors, whose duty it would be to travel the country and report on the condition, or absence

TWO WORLD'S RECORDS BROKEN ON ROM (ALL-BRITISH) TYRES

"Mr. G. Lee-Evans, riding a single-cylinder INDIAN motor cycle, broke the World's 100 miles and 2 hours' record at Brooklands, 9th October, 1909, for single-cylinder machines of under 500 c.c., completing the 100 miles in 1 hr. 54 mins. 19 $\frac{3}{5}$ secs., and covering 105 miles 60 yds. in 2 hours."

STANLEY SHOW,

STAND No. 61.

THE ROM TYRE & RUBBER CO., LTD.,

Telephone: 1513 Holborn.

Telegrams: "Romdom, London." **31, Brooke St., Holborn, London, E.C.**

MANCHESTER—Brown Bros., Ltd., Deansgate.

EDINBURGH—N.S.U. Scottish Agency, 167, Morrison Street.

PRESTON—Lancashire Motor Co., Ltd., County Garage, (opposite Central Station).

BIRMINGHAM—Thos. Clayton & Son, Ltd., 125-6, New Street.

LEEDS—A. J. Greenwood & Co., 39, Guilford Street.

N.E. LONDON—Godfrey & Applebee, 165a, Hoe St., Walthamstow.

LINCOLN—W. J. Binks & Co., St. Benedict's Square.

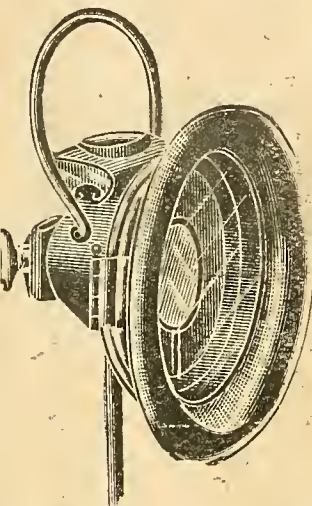
NEWCASTLE-ON-TYNE—The Percy Cycle Co., Northumberland Street, South Shields.

GREAT AUTUMN SALE NOW ON.

GAM

WONDERFUL BARGAINS IN MOTOR

MOTOR CYCLE LAMPS.



The 'HOLBORN'
Condensing Lens
Motor Cycle or
Tricar
Headlight.

Complete with
separate genera-
tor and length of
tubing.

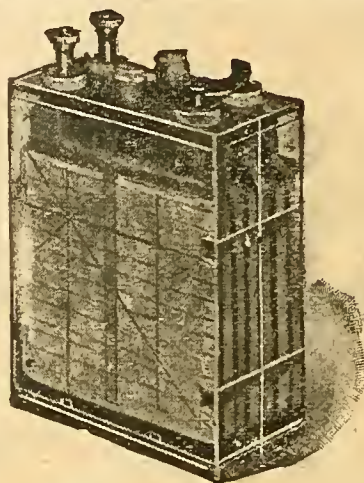
Sale Price,
11/9.

List Price, 15/9.

Ditto, without
condensing lens.

Sale Price,
complete,
9/11.

Our List Price,
11/9.



Clearance of High-class Accumulators

20-amp.
Accumulators
Guaranteed first class.

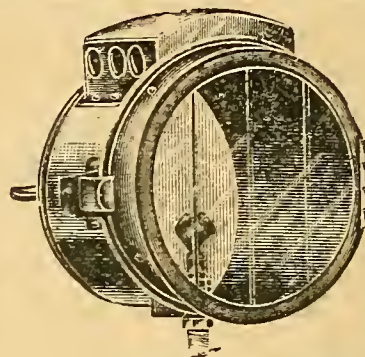
Sale Price 10/6

Usual price, 21/-

3 doz. 40-amp.
Accumulators.

Sale Price 17/6

Usual price, 35/-

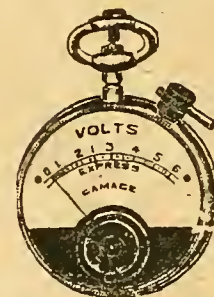


**The Lens
Mirror.**

Motor Cycle
Headlight,
complete with
generator.

Sale Price,
15/6.

VOLTMETERS.



The "Express."
SPECIAL BARGAIN PRICES.

Sale Price, 6/3.

Usual Price, 8/6.



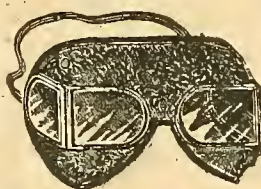
The "Special."
Sale Price,
2/6.

Usual Price, 3/6.

**The
Side-Window
or Four-Glass
Goggle.**

With detachable
glasses and leather
shield.

Sale Price,
8d.



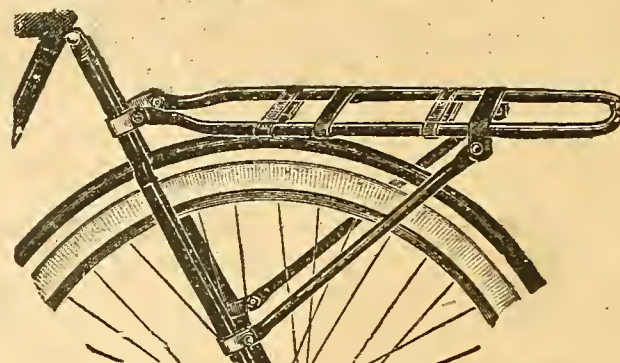
Sold elsewhere at 1/6.



**The
Famous
All-Rubber
Goggle.**

With plain and
smoked detach-
able glasses.

Sale Price, 1/3. Usual price, 1/9.



LYCETT'S TUBULAR CARRIER,
including straps.

Sale Price, 5/3. Usual price, 6/6.

SPECIAL LINE.
**MARVELLOUS
VALUE.**

Sale Price, 4½d.



**The
'Holborn'
Plug.**

A thoroughly reliable little Plug which does not sputter or short; nicely finished and of the best materials. As good a Plug as anyone could wish for, and at manufacturers' price. When you buy a "Holborn" Plug, you do not pay for a fancy name, you get a shillingworth of plug. Try a "Holborn" next time. Complete with 1/- cap and washer.

A user says: "I had one of your "Holborn" Plugs some time ago, which has given every satisfaction, having run it over 1,000 miles."

Sale Price, 9d.

**The "BRITISH"
Plug.**

British make, does not sputter. Every Plug guaranteed. Extra strong Electrodes and best porcelain.

Sale Price 1/3.

Usual price, 1/9. Post 3d.



SPECIAL LINE.

**Motor Cycle
India-rubber**

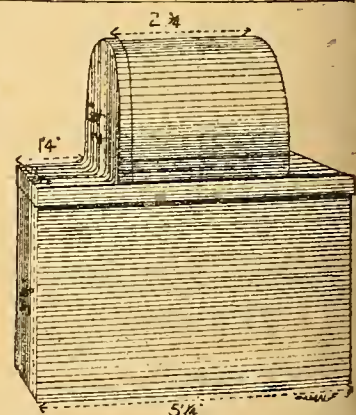
**Magneto
Covers.**

Grand value.

Sale Price,

1/6.

Usual Price, 2/6



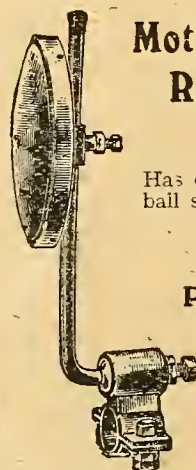
Motor Cycle Handle-bar Reflecting Mirrors.

The "Kingston"

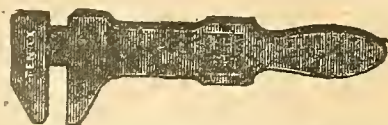
Has convex 4in. brilliant mirror, with ball socket adjustment, with security fixing bolt.

Very substantial.

Price 5/6. Post 4d.



See what is behind you,
including police traps.



A few dozen only to clear of the famous
"TENAX" Spanner.

Sale Price, 1/9. Usual price, 2/6.



Flat-Nosed Pliers.

Sale Price, 1/-. Usual price, 1/6.

**SALE CATALOGUE GRATIS AND
POST FREE ANYWHERE.**

A. W. GAMAGE, LTD.,

In answering this advertisement it is desirable to mention "The Motor Cycle."

SALES 14 DAYS ONLY.

CYCLE ACCESSORIES AND CLOTHING.

Special Reductions in Motor Cyclists' Clothing.

An opportunity not
to be missed.



or Reece
in Smart Tweeds
Homespun, leather
through body and
of coat, and
lined throughout

with fixed leather
lining.

Price, 35/11

Fitted with detachable leather lining.

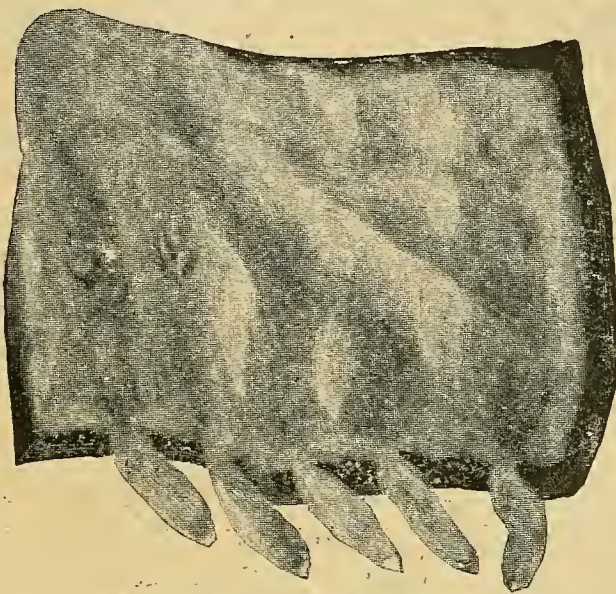
Sale Price, 39/11

The suit consists of Jacket and Breeches.
Send size round chest and waste.



CLEARANCE OF FUR MOTOR RUGS.

Fur Rugs at Summer Prices.
ADMIRABLY ADAPTED FOR TRAILERS AND TRICARS



Fur Rugs at Bargain Prices.

	Sale Price.	Usual Price.
10 Grey or Black Goat Motor Rugs, full size	39/9	50/-
3 only Wolf Skin ditto	49/9	65/-
10 only selected Wolf Skin, ditto, a splendid line	57/6	75/-
6 only Jackal Rugs, a very handsome rug, a bargain	61/6	70/-
3 only Hamster Fur Motor Rugs on Fringed Shawls	69/9	84/-
10 only extra large size Dyed Goat Skin Motor Rugs, sable brown	84 6 9	£5 0 0
3 only Black Kid Fur Rugs on Check Shawls	31/9	50/-
5 Grey Coney Fur Rugs on Shawl, a very handsome rug	83/9	£5 5 0
3 only selected Hamster Fur Motor Rugs on Fringed Shawls	88/6	£5 10 0



ODD LINES IN MOTOR CYCLE JACKETS.

41 Grey Frieze Jacket .
Lined Fleece, as illustration.

Sale Price, 20/11

28 ditto, superior quality.
Sale Price, 27/9

51 ditto, lined leather
through body and sleeves.
Sale Price, 22/11

28 ditto, superior quality,
lined leather through body
and sleeves.

Sale Price, 31/9

28 Grey Frieze with detach-
able leather lining.

Sale Price, 37/9

7 only Irish Frieze, lined
with fixed Chrome leather.

Sale Price, 42/9

Send size round chest over
vest.

SPECIAL ODD LINES.

2 Leather Jackets, lined
tweed with fur collars.

6 ditto, assorted tan or
black, fur lined.

Sale Price, 31/9 each.

Worth £3 to £6 6s.

Suits in Coloured Leather Waistcoats.

Tan Coloured Serge Waistcoats, lined throughout
in leather, 40 and 42 in. chest, slightly soiled.

Sale Price, 7/11 Usual Price, 25/-

Leather Waistcoats, double-breasted and long sleeves,
throughout. All sizes, 36 to 44 chest.

Sale Price, 25/8 Usual Price, 30/-

Coloured Leather Waistcoats in Tan, Green, and
Brown Shades. 36 and 38 in. chest only.

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Waistcoat, with sleeves lined right through with
leather. Sizes 36 to 44 chest.

Sale Price, 23/11 Usual Price, 32/6

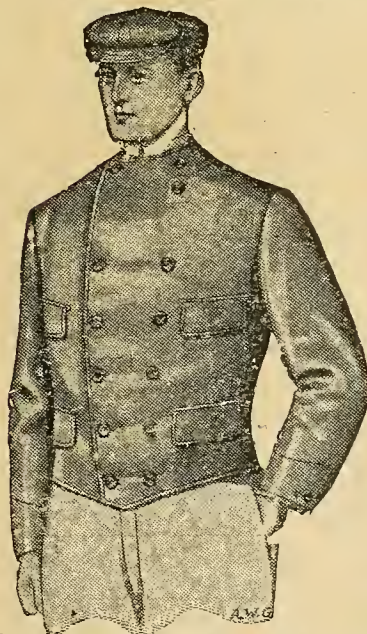
Motor Waistcoats in Canton and Feltine, lined fleece,
warm and comfortable. Size 38, 40, and 42 in. chest.

Price, 15/9 Usual Price, 21/- to 25/-

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Give size round chest when ordering.



Clearance of Black Leather Waistcoats.

126 Double-breasted
Black Leather
Waistcoats, with
full-length sleeves,
and warmly lined.
All sizes, 36 to 44 in.
chest.

Sale Price, 18/9

89 ditto, superior
quality, can be worn
open at neck, if re-
quired. All sizes,
36 to 44 in. chest.

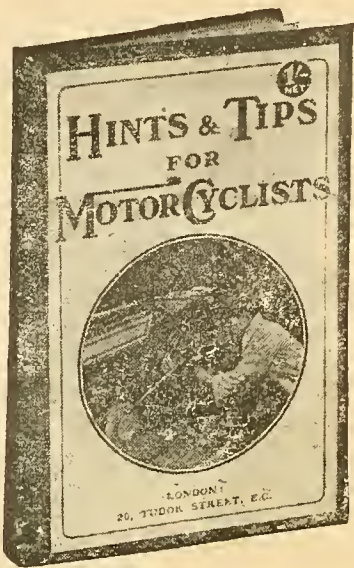
Sale Price, 24/11.

Usual price, 30/-

Send size round chest
when ordering.

OLBORN, LONDON, E.C.

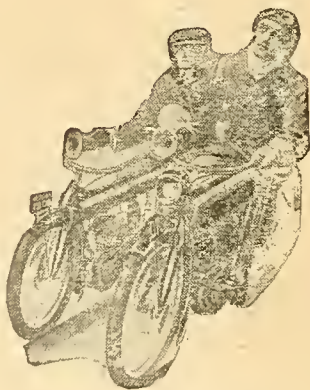
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Please send me one copy of "Hints and Tips for Motor Cyclists." Remittance value 1/2 herewith.

Name.....

Address

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In answering this advertisement it is desirable to mention "The Motor Cycle."

warnings, direction posts, repaintings required, etc. £6 weekly (£3 salary and £3 expenses) would cover the cost of each inspector. Travelling on a motor cycle, he could thoroughly inspect seventy miles of road daily. Detailed reports would be sent to headquarters weekly. Then the organisations above named would each bring pressure to bear on the local authority concerned; complaints from so many powerful organisations would convince the powers that be that a grievance did exist. A private individual is set down as a busybody if he suggests (as I have done) that unlighted road metal proves expensive if accidents happen, and that large pieces of broken glass (from a destructor) are *not* ideal top dressings! (I enclosed some businesslike specimens to bear out my allegations.)

BERNARD LORD M. QUILLIN.

English v. French Measurements.

[4316].—In reply to A. A. Scott's letter [No. 4304] in the issue of October 13th, with regard to English v. French measurements, may I put in a plea for the universal adoption of the metric system?

Though quite agreeing with your correspondent that "an absurd and inconsistent medley of measurements" at present exists, I disagree with him when he tries to make out that the British system is sound scientifically. It is not, because the calculations involved with it are too complicated. Further, I do not see that what the general public do or do not understand enters into the question at all, since the average man can no more define "horse-power" than he can "cylinder capacity," and neither conveys much to him. Therefore, we may leave the general public out of the question, which leaves us with only the "particular public," or those interested in or concerned with scientific subjects.

If your correspondent will study modern books on physics, mathematics, and chemistry, he will find very little about the inch or the pound, and a great deal about the centimetre and the gramme; and, further, if he will study the metric system itself, I am sure he will see how eminently it is suited for all scientific and engineering purposes.

There is a definite and simple relation between the unit of volume (1 cubic centimetre) and the unit of mass (1 gramme), in that 1 c.c. of water at 4° C. has a mass of 1 gramme. There are equally simple relations between the erg (unit of energy), dyne (unit of force), calorie (unit of heat), watt (unit of power), and the electrical units, so that all calculations are greatly simplified.

In conclusion, may I point out that there is nothing snobbish about the adoption of the millimetre, nor does it come solely from France. The metric system is universally employed on the Continent, and there is nothing to be proud of in adhering to a defunct system of measurement.

R. C. M.

Lubrication.

[4317].—As an engineer, I certainly favour a more efficient method of lubricating a motor cycle engine than the ordinary hand pump and guesswork, so some time ago I made and fitted to my engine an oil gauge. In order to keep the oil level a quarter of an inch up the glass, which I considered about right, I found it necessary to put a pumpful of oil in the crankcase every ten miles, and this on a 2½ h.p. Minerva engine.

The gauge only showed the true depth of oil when the engine had been stopped a short time, and was no use when the engine was running, as the oil circulated from the bottom of the crank chamber, through the gauge, to the top of the chamber in the form of a mist. This could, of course, be overcome by a ball check valve, but I fear a gauge is of no practical use, as my experience shows.

Where I am at present living all rides start and end on a very rough road, and I was constantly being troubled with a broken glass in oil gauge, so finally discarded it, and went on oiling one pumpful per ten miles, but due to the piston getting covered with carbonised oil, I increased the distance, and now inject a pumpful every twenty miles, which I find quite sufficient.

I got the idea of an oil gauge from the high speed steam engines, but when considered, the two cases are not really comparable, as in the steam engine there is plenty of room in the crank chamber, whilst in petrol engines the chamber is almost full of flywheels, and so the oil gets very different treatment. Then, too, in a good enclosed steam engine there is no piston to take away the oil, as distance pieces are fitted,

but in the petrol engine all oil in excess of the ideal amount is splashed on to the cylinder walls and taken into the combustion chamber, there to carbonise and give trouble.

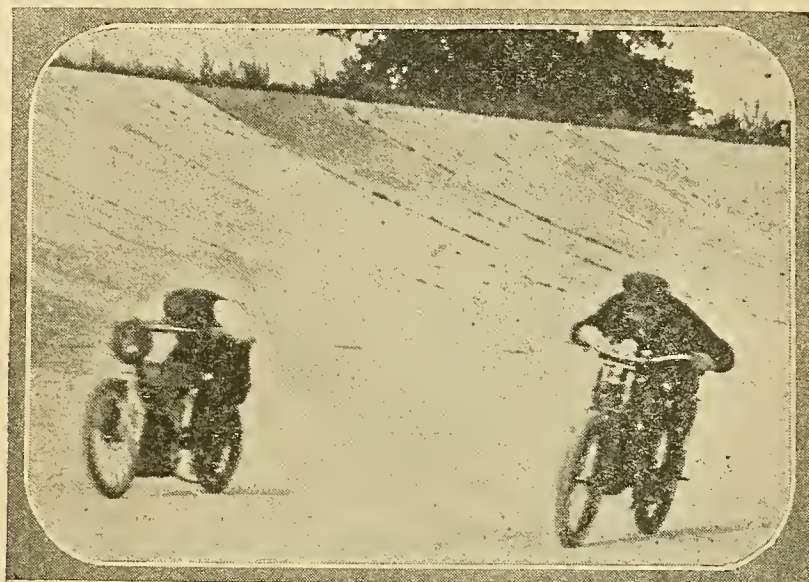
Personally, although I do not favour outside flywheels, I am certainly of the opinion that if such were fitted, and the crank chamber reserved as a crank chamber only, the lubrication would be very much better, and a very considerable saving in oil could be effected. Also in this case, I should think an oil gauge would show the correct or approximately correct depth of oil in crank chamber, as it would not be whisked round as much by a pair of closely fitting flywheels.

In the early days there was an engine of this sort with miniature crank chamber and an outside flywheel; perhaps some readers can say what the oil consumption was. I should imagine it would be very low, and that a carbonised piston would very rarely occur.

F. PERCY SEAGER.

Lightweights v. Heavyweights.

[4318].—I would like to add my experiences on this question. I started motor cycling on a 1905 Triumph, this machine being an excellent mount, only the accumulators were too much for me. I then got a 1907 Triumph, which never gave me one moment's bother, and ran superbly for 16,000-17,000 miles. Lately I took to a sidecar, and, in the language of



In the two hours' record race at Brooklands on the 9th inst., a neck and neck race took place for some distance between W. Krause (V.S. Twin, 672 c.c.) and T. W. Loughboro (F.N., 4-cyl., 448 c.c.)

motor cyclists, this meant a twin and two-speed gear, so I bought a 5 h.p. Vindec.

The Peugeot is a splendid engine for a fast average, and it ran beautifully, my only objection being that it belonged to the non-throttling type. The gears, too, worked perfectly—in fact, it is the best of all two-speed gears.

There is a hint to Vindec riders as regards silencers. Fit a Clair silencer, and the engines are among the quietest, instead of the noisiest, on the road.

The great drawback I could not stand was the weight, also the exertion of starting. Running expenses were just doubled, so I have been compelled to return to what I consider the best of all possible motor cycles.

A Triumph with the Triumph free engine clutch, weighing 110 lbs., would be a perfect mount. I would rather pedal, push, or drag my Triumph up the very few freak hills that it will not climb than have an enormously heavy machine.

The two-speed gear enthusiasts may say I have never tried real hills, where, according to them, a low gear is a necessity; but far from it. I have toured North and South Devon in pouring rain in winter, comment being needless.

After much research I decided the Montgomery flexible was "the best sidecar," and I may add that my short experience with it and its makers has been most pleasant. The point that appeals to me so much about it is that I can attach it or detach it in under forty seconds.

I thoroughly agree with "Own Bat" [letter 4255] in his remark, "There is a doubt about a machine which has travelled 5,000 miles being capable of breaking a 900 miles record." The way in which modern engines wear out is appalling. What is needed is the low compression type.

20,000 MILES.

Analysis of Cylinder Deposit.

[4319.]—The following analysis of cylinder deposit collected during about 1,500 miles may be of interest to your readers.

Oil	...	...	...	...	6.6
Carbon	...	...	...	...	35.3
Oxide of iron	...	...	...	...	27.8
Oxide of copper	...	...	...	...	1.9
Silica	...	...	...	...	21.6
Alumina	...	...	...	...	2.5
Lime (calcium oxide)	...	...	...	...	1.9
Magnesium oxide	...	...	...	...	.5
Carbonic acid, etc.	...	...	...	...	1.9
					100

The oil and carbon speak for themselves. The oxide of iron, which means, in other words, wear and tear of cylinder and piston, seems rather a large percentage, but it must be remembered that only one-third part is iron, while two-thirds are oxygen.

The oxide of copper is curious. Does it come from the sparking plug, or from copper washers, or do some makers themselves put a small percentage of copper in the cylinder order to get a cleaner casting?

Silica, alumina, and calcium oxide of course form the road portion of the deposit, but the magnesium oxide puzzled me for a time. I asked an analytical chemist what he thought of it, and he at once said that I had been riding near Malvern or in Cumberland, in which latter county I had travelled about 100 miles.

I may add that I do not use a gauze between the jet and the inlet valve.

A. T. BROWETT.

An African's Essay on the Motor Bicycle.

[4320.]—The enclosed "essay" on the motor bicycle, composed and typewritten by a local native, may amuse your readers.

A. SHARPE.

Zomba, Nyasaland.

Blantyre Mission, Nyasaland,
British Central Africa,

24th July, 1909.

"Dear Friend,—I am very pleased when I write these few lines, and to remind you that I am still remembering you my dear friend, but I was thinking that you had forgotten me, but I didn't forget you I was still remembering you. I can tell you something new which is in Blantyre here (or Nyasaland) is the 'Motor Bicycle' which you can wonder at its attractive appearance, and its voice of saying puff! puff! puff! through the streets.

"But I cannot explain plainly all about it, because it is very wonderful and splendid thing. Again it is just walking itself without rowing it, if you hear it at a distance suddenly you can see it very near. All of this you can wonder for its quick motion and its manner, you can see a man trembling upon his feet, because he is going out of sight, with his quick bicycle, never stopped just going straight way where it goes.

"I cannot say its running because it is very quick. Now there in Nyasaland are coming miscellaneous things which we had never see them before even our forefathers, thus, you are in fancy in your mind that what can this be, so you will merely looking and said we are only men without sense of making such things, this is un-discribable thing, it seems to me so, we are very anxious not for other thing but its quick motion.

"If you had been here you can have seen it running in the streets, many people are just lying in wait that they may see it with its servant trembling with its quick running.

"I was just to let you things which is done in Blantyre here now-a-days

Yours truly,

"WALTER S. C. LATTAH.

Transmission on Motor Cycles.

[4321.]—I have read with wonder "Seven Years' Experience's" letter [No. 4202]. Surely he can never have ridden the Phelon and Moore motor bicycle. I claim for it after one year's experience on the worst roads in the world: (1.) That the drive is quite smooth enough for anyone. (2.) That it is quite as silent as any belt-driven bicycle. (3.) That it is as easy of repair. (4.) That it is as clean.

The chain-driven bicycle ridden by "Seven Years' Experience" evidently had not the chains encased, which accounts for his flannels becoming speckled. I allow that the chains are a trifle more troublesome than belts to detach and clean, but, on the other hand, adjustment is more rarely needed with a two-speeded bicycle like the Phelon and Moore. There is no necessity to slacken the chain at the end of a journey. Keep it well lubricated with graphite and petrol or oil, and no trouble results. The drive is not more jerky than the belt. More vibration is not transmitted to the rider. It is not more difficult or dirty to repair, and less frequently needs repair. The chain is easily kept at the right tension.

I do not understand what "Seven Years' Experience" means by "should the engine jam?" Does he mean seize? Well, no one with an ounce of experience will allow such a thing to happen.

Personally, I am convinced the chain-driven bicycle as exemplified in the Phelon and Moore is as good as any reasonable rider can expect, and better than the best belt-driven bicycles on bad roads with steep hills. I have never regretted the day when I purchased mine, and would only part with it to-morrow for a later model of the same bicycle or a car. I am nearly 50 years of age, not robust or strong, yet I enjoy motor cycling. I do nearly all my own repairs and adjustments, and know my machine thoroughly, with the exception of the magneto. I find the gears simple, strong, and foolproof. If there is any disadvantage in the cycle, it is that there is more to learn in a two-speed geared machine than in the single gear. But this gear is so simple that anyone can find out all about it in a few hours, and afterwards do all that is necessary to keep it in order without skilled assistance.

A. E. CARTE.

Natal.

SUMMARY OF OTHER CORRESPONDENCE.

Two riders of a Triumph motor cycle and sidecar wish to thank the owner of the Vindec Special and sidecar who assisted them on the road near Polegate on the 10th inst.

"Flag" Patents, Unlimited, write in reference to a wind screen fitted to the sidecar of Mr. F. E. Lee, of Stoke-on-Trent: "In reply to Mr. Briggs's queries we should like to say that we have been making and experimenting with wind screens on sidecars and tricars for the past twelve months. The attachment to the basket or coachbuilt body is simply by means of four screws and nuts, and the method of removing the screen to allow the passenger to get in or out is simplicity itself. With reference to its effect on the power of the engine, this is hardly appreciable, and to prove this we have driven these screens with single-geared engines against a strong head wind, and then swung screen round to side of basket, and have been unable to detect any difference in speed. These practical little screens protect the passenger from cold winds and dust, and render the use of goggles unnecessary. We shall have some models on view at the coming Stanley Show, and before concluding we would like to say that we are not a new firm, as we have been manufacturers of cycle accessories for the past seven years."

EXPERIENCES WANTED.

B. R. Brereton, Imboolpittia, Nawalapitiya, Ceylon, requires readers' experiences of the four-cylinder 5-6 and 4½ h.p. F.N., 3½ h.p. Rex de Luxe, 3½ h.p. Triumph, 8 h.p. Minerva, and 2½ h.p. N.S.U.

"H. W. B." would like readers' experiences of the 3½ h.p. Arno motor bicycle as regards its reliability, also touring and hill-climbing capabilities.

"Knock Out," Birmingham, would like readers' experiences of the 3½ h.p. 1909 N.S.U. motor bicycle, particularly with regard to exhaust valves and carburetter.

"G. C. S." would be glad to have readers' experiences of the 1909 twin-cylinder Rex de Luxe motor bicycle with sidecar, particularly in regard to power, speed, ease of starting, and behaviour of the two-speed gear.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

MOTOR BICYCLES FOR SALE.

MORECAMBE.—3h.p. 1909 Douglas, first-class order, one as new; £30, £27 10s., and £25; bargains.—Hitchens.

MORECAMBE.—Two 1908 and 1909 Triumphs, rumping good order; £29 and £35; spot cash.—Hitchens.

MORECAMBE.—Two 6h.p. Rexes, handle-bar control, good condition, fine sidecar machines; £22 10s. cash.—Hitchens.

MORECAMBE.—Several 3 and 3½h.p. sound machines, from £10 to £17; no scrappers sold in England; bargains.—Hitchens.

MORECAMBE.—Three 1909 Lincoln Elks, almost new, magneto ignition; £22; write bargain list; everything on approval.—Hitchens.

MORECAMBE.—Write me for new or second-hand articles you want. I have second-hand accessories and leather clothing, and, in fact, everything motorish; right prices; write to-day.—Hitchens, Lancashire Motor Exchange, Euston Rd., Morecambe. Wires: Motor. Tel.: 112.

PHELON-MOORE. 1908, magneto, two-speed, 1909 control, excellent order, many accessories; offers.—Davies, Sholebroke, Stretford.

TRIUMPH. 3½h.p., 1907, magneto, adjustable pulley, rubber studded tyres, good condition; £25. — P. Dates, St. John's Lodge, Knaresborough.

6-7h.p. Peugeot. Chater-Lea frame, magneto, two-speed, H.B. Brown and Barlow; £24, or exchange single.—No. 3,348, The Motor Cycle Offices, Coventry.

1909 Triumph. standard specification, perfect running order; £36.—To be seen by appointment at Cornah, Leicester Rd.; Higher Broughton, Manchester.

MANCHESTER.—4h.p. twin Minerva, spring forks, 26 by 2½in. tyres, excellent condition; any running test; £17.—Ernest E. Hall, 11, Fir Grove, Levenshulme.

ARIEL 3½h.p. Motor Cycle, first-class condition, a steady, reliable machine, good tyres, two accumulators; £12.—E.J., 329, Dickenson Rd., Longsight, Manchester.

1909 Triumph. very little used, numerous spares, including Mabon clutch, electric lamp, and case of magneto spares; £38, or offer.—Sweet, 78, Castle-gate, Malton.

1906 Rex. good running order, plating, enamelling, and tyres good, new piston and bushes; £12; wanted, tricar, steam preferred.—J. H. Lee, Broughton, Stokesley, Yorks.

V.S. 1908 5h.p. Twin, T.T. model, magneto, adjustable pulley. Clincher studded and Palmer, absolutely as new; £25, or exchange.—Bradshaw, Optician, Fishergate, Preston.

1908 3½h.p. N.S.U. magneto, Watawata belt, Continental tyres, Premier lamp, stand and carrier, in excellent condition; £18, or nearest offer.—Tootell, 27, Hendham Vale, Manchester.

3½h.p. New Ariel. free engine, handle starting, variable gear, handle-bar control, latest improvements, not ridden 100 miles; good reasons disposal.—Hill, Chapmangate, Pocklington.

1909 Triumph. Palmer cords, Cowey speedometer, lot of spares; 1909 2½h.p. Douglas, little used, £31; 1909 two-speed wheel, 26in. by 2½in., complete, 35s.—Hall, 143, Church St., Blackpool.

PHELON and Moore. late 1908, J.A.P. carburetter, 1909 handle-bars, condition and tyres perfect, tubes unpunctured. Spink bands, gear just overhauled by makers; £35.—Byrom, 50, Albion St., Leeds.

1909 Triumph. Stanley Show machine, guaranteed in perfect condition, new re-treaded studded tyres, P.R.S. lamp, horn, full set of tools in roll, and spares; £38.—3, Mealhouse Lane, Atherton, Manchester.

BRAND New Shop-soiled 3½h.p. 1909 Rex. latest, £34; 4h.p. Roc, with spring forks, £43, same condition; second-hand Roc, two-speed gear, £2 10s.; inaudible silencers, from 15s.—Tarr, Cemetery Rd., Sheffield.

TRIUMPH. late 1908, as new, tyres as new, back unpunctured, not ridden 1,000 miles, Whittle belt, lamp, generator, horn, watch, spare tube, two bags, plug, valve, all tools; £36.—53, Franklin Rd., Harrogate.

2½h.p. Minerva. spring forks, magneto ignition, 1909 4 Amac H.B. control new Shamrock belt, carrier, lamp, horn, and tools, excellent condition; bargain, £18.—17, Bradshaw St., Higher Broughton, Manchester.

4h.p. Military Roc. two speeds, free engine, handle starting, nearly new; any trial; cost 48 guineas a few months ago; accept for quick sale £25 10s.; ride 100 miles to intending purchaser.—Millard, Creswell, Mansfield.

LIVERPOOL.—Intending purchasers of Triumphs and Douglas motors should, to obtain the protection of the makers' guarantees, buy only from the official agents.—Hitchings, Ltd., 74, Bold St. (the firm with over-30 years' highest reputation).

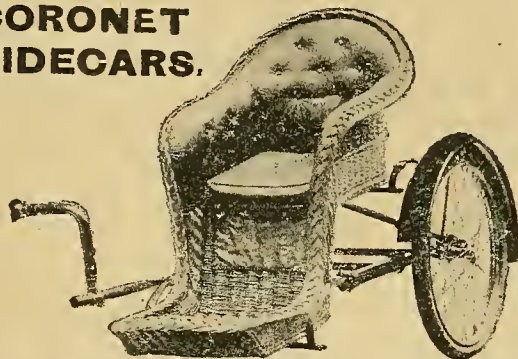
VIBRATIONLESS Douglas. the best lightweight on the market and British made; send for list and testimonials.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Douglas and Triumphs.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chester Rd., Old Trafford.

MANUFACTURED AT OUR WORKS BY AN EXPERT STAFF.

£4 17s. 6d.

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Before buying a Sidecar, send for illustrated circular, explaining the advantages of "CORONET" Sidecars over other makes. Delivery from stock to suit Minervas, Rexes, N.S.U.'s, Triumphs, and any other make. Attached in three minutes.

PRICE £4 17s. 6d. each.

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3½ h.p. MINERVA, magneto, 2½ tyres.....	£18 15
3 h.p. TWIN FAIRY, light and handy	£12 12
6 h.p. J.A.P., Chater Lea frame, spring forks....	£18 10
3 h.p. TRIUMPH, magneto, spring forks, 1906..	£18 10
4 h.p. ANTOINE, 26in. wheels, M.O.V., smart..	£11 10
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3 h.p. REX, 1908, magneto, h.b. control	£17 10
3½ h.p. REX, 1909, nearly new	£32 0
5½ h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4½ h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£13 10
3½ h.p. REX, spring forks, trembler coil	£10 10
3½ h.p. REX, 26in. wheels, M.O.V., h.b. control..	£8 15
Best cash offer accepted for the following:	
3 h.p. FAFNIR, 26in. wheels, h.b. control	£9 10
2½ h.p. SPARK, 26in. wheels, magneto ignition ..	£8 10
3½ h.p. EXCELSIOR £6 15 3½ h.p. REX	£6 15
3½ h.p. QUADRANT £6 15 2½ h.p. GARRARD ..	£6 15
2 h.p. STANDARD £5 5 2 h.p. LIBERTY	£5 5

Send for list of other bargains. Best, biggest, and cheapest stock. Cash buyers liberally treated.

THIS WEEK'S BIGGEST BARGAIN,
£4 19 9 3½ h.p. EXCELSIOR £4 19 9
 Powerful machine in good running order, complete with belt, coil, acc., carrier, tool bag, etc. £4 19 9 to first customer.

5½ h.p. REX DE LUXE, fitted with sidecar, magneto, Roc clutch, handle-starting	£27 10
5 h.p. TWIN REX, sidecar fitted, Osborne four-speed gear, spring forks	£20 10
4½ h.p. TWIN MINERVA, with sidecar, magneto ..	£25 10

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The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade.

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Made from selected parts of hides, correct angle, perfect drive; the best leather belt on the market. Longer life than rubber.
 ¾in., 9d.; ¾in., 10½d.; ¾in., 1/-; 1in., 1/1.
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CARBURETTERS. BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,

CHARLES STREET, off Square Road.

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

1909 3½h.p. Brown Motor Cycle, specially low, handle-bar control, B. and B. carburetter, Clincher tyres on front, Duco leather non-skid on back, bought 1 May, 1909; cost £37, only used 300 miles, sell for £25 a gift.—Cordingley, Haslingden. Tel.: 2Y.

3½h.p. Roc Motor Cycle, free engine, foot operated, specially low built, B. and Barlow carburetter, handle-bar control, new Dunlop tyre on back wheel, most new front, magneto ignition, this is a really splendid machine; sell for £15; a gift.—Cordingley, Haslingden. Tel.: 2Y. We are open to exchange above machines for a real good 2-seated car and cash adjustment.

3½h.p. Clarendon, in real splendid going order, 32 top tyres, engine, everything in perfect condition; only wants seeing; sell for £8 10s., or near offer.—Cordingley, Haslingden. Tel.: 2Y.

1909 Twin Tourist Rex, special show machine, scratched, clutch, spare adjustable pulley, valve cover, and tube, lamp, horn, tools, also 1909 No. Montgomery flexible sidecar, either side, luggage carrier, apron, etc., both equal new, and guaranteed; tri £39 10s. the lot, cost over £60.—Tetlow, 48, Victoria Rd., Urmston, Manchester.

BARGAINS for Cash.—All guaranteed. 2h.p. Thomas, spray, £4 15s.; 2h.p. Humber, spray, £5 5s.; 3h.p. Lloyds, vertical, 26in. wheels, £7 10s.; h.p. Antoine, vertical, spray, £6; 2½h.p. Buchet, vertical, spray, £6 5s.; 3½h.p. Rex, H.B. control, £7 5s.—Halifax Motor Exchange, Westgate, Halifax.

HALIFAX.—Illustrated list of second-hand 1 h.p. motors, and monster list of tricars and motor cycles on application.—Motor Exchange, Westgate, Halifax.

HALIFAX.—Bargains for spot cash in motor cycles. List free. A few at half price for quick reply.—Motor Exchange, Westgate, Halifax.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, Merioneth.

FAIRY, twin-cyl., 3h.p., accumulator and coil; £25.—Seymour, Son, and Foster, Sale.

£8.—2½h.p. J.A.P., Brown and Barlow, thumbs! Reflex tyres, splendid running order.—Yeates, 50, Bishop St., Shrewsbury.

3½h.p. Bradbury, 1906, unspillable accumulator, 32 Whittle belt, in perfect condition; £12 10s.—Whittaker, Park Green, Macclesfield.

HITCHINGS, Ltd., specialise in Douglas lightweight motor cycles. Inquiries receive prompt and courteous attention.—74, Bold St., Liverpool.

DOUGLAS Lightweight. British-made, twin cylinder, magneto, spring forks, a revelation in comfort of starting, power, and reliability, absolutely vibrationless; write for lists.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

TRIUMPH, late 1907, magneto, handle-bar control, switch, everything complete, in perfect order, do 48 m.p.h. on level, rubber belt, spare; bargain, £27.—Edwin Smith, Bakewell.

1909 3½h.p. Triumph and Millford castor wheel sidecar (month old), the lot as good as new, with brand new tyres, B.O.M., Cowey speedometer, lamp, mirror, etc., for 50 guineas.—Kay, Tyn-y-Bon, Colwyn Bay.

6h.p. Twin J.A.P., Chater No. 6, spring forks, pl clutch, Jones speedometer, J.A.P. lubricator, oil boards, 650 by 65 Clincher, Veeder, watch, mirror, helmet, Autolocs, Riches; £26 10s.—Leighton House, Gorsebrook Rd., Wolverhampton.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

1909 3½h.p. Magneto Rex, perfect; £26, bargain, 75, Leam Terrace East, Leamington.

1909 Twin-cyl. Moto-Reve, guaranteed perfect condition; £27.—27, Smithford St., Coventry.

1909 Triumph, nearly new, magneto, condition perfect.—Particulars, 6, Clemens St., Leamington.

3½h.p. Rex, Amac, ¾in. S.G. belt, footboards, spare; £21; seen after 5.—41, Westminster Rd., Coventry.

1909 Triumph, new May, horn, spares, perfect condition; £38.—Fred. Heighton, Fletton Av., Peterborough.

1909 Motosacoché, practically new, magneto; list £2 offered £27 10s.—Particulars, 6, Clemens St., Leamington.

3½h.p. Excelsior throughout, new covers, good running order; bargain, £6 10s., no offers.—Groves, Fenny Stratford.

1908 Triumph, perfect, new condition; any trial or examination; £30.—Dallaway, Fritter, Cape, Smethwick.

4h.p. Twin, Peugeot engine, low built machine; good condition; approval willingly; £15.—Morris, photographer, Bourne.

TRIUMPH, little used; any trial; magneto, handle-bar control; bargain, £25.—Dorset, 42, Victoria St., West Smethwick.

OR BICYCLES FOR SALE.

PH, 1909, condition and appearance as new, complete, with accessories, spares; £38.—18, Wel-
l, Smethwick.

2½ h.p. Twin, magneto, 1909 run. few trials, twice perfectly new; cash £33. Tel.: 1180.—
and Co. Ltd., Nottingham.

ex Model de Luxe, quite new, two speeds, free
engine, starting handle, list 50 guineas, offered
particulars, 6, Clemens St., Leamington.

le, Triumph motor cycle, 1908, little ridden,
good condition; £33, or nearest offer; with new
s.—Apply, F. Milner, Brewery, Coventry.

orton, twin, 1908, Peugeot engine, spring forks,
magneto, Otto two-speed gear and spare wheel, per-
fection; £25.—Motor, Park Lodge, Brackley.

, Ariel, Ariel. — To clear, a few 1909 2½ h.p.
weights, magneto, handle-bar control; end of
regains.—Ariel Wks., Bournbrook, Birmingham.

Bradbury, new eight weeks ago, Shamrock
ed tubes, lamps, F.R.S., set of tools; £28, no
ump, reply.—Bert Lacroix, 13, West St., Ret-
us.

½ h.p. L.M.C., Auto-Varia pulley and free en-
ine, B. and B. carburetter, tools, accessories,
condition; £35.—Phillips, 91, Holly Rd., Hand-
sringham.

Triumph, excellent condition throughout, new
over-studded tyres and Stanley belt, lamp,
ng pillar, watch; 32 guineas.—Rev. Grimes,
ton, Hinckley.

½ h.p. Triumph, perfect condition, as new, Auto-
pump lamp, horn, spare belt, complete set tools
sures; £40, or nearest offer.—Ashley, The
eshill Rd., Coventry.

Premier, 3½ h.p., brand new August, not done
0 miles, guaranteed perfect; offers; exchange
d, 1908 Triumph, or Douglas.—Box No. 3,352,
Cycle Offices, Coventry.

Triumph, free engine clutch model, new at
ster, no fault, many spares, including belt
plug; trial; £43.—Geoffrey Smith, 37, North-
Rd., Coventry.

GAIN:—2½ h.p. Minerva, Palmer tyres, accumu-
lator, stand, tools, etc., cheap, hurry up; Lucas
e lamp, splendid condition, not used much,
ash.—Apply, M. Brown, Morton, Bourne.

PH, 1909, Triumph free engine, Palmer cord
self-sealing tube in back wheel, Autoclipse
n, spares, condition as new; cost over £60, a
£45.—Fred Percival, Long Causeway, Peter-

PH, 1909, Triumph clutch, splendid machine,
o anything, as new; cost £60, accept £40, or
1909 twin Matchless, Bat, Vindec, or other two-
gear machine. — Adams, chemist, Cape Hill,
t.

Rex, Bosch magneto, B. and B., handle con-
rol, Brooks, stand, Palmer cord back, Contin-
t, Stanley belt, fast, good climber, paint and
new, spares, tools; £16.—Dalton, 60, Earlsdon
entry.

Bros. for bargains in second-hand motor
s, any new make supplied; exchanges, railway
l covers, replacements, repairs, overhauling;
ces.—C.C.R. Motor Wks., Ford St., St. Anns
Nottingham.

Osborne Motor Cycle, with Peugeot engine, 4-
l gear, fitted with sliding back wheel and eccen-
tric forks, can be knocked against a stone wall
bration. The best machine in the world. Also
ne conversion 4-speed gear and sliding back
e fitted to any make, no belt shortening;
on application.—Osborne Motor Co., Princess
ncoln.

SECTION V.

Suffolk, Cambridge, Huntingdon,
Bedford.

lement Motor Cycle, Chater-Lea fittings, Pal-
tyres, Watawata, in good running order; £8.—
t. Neots.

PHS.—The ideal machines for winter riding;
mediate deliveries; cash or instalments.—Parker
St. Ives, Hunts.

ap. Motor Cycle for sale; cost £60, accept £45;
all particulars supplied on application.—Frank-
ham Hall, East Dereham, Norfolk.

Twin Minerva, Chater-Lea fittings, spring forks,
l petrol gauge, handle-bar control, watch, ac-
cumulator, flexible sidecar, reliable machine;
n; £24; bought car.—S. Felts, 14, Park Rd.,
Beds.

SECTION VI.

Wiltshire, Herefordshire, Radnor, Breck-
Monmouth, Glamorgan, Carmarthen;
gan, and Pembroke.

1907 Triumph, 1909 Mabon clutch, good
der, lamp and spares; £26 10s.—Below.

1906 Rex, M.O.V., handle-bar control, Amac,
od order; £14 10s.; exchange.—Boddington,
en St., Worcester.

1771. 3½ h.p. 1909 PHELOX AND MOORE;
two-speed gear and free engine, petrol and oil
gauges, horn, starting handle, tools, quite as
new, including Mills-Fulford 1909 castor
wheel sidecar, also in good condition, non-
skid tyre; for the combination complete,
guaranteed £45 0 0

1768. 3½ h.p. TRIUMPH, 1907 model, magneto
ignition, nice condition, lamp, generator,
horn, tools, spare belt, etc., guaranteed .. 25 gns.

5-h.p. VINDEC SPECIAL, two-speed gear, free
engine, magneto ignition, including Mills and
Fulford artistic cane castor wheel sidecar,
upholstered in red, in new condition, guar-
anteed £37 10 0

1760. 4 h.p. ROC, magneto, 1908 model, two-
speed gear and free engine, spring forks,
starting handle, low position, mirror, horn,
stand, and carrier, guaranteed 23 gns.

1769. 2½ h.p. KERRY, vertical engine, power-
ful, guaranteed £8 15 0

3½ h.p. 1907 TRIUMPH, magneto, spring forks,
nice condition, guaranteed 22 gns.

1757. 2½ h.p. 1909 ARIEL Lightweight, magne-
to ignition, guaranteed 20 gns.

1756. 3½ h.p. 1909 HUMBER, magneto, two-
speed gear and free engine, starting handle,
guaranteed £35 0 0

1753. 2½ h.p. F.N., magneto ignition, vertical
engine, guaranteed £15 0 0

1719. 3½ h.p. 1908 TRIUMPH, magneto, spring
forks, standard, guaranteed 23 gns.

3½ h.p. QUADRANT, magneto, and spring
forks, 1908 model, guaranteed £25 0 0

1740. 3½ h.p. 1909 T.T. TRIUMPH, guaranteed
1734. 14 h.p. DE DION Tricar, twin-cylinder
engine, two speeds and reverse, open frame,
coach-built, water-cooled 38 gns.

1729. 3 h.p. TRIUMPH, ball bearing engine,
guaranteed 40 gns.

1741. 1½ h.p. MOTOSACOCHE, 1909 model, magneto,
Druid forks £12 10 0

1722. 3½ h.p. 1908 MINERVA, spring forks,
guaranteed £25 0 0

1732. 3½ h.p. 1907 TRIUMPH, manufactured
in 1908, magneto, spring forks, guaranteed
1727. 2 h.p. MOTO-REVE, 1909 model, cream
finish, magneto, and spring forks, guaranteed
1716. 3 h.p. 1906 TRIUMPH, magneto, and
spring forks, guaranteed £22 10 0

1637. 3½ h.p. 1907 TRIUMPH, magneto,
Mabon free-engine clutch, guaranteed 19 gns.

1679. 1½ h.p. late model F.N. Lightweight,
magneto, and spring forks £27 10 0

1666. 3½ h.p. CHASE Tricar, two-speed gear
1617. 6 h.p. 1908 N.S.U. and sidecar, coach-
built, two-speed and free engine, magneto;
and spring forks, guaranteed £17 10 0

1623. 3½ h.p. PHENIX-MINERVA Tricar .. 20 gns.

1681. 3½ h.p. GREEN Motor Cycle, water-
cooled engine, magneto £35 0 0

1481. 4 h.p. Twin WERNER, guaranteed .. 20 gns.

1467. 2½ h.p. MINERVA £12 10 0

1665. 3½ h.p. 1908 TRIUMPH, handle-bar
control, spring forks; standard model £10 10 0

1545. 7-9 h.p. PEUGEOT, Chater-Lea fittings
1613. 3½ h.p. 1907 MINERVA £17 10 0

1664. 3½ h.p. ROC, free-engine clutch, guar-
anteed £16 10 0

1452. 5 h.p. REX DE LUXE, magneto, spring
forks and seat-pillar, guaranteed £15 15 0

2½ h.p. BROWN, vertical engine, guaranteed .. £17 10 0

1625. 2½ h.p. BRADBURY, magneto £10 10 0

1639. 3 h.p. ZENITH Bicar £21 0 0

1653. 2½ h.p. 1909 MATCHLESS Lightweight,
magneto, spring forks, standard model. .. £15 15 0

922. 3½ h.p. PHENIX Cob, suitable for lady
or gentleman, two-speed gear Offers.

1596. 1½ h.p. F.N., spring forks, magneto,
latest model £25 0 0

1534. 4½ h.p. 1908 MINERVA, R.O.M. contact
breaker, guaranteed 20 gns.

1634. 7 h.p. MATCHLESS, twin engine, magne-
to, low frame, latest 1908 model, guar-
anteed 20 gns.

1616. 3 h.p. TRIUMPH £25 0 0

1465. 3 h.p. TRIUMPH, very low price £15 15 0

1576. 3 h.p. TRIUMPH, magneto, guaranteed .. 15 gns.

1542. 6 h.p. ANTOINE £17 10 0

1651. 1½ h.p. 1908 MOTOSACOCHE, guar-
anteed £12 10 0

1037. 2½ h.p. MATCHLESS £17 10 0

918. 3½ h.p. EXCELSIOR and sidecar. Offers.

Immediate delivery of 1910 REX DE LUXE, 55 Guineas.
Exchanges entertained.

Machines in this column are offered by Wauchope's, and
carry their guarantee.

WAUCHOPE'S,
9, SHOE LANE, FLEET ST.,
LONDON.

Telephone—5777, Holborn.

MOTOR BICYCLES FOR SALE.

1908 3½ h.p. Triumph, good condition, R.O.M. com-
bination back wheel; £30.—Davies, Western Rd.,
Hagley, Stourbridge.

3½ h.p. Clyde, splendid goer, free engine, magneto, new
back tyre, lamp, horn, spare spring forks, tools;
bargain, £16.—James, Parcystaawen, Llansamlet.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks,
Wilts, and Hants, and Channel Islands.

5-h.p. F.N., 1909, perfect condition, very fast; trial;
£37 10s.—Harris, 15, Arlington Villas, Clifton
Bristol.

2½ h.p. Werner Motor Cycle, good running order; £7,
or exchange.—Jones, fish merchant, Commercial
Rd., Swindon.

TRIUMPH 1908 Motor Cycle, good, reliable machine;
£28; seen by app. intuent.—Johnson, George
Hotel, Reading.

6½ h.p. Twin-cyl. 1907 J.A.P., good order; £30; accu-
mulator ignition.—R. M. Rendel, R.A. Mess, North
Camp, Aldershot.

1909 Triumph, clutch model, purchased June 28th,
condition as new; £43, or nearest.—Fuge, chem-
ist, High Wycombe.

3½ h.p. Twin Peugeot, fast, reliable; photo; accept
£4 half cash, remainder arranged; exchange light-
weight.—Howard, Eldon Lodge, Cheltenham.

3½ h.p. Twin-cyl. Premier, run 135 miles, guaranteed
perfect; £40; owner leaving country.—Write par-
ticulars, Joubert, 31, Victoria Rd., Swindon.

3½ h.p. Peugeot, late 1909, magneto, Chater-Lea, H.B.
control, spring forks, low frame, in splendid con-
dition; £21.—Williams, Portland St., Cheltenham.

GENTLEMAN wanting cash wishes to sell 2½ h.p.
Kerry motor bike; £10; rebuy at same figure in
12 months; splendid condition.—3,349, The Motor Cycle
Offices, Coventry.

TRIUMPH, late 1908, perfect condition, not yet run
4,000 miles, back tyre new, all accessories; £30,
or exchange for good lightweight twin.—Apply, Lieut. W.
R. Crocker, R.N., Navigation School, Portsmouth.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent,
and Sussex.

ELEPHANT.—3½ h.p. Clyde, magneto; £8 5s.

ELEPHANT.—3½ h.p. Centaur, low, long bars; £10 5s.

ELEPHANT.—2½ h.p. Rex, magneto, lightweight; £15-
15s.

ELEPHANT.—3 h.p. Fafnir, Chater 6 frame; £12 12s.

ELEPHANT.—5 h.p. twin Berkeley, footboards; £15.

ELEPHANT.—2½ h.p. N.S.U., accumulator; £8 10s.

ELEPHANT.—2½ h.p. Norton, accumulator; £8 10s.

ELEPHANT Adjustable Pulleys, any engine, from
7s. 6d.; second-hand accessories; state require-
ments; correspondence invited.—Elephant Rd., London.

3½ h.p. Rex, spray, and sidecar, good order; £12.—67,
Claxton Grove, Hammersmith.

£5 10s.—3½ h.p. Rex, good running order; a bargain.—
J. Stone, Leigh Rd., Southend-on-Sea.

1908 Moto-Reve Lightweight, magneto; £18 10s.—8;
Barrett St., Manchester Sq., London.

5 h.p. Twin Kerry, two-speed gear, free engine, spring
forks; £16 16s.—75; Manor St., Chelsea.

3½ h.p. Kerry and Montgomery Sidecar, good condition,
few spares; £12.—53, Clive Rd., Enfield.

£9.—M.M.C., 3 h.p., low built, good running order.—
W. Foster, 4, Longfellow Rd., Walthamstow.

4½ h.p. Twin Minerva, tools, lamp, spare pulleys, etc.;
£19.—Williams, 31, Capel Rd., Forest Gate.

1907 3½ h.p. Rex, spring forks, low, X'lall, perfect
order; offers.—87, Mildmay Grove, Islington.

PHENIX Cob, 4 h.p., magneto, two speeds, pan seat;
20 guineas.—J. H. Clair, Clapham Rd., S.W.

N.S.U., 3 h.p., magneto, footrests, spring forks, grand
condition.—Seen, Clements, 106a, Fenchurch St.

£50.—Bristol, 10-12 h.p., 2-cyl. engine, in good condi-
tion; bargain.—36, Hurlingham Rd., Fulham.

2½ h.p. Roc, low frame, new tyre and accumulator; £7
10s.—Elliott, 16, Avenue Crescent, Acton, W.

1909 Triumphs; £48; good price allowed for old ma-
chines.—Godfre, 124, Romford Rd., Stratford.

5 h.p. Twin, low, perfect order, very fast and powerful;
£12.—Brown, 2a, Seagrave Rd., West Brompton.

£6 10s.—Sarolea, 2½ h.p., Longuemare, in good going
order and condition.—Potter, Tilt, Cobham, Surrey.

3 h.p. Fafnir, footboards, Continentals, long bars, low
seat, fast, reliable; £9.—234, Belsize Rd., N.W.

5 h.p. Twin Norton, splendid condition, best of every-
thing; £25, offer.—G, 30, Elm Grove Rd., Barnes.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

—CYL. F.N., 4h.p., magneto, absolutely perfect; £25.—Stanton, 619, Lea Bridge Rd., Leyton, London.

HOP-SOILED 1909 Bradbury; £36; otherwise absolutely brand new, carrying makers' guarantee. Don't delay.—Stanton, below.

1h.p. Rex, handle-bar control, 26in. wheels, handle-bar control, 26in. wheels, Davison's tank and engine, low frame, splendid condition; only £11 10s., all value.—Stanton, below.

—CYL. F.N., 4h.p., and sidecar (Chater-Lea, almost new), splendid puller, handsome reliable combination; £35.—Stanton, below.

—OC and Sidecar, 6h.p. twin J.A.P. engine, magneto, two speeds, handle starting, splendid combination; £3 10s.—A. T. Stanton, 619, Lea Bridge Rd., Leyton, London.

1h.p. Kerry, in good condition, two accumulators; £7 10s.—C. J. White, 75, St. Saviour's Rd., Croydon.

—S.U. 5h.p. Twin, magneto, spring forks, perfect condition.—Mogridge, Chancellet Rd., Abbey Wood, Kent.

—TRIUMPH, 1907, 3h.p., 1908 engine, and carburetter, handle-bar control; £27.—Lyne, 37, Portland Rd., Dover.

h.p. Lightweight, condition as new; £12 10s.; cash or terms arranged.—115, Boundary Rd., St. John's Wood.

—CYL. F.N., 4h.p. 1909 model, ridden 700 miles, no fault; £35.—Browne, Preston House, Red Hill, Surrey.

1909 3h.p. Rex, magneto, condition perfect; owner must sell; bargain, £30.—Davison, 606, Holloway, N.

h.p. Twin Hamilton, perfect; £17, or exchange for 3h.p. and cash.—Taylor, 4, White Horse Lane, Epsom.

1909 (September) Lightweight Royal Wolf, brand new, in makers' crate; £18 nett.—10, Old Town, Epsom.

1909 Triumph, July, practically new, lamp, horn, spare new belt, valve; £40.—Cole, Douglas Rd., Epsom.

1h.p. Brown, free engine, and Millford sidecar, excellent condition; £21.—Barker, Oxford Works, Epsom.

1h.p. F.N., torpedo tank, very low position; £6 10s., 4 or offer.—E.A., 12, Brownlow St., Holborn, London, W.C.

—S.—2h.p. Humber, chain drive, Dunlops, spring seat, Brooks saddle; a bargain.—283, Clapham Hill, S.W.

3h.p. Minerva, 1907, speedometer, spring forks; £15; 4 take old bike part payment.—124, Romford Rd., Romford.

3h.p. Kerry, Palmer cords, Chater-Lea; £12 10s., 4 accept cycle and cash.—165, Algernon Rd., Lewisham, S.E.

1h.p. Lightweight Minerva Motor Cycle, low build, 2 long handle-bars; £9 10s.—Motor, 20, Clyde Rd., Tottenham.

—CYL. F.N., magneto, perfect order and condition, spares; £24; exchange twin.—43, Kilmore Rd., West Hill.

—BRADBURY Motor Cycles, 1909 models; £46. — Chief local depot: Bright and Hayles, Church St., Camberwell.

1h.p. Bradbury, magneto, 1909 model, guaranteed 2 perfect, shop-soiled; only £36.—Bright and Hayles, Church St., Camberwell.

—MOTOSACOCHE, 1909 model, only ridden 75 miles, perfect order; accept £26 10s.—Bright and Hayles, 73 Church St., Camberwell.

1h.p. Noble Lightweight, 26in. wheels, low position, 2 Clincher tyres, Brown and Barlow carburetter; £5s.—73, Church St., Camberwell.

h.p. Fafnir, Liberty sidecar, splendid condition; £20, or reasonable offer.—Corpe, 32, Chatsworth Rd., Epsom Park.

25.—5h.p. Twin, magneto, H.B. control, Amac, Druids, 2h.p. tyres.—Foreman, 111, King George, Greenwich.

—M.C., 3h.p., 1909, variable automatic pulley, free engine device, R.O.M. tyre; £35.—Terry, 112, West St., W.C.

—TRIUMPH, 3h.p., 1903, standard, excellent condition; £26 10s.—Write, or call, E.W.G., 43, Romford, Stratford, E.

1h.p. Triumph, 1908, guaranteed perfect, all accessories; £32 10s.; approval.—Eagles and Co., High St., Acton.

h.p. N.S.U., twin, unscratched, new last July, 1908 specification, 26 by 2h.p. tyres, two-speed gear and engine, with Millford sidecar; £45.—Eagles and Co., N.S.U. Agency, High St., Acton.

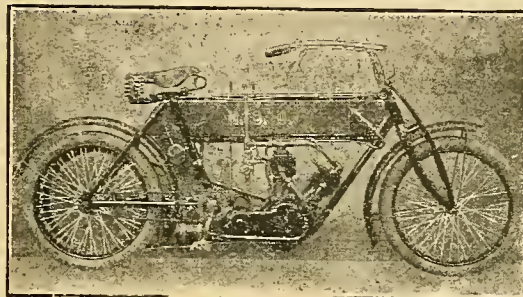
—S.U. 2h.p. Twin Lightweight, 1909, slightly used, Bosch magneto, mechanically operated valves, handle-bar control; £30; approval.—Eagles and Co., High St., Acton.

LOOK OUT

for an
important notice during

SHOW WEEK

We guarantee to save
you money

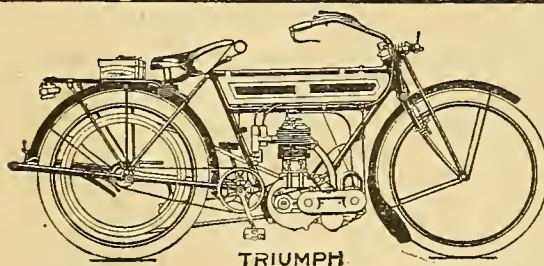
Until then, So Long.**SPECIFICATION:**

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.
WHEELS—24in. and 26in.
TYRES—Peter Union 2h.p. section to singles, and 2h.p. to twins.
CARB.—N.S.U. float-feed type.
BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.
EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.
GENERAL—We guarantee fully every machine sold.

PRICES:

	Maker's price.	Our price.	Deferred payments.
3h.p.	£40	£31	£33
3h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.



1909 TRIUMPHS
IN STOCK.
£48 or exchange.

SECOND-HAND MACHINES (all fully guaranteed by us).

ANTOINE, 4 h.p., very low, free engine	£16
KERRY, 5 h.p. Twin, 26in. wheels	£15
MINERVA, 3h.p., spring forks, 1907 model	£15
REX, 3h.p., 1908, two speed, perfect	£30
BROWN, 2h.p., Bosch magneto, low, perfect	£16
REX, 5 h.p., Twin, low, spring forks	£17
ZENITH Bicar, 3h.p., two speeds	£17
QUADRANT, 3h.p., spring forks, very low	£16
ARIEL, 3 h.p., low, spray, M.O.V.	£16
SINGER, 3 h.p., Bosch magneto, new tyres	£16
PEUGEOT, 4h.p., twin-cylinder, low built	£15
FAIRY, 2 h.p., Twin, low built	£11
REX, 1909, 3h.p. model	£26
MINERVA, 1908, 8 h.p.	£23

£3 DOWN SECURES:

F.N., 2 h.p.	£10	MINERVA, 2 h.p. ..	£8
HUMBER, 2 h.p.	£8	HUMBER, 2h.p.	£10
QUADRANT, 3 h.p.	£10	SINGER, 2 h.p.	£6
WERNER, 2 h.p.	£8	BROWN, 2 h.p.	£7

SPECIAL BARGAINS.

Brand New FAIRY Sets. To convert your cycle to a motor cycle. All brand new and perfectly complete. 2h.p., twin cylinder, £10 only nett £10

MAUDES' MOTOR MART,

136, GREAT PORTLAND STREET (off Oxford Circus), LONDON, W. Also at POWELL STREET, HALIFAX.
Telephone: 552 Mayfair.

MOTOR BICYCLES FOR SALE.

WHITTLE'S.—F.N., 5-6h.p., 4-cyl., 1909 model, lat magneto, spring forks, nearly new: great sacrifice, £32 10s.

WHITTLE'S.—F.N., 4h.p., 4-cyl., 1908 model, magneto, spring forks, extra fast, like new bargain, £26.

WHITTLE'S.—Roc, 4h.p., late 1908, magneto, H control, two speeds, clutch, starting handle, beautiful order; £26.

WHITTLE'S.—Antoine, 6h.p., twin, 1909 model, lat bars, toothboards, nearly new, unscratched; great bargain, £18 18s.

WHITTLE'S.—F.N., 12h.p. lightweight, 1909 model, magneto, spring forks, absolutely as new; cheap £22 10s.—Whittle's Motor Exchange, Farnfield, Warrington. Phone, 711, Post, Wimbeldon.

2h.p. De Dion, Longuemare, Stanley belt, Pri stands, very low; bargain, £9.—138, Lever City Rd., London.

MOTOSACOCHE, 1909, magneto, Druid forks, b used twice; exceptional starter; £25, lowest.—Denmark Hill, S.E.

TRIUMPH, 1907, good condition, Palmer, Pal cord, spring seat-pillar; £25.—2, Radcliffe P Winchmore Hill, N.

1h.p. F.N., 1908, magneto, as new, guaranteed 1 feet condition; £16.—66, Queen Elizabeth's W Stoke Newington, N.

IF You Want Bargains in second-hand motor cycle you can get them at Wauchope's, 9, Shoe L Fleet St., London, E.C.

1907 3h.p. Minerva, excellent condition, low, 1 handle-bars; £15, low power part payment. Herd, Grocer, Colnbrook.

LIGHTWEIGHT 1909 Corah-J.A.P., magneto, Dr forks, perfect; £21, or close offer.—Barrington Puckle Lane, Canterbury.

2h.p. F.N., splendid condition, adjustable pul climb anything; £11.—Apply, Horace, 34, T sachs Rd., East Dulwich.

MOTOSACOCHE, 1909, magneto, Druid spring fo Palmer cord, excellent condition, well fitted; gain, £25.—Orrin, Braintree.

4h.p. Twin-cyl. Werner Motor Cycle, tyres practi new, just been overhauled, very little used; £11. Caffyn's Garage, Eastbourne.

TRIUMPH, 3h.p., new condition, new Clincher r ber studded cover, accumulator; £18 10s.—Bo 23, Grand Parade, Highgate.

3h.p. Fafnir, Clincher tyres, Longuemare carbure complete, good order; £10 10s.; any trial. Islip St., Kentish Town, N.W.

TRIUMPH, 1907, new 1908 cylinder, piston, ac series, complete, Palmer cord, nearly new; £22. Lewington, Enfield Wash, N.

4h.p. Antoine, spare cover, accumulator, valves, la etc., plating and enamelling not scratched; 10s.—Gale, 8, Baker St., Enfield.

OKLEIGH Motor Bike, with sidecar attached, fit with brand new 6h.p. twin Sarolea, magneto; £ —65a, Rosendale Rd., West Dulwich.

3h.p. Vindec, magneto, spring forks, spares, go condition, overhauled; £20 cash, or nearest offer. W. H. Swinstead, Broadlands, Woking.

2h.p. Noble, thoroughly overhauled and re-enamel as good as new; £17; specification on applicati —Clark, 25, Denmark Rd., West Ealing.

h.p. Chater-Lea-Daw, just overhauled and re-enamel in very good order; £8; light machine: ask particulars.—Clark, 25, Denmark Rd., West Ealing.

1h.p. Minerva, overhauled and re-enamelled; £8 particulars sent if desired.—Clark, 25, Denma Rd., West Ealing.

3h.p. Fafnir, magneto, Chater, B. and B., handle co trol, Davison tank; £16, offer; appointment, lett —Carroll, 153, Breakspears Rd., Brockley.

4h.p. C.I.E., magneto, spring forks, H.B. control, by 2h.p. tyres, as new; 15 guineas, cost 45.—C poral Ferris, 20, Brunswick Sq., Camberwell.

3h.p. Kerry, enamelled French grey, lined red, 26 plated wheels, long bars, low, perfect, as new, r scratched; £12.—426, Hce St., Walthamstow.

TWIN Werner, 4h.p., and sidecar, in excellent con tion and first-class going order; £18, a genui bargain.—Hornett, 96, Princess Rd., Croydon.

1907 3h.p. Triumph, magneto, carefully used, e cellent condition, rubber studded tyre; £22. Jermy, Leighton Holme, Frimley Green, Surrey.

3h.p. Brown, 1908, with Chater sidecar, magnet H.B. control, Root and Clarke two-speed ge excellent condition.—Root and Clarke, Herne Bay.

3h.p. Wolf, new belt, tyre, accumulator, and spri forks, excellent running order, condition as ne £12, bargain.—Clements, 39, Vere Rd., Brighton.

GENUINE Bargain.—1909 3h.p. Tourist Trophy T umph, spring forks, not run 500 miles, faultle condition; £36.—Gray, 2, The Square, Richmond.

4h.p. Minerva, Chater frame, spring forks, Pal cord back, electric light, low built, stand, spare trial; photo; £23.—229, Burdett Rd., London, E.

OR BICYCLES FOR SALE.

TEAD.—Sale, enormous reduction on all machines, call and obtain great bargain. — Rey, 5,

TEAD (£23). — 4-cyl. F.N., 4½ h.p., 1908 el, magneto, spring forks, with all accessories.

TEAD (£25). — F.N., 4-cyl., 4½ h.p., splendid tion, with all accessories, late model.

TEAD (£27). — F.N., new condition, 4-cyl. model, 4½ h.p., magneto, spring forks, all

TEAD (£21). — Minerva, 3½ h.p., 1909 model, condition, handle-bar control, all accessories;

TEAD.—1909 New Triumphs in stock, Moto- and F.N.'s at special reduction, latest

TEAD (£22). — Moto-Reve, twin, magneto, and ng forks, 1909 pattern, splendid condition, accessories.

TEAD.—Sole London and district agents for in Elks, all models in stock; special price

TEAD (£12). — Singer, 3h.p. magneto, new skid on back, in splendid order, with acces-

TEAD (£18). — F.N. 1½ h.p. Lightweight, mag- and spring forks, with all new accessories;

TEAD (£28). — V.S., two-speed gear, 5h.p., eto and spring forks, all accessories; grand

TEAD (£13). — Peugeot, 3½ h.p., spring forks, all new accessories, splendid bargain. — 5,

TEAD (£13). — Motosacoché lightweight, late del, with all accessories, guaranteed a bar- : 2678 P.O.

TEAD (£14). — Lincoln Elk, 3h.p., 1909 el, new condition, with accessories, all bar- ranteed.

TEAD (£23). — Lightweight 1909 Latest Wolf, not run 100 miles, and guaranteed elow.

TEAD (£14). — Singer, 3h.p., magneto, good tion; 4-cyl. F.N., £23, splendid order, all

TEAD (£12). — N.S.U., 3h.p., splendid order, accessories; 4-cyl. F.N., £20, bargain.

TEAD (£28). — Latest 1909 Moto-Reve, run 100 miles, all accessories; Whithy, 3h.p., £6.

TEAD (£44). — Triumph, 1909, free engine, st model, as new, with all accessories; great

TEAD (£35). — Tourist Trophy Triumph, 1909, ost new, property of W. Bentley; 1907 Tri- 5, bargain.

TEAD (£14). — Riley, 3h.p., vertical, late type; ry, 3h.p., £6, in good order, bargain.

TEAD (£29). — 5-6h.p. F.N., late model, 4- special bargain, with all accessories, grand

TEAD (£16). — Triumph, 3h.p., accessories: in house.—Only address, 5, Heath St. Tel.:

Twin Minerva, first-class condition, 1908, new August; any trial any time; sidecar if re- pply, Gymnasium, Holland Rd., Hove.

2½ h.p. B. and B., handle-bar control, new mulator, B105, Janes switch, two belts and l.—Williams, 80, Albert Rd., Bromley.

h.p. Twin, magneto, two speeds fitted, coach- sidecar, unused, just delivered; cost £100, s.—Dr. Sutton, 11, Strathville Rd., S.W.

N.S.U., magneto, two-speed and free engine, es, belt excellent condition, takes sidecar well; -Crowfoot, Deepdene, Park Lane, Wallington.

atchless, J.A.P. engine, Bosch magneto, Nala ped gear, free engine, with rigid sidecar, new nd condition.—S., 5, Laitwood Rd., Balham.

arolea Twin, powerful, good condition, no rea- ble offer refused; also 1909 Triumph, perfect £38.—Rutledge, Glebe Av., Woodford Green.

.A.P. and 2½ h.p. Zedel, both good condition, y, vertical, 26in. wheels, tyres sound, nearly ulators; must sell.—7, Kent Rd., Gravesend.

evens, overhead mechanical valves, footboards, and very fast, tyres, engine, and complete ke new; £16.—45, Medfield St., Roehampton.

PH Motor, 3h.p., H.B. control, new tyre and good condition, pair 7h.p. Peugeot cylinders; ted.—G.R.W., 148, Merton Rd., Wimbledon.

ex, 2½ h.p., magneto, lightweight, bought last ember, run 700 miles, condition perfect, horn, 6.—Yates, 6, Gunnersbury Av., Ealing Com-

Brown, just overhauled, brand new Dunlop, dy to be ridden away: seen any time; genu- in, £10 10s.—G., Milton, St. Leonards, East

EASY PAYMENTS.

£3 DOWN secures any of these. **Balance 5/- per week.**

2½ h.p. Antoine	£6 10	3 h.p. Rover	£10 10
2½ h.p. Bradbury	£6 10	2 h.p. Sarolea	£6 0
3 h.p. Lloyd's	£13 10	2½ h.p. Kerry	£9 10
3 h.p. Clyde	£15 0	4 h.p. Coronet	£15 0
4 h.p. Antoine	£16 10	2½ h.p. Werner	£8 10
3 h.p. Humber	£10 0	3½ h.p. Werner	£13 10
3½ h.p. Rex	£10 10	2 h.p. Thomas	£8 0
2½ h.p. Lloyd's	£7 10	2 h.p. Humber	£8 10
4 h.p. Atelier	£13 10	3 h.p. Bradbury	£10 10
4 h.p. Stevens	£13 10	3½ h.p. Brown	£14 10

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1909 3½ h.p. magneto REX, shop soiled....	Offers
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1909 3½ h.p. REX Tourist, done 50 miles.	Offers.
1908 3½ h.p. Magneto REX, spring forks..	£24 10
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1907 3½ h.p. magneto REX	£21 0
3½ h.p. Magneto N.S.U., spring forks.....	£18 10
4 h.p. ANTOINE, high tension magneto	£18 18
1908 3½ h.p. Magneto MINERVA, spg. fks.	£22 10
1907 3½ h.p. REX, spring forks	£17 0
1907 3½ h.p. QUADRANT, spring forks ..	£17 10
1907 3½ h.p. BRADBURY, 26in. wheels, spray	£13 10
3 h.p. HUMBER, spray, free engine.....	£10 10
3 h.p. BRADBURY, low, 26in. wheels ..	£13 10
1906 3½ h.p. REX, spring forks, M.O.V. ..	£15 10
3 h.p. SINGER, belt drive, H.T. magneto	£19 10
4 h.p. STEVENS, H.B. control	£13 10
3 h.p. CLYDE, magneto, long bars	£15 0
2½ h.p. KERRY, light and low, 26in. wheels	£9 10
2 h.p. M.O.V. MINERVA, spray, good....	£6 15
3 h.p. ROVER, M.O.V., Longuemare	£10 0
3½ h.p. REX, handle-bar control, Amac....	£7 10
3 h.p. HUMBER, spray, splendid climber..	£9 10
2½ h.p. WERNER, spray, light, low	£8 0
2½ h.p. Light ARIEL, low build	£8 15
2½ h.p. LLOYDS, vertical, spray	£6 0

Monster List on Application. Cash offers considered.

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All models in stock. Liberal exchanges.

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1909 7-9 h.p. PEUGEOT, magneto as new	£40 0
1909 5 h.p. REX DE LUXE, 100 miles only	Offers.
1908 Twin Tourist REX, magneto	£26 10
1908 Twin REX DE LUXE, Palmer Cords	£32 10
1908 4 h.p. N.S.U., magneto, spring forks..	£21 0
5½ h.p. Two-speed REX DE LUXE	£29 10
7-8 h.p. Twin MINERVA and N.S.U. sidecar	£29 0
Twin WERNER Lightweight, spring forks	£12 10
5½ h.p. REX DE LUXE, Roc clutch	£25 10
6 h.p. Twin ANTOINE and Sidecar	£18 10
5 h.p. Twin ZENITH, spring frame	£13 10
6 h.p. Twin REX & new DE LUXE Sidecar	£21 0
4½ h.p. Four-cylinder F.N., magneto	£23 10

Five 5½ h.p. Twin Rexes, spring 10s. long bars, low frames, aluminium finish, blue lines, 26in. wheels. **£17 17s.**

Grand Sidecar machines. EXCHANGES.

TRICARS.

SPECIAL EXCHANGE ALLOWANCES.
GARAGE ROOM REQUIRED

3 h.p. HUMBER, spray, chain drive, very powerful	£12 10
4 h.p. VICTOR, two speeds, open frame, foot clutch, foot brake.....	£18 10

Cash offers considered to clear.

5½ h.p. TWIN REX, H.B. control, spring forks, and brand new DE LUXE SIDECAR with art cane body, latest improvements and 26 x 2½ tyre, **£22 10s.**

WE HAVE IN STOCK OVER TWO TONS of Brand New Perfect Motor Cycle Covers. Best makes. All sizes. **17/6** each. New Clincher A Won Covers **17/6**, Tubes **4/11**. Bargain list on application. Approval against cash.

200 AMAC AND BROWN & BARLOW Carburettors from **25/-**. Liberal exchange. Allowances.

DE LUXE SIDECARS, 2½in. tyres, everything of the best, built by experts, 3-bolt attachment, 26 x 2½ Clincher A Won tyres **£6 0**

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MOTOR BICYCLES FOR SALE.

TRIUMPH, 1909, perfect condition, rubber studded and Palmer cord tyres, large carrier bag, all tools, horn, numbers, etc.; £37 10s.—94, Gloucester Rd., S.W.

2½ h.p. Griffon-Zedel, new Dunlops, plating and enamel perfect, two accumulators, spares, guaranteed excellent order; £12. or offer.—"Ajax," 391, High Rd., Ilford.

TRIUMPH, 1909, unscratched, perfect condition, spare belts, valves, tools, all accessories; grand bargain, 38 guineas, or near offer.—Apply, 4, Mortimer St., London, W.

TWO Speeds, free engine, 5h.p. twin Vindec and sidecar, magneto, 1909 Amac, Truffault, new Whittle, 2½ tricar tyres; trial; £35.—Ravenswood, Ross Rd., Wallington.

MOTOSACOCHE, late 1908 model, grand condition, spare back cover, free engine device; what offers? must sell.—Paine, Robin Wood, Motor Garage, Anerley Hill, S.E.

J.A.P., 3½ h.p., magneto, Chater-Lea, little used, £18; Vindec twin, 1908, spares, splendid condition, £27; no exchange.—Sunny Bank, Christ Church Rd., Hampstead, N.W.

7-9h.p. Peugeot, Chater-Lea, Longuemare, V.S., adjustable pulley, handle-bar control, R.O.M. ignition, and tyres; owner going abroad; £25.—18, Ranelagh Av., Barnes.

TRIUMPH, new Feb., 1908, in exceptional fine condition, property of a naval officer, only ridden three months in the year; best cash offer to Roberts, 31, Newgate St., City.

BARGAIN.—Fafair, spring forks, adjustable pulley, H.B. control, patent stand, French grey, engine perfect, lamp, tools; 14 guineas.—Palmer, 6, Flaxman Terrace, W.C.

1909 Triumph, nearly new, Palmers, everything in perfect condition; experts invited; bargain, £43, or offer.—Penn and Co., Mortimer Market, Tottenham Court Rd., W.

1908 Triumph, with 1909 improvements, unpunctured tyres, spring saddle-pillar, one of fastest machines on road; lowest £30; seen by appointment.—Jarvis, Lyndhurst, Enfield.

3½ h.p. Humber, two speeds and neutral, fan attachment; trial given; thorough going order; £15, or offer.—Plumb, Annandale, Bensham Manor Rd., Thornton Heath.

TRIUMPH, 1909, fast machine, in good condition, including spare valves, tools, plugs, lamp, and accessories; £37.—Savage, Welbeck Works, Kimberley Rd., Kilburn, N.W.

3½ h.p. Centaur, chain drive, suitable for sidecar, Longuemare, trembler, two accumulators, 2½in. Continental, long bars, accessories; £9 10s.—Best, 265, Borough High St., S.E.

IMMEDIATE Sale or exchange 8h.p. Walsley special running order, latest improvements, for 6h.p. F.N., two-speed gear, sidecar, 1908 or 1909.—Write, S., 1035, Forest Rd., Walthamstow.

TRIUMPH, 3h.p., magneto, ball bearing engine, spring forks, rubber studded, padded saddle, excellent condition; £18, or offer.—Schlotter, 12, London Place, London Fields, N.E.

IF You Want a reliable motor cycle that will carry you anywhere, send for particulars of my Fafair-Chater-Lea, £14 10s.; also Montgomery sidecar, £3 10s.—13, Somerville Rd., New Cross.

TRIUMPH, 1908, little used, new Mabon clutch, studded tyres, butted tube, Autoclipse lamp, spares; £34 10s.; exchange good tricar or three-speed bicycle.—13, Grove Hill Rd., Denmark Hill.

FOR Sale, 5h.p. Kerry, three-speed, handle starting; also £12 12s. Montgomery flexible sidecar, both in excellent condition, had little use; trial here; £26.—Barber, Nelson Terrace, Polegate.

REX, 5h.p., in splendid condition, only ridden 2,000 miles; £22, or offers; to be seen and tried at New Century Motor Co., St. Albans.—Full particulars from M. Brunton, Frogmore, St. Albans.

THE New 1910 F.N. Lightweight, with two-speed gear, free engine, shaft driven, an ideal touring machine, with latest fittings, complete; £40.—Manning, St. John's, South End Rd., Hampstead Heath.

2½ h.p. Brown, fitted with long handle-bars and low seat position, in splendid running order, £10; also 3h.p. genuine De Dion, Chater-Lea, almost new, £15; trial.—57, Park Rd., West Dulwich.

TRIUMPH, 3h.p., latter part 1905; engine, Bowden control, acetylene lamp, and other accessories, machine in first-class condition; price £16.—Can be seen at Mr. J. L. Thomas, 92, High St., Barnet.

NYE'S!—R. G. Nye is now booking orders for 1910. All kinds of accessories stocked; lowest prices; cash or instalment system; please look him up.—69, Leather Lane, Holborn, London. Near Garage's.

4h.p. Humber and coach-built sidecar combination; free engine, handle starting, tyres and everything perfect, fine turn-out; exchange for motor cycle and cash, or sell.—Cross, 180, Liverpool Rd., Islington

3½ h.p. 1908 N.S.U., magneto, H.B. control, spring forks, adjustable pulley, Kempshall back, all nearly new; £29, or exchange 1908 or 1909 5h.p. twin, magneto.—Denham, Castlebar, St. Winifred's Rd., Teddington.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

11-6h.p. Twin Minerva, with Chater-Lea sidecar, long handle-bars, Chater-Lea frame and free engine, gold chain drive, splendid machine, very reliable; fiers—"Glencroft," Knight's Hill, West Norwood, London.

7-9h.p. V.S., two-speed gear, 1909, with Millford castor wheel sidecar, hardly used, condition perfect. lamps, all spares; cost over £80, sell for 55 guineas; owner going abroad.—Dr. Everidge, King's College Hospital, London.

LELPHANT Motor Mart.—H.B. control carburetters, Amac, 21s.; B. and B., 25s. 6d.; 15 amp. celluloid accumulators, in metal lined leather case, 10s. 6d.; 8 by 2½ extra heavy Moseley covers, clearance price 6s. pair.

1907 5h.p. Twin Vindec, magneto, Truffault forks, Mabon clutch, like new, tyres good, powerful machine, and nearly new Montgomery sidecar: £34; like lower power and cash.—Motor, 64, London Rd., Southwark.

DEX 5h.p. Special Twin Tourist, latest 1909 pattern, gold medal machine, condition better than new, complete with spares; genuine sacrifice, £34; advertiser buying Speed King.—Smith's, Rowland Wks., 16, Haverock Hill.

1909 Humber, two-speed, Druid forks, very latest model, including latest gear mechanism, only run few miles, ideal touring machine; good reason for selling; no fault; £39.—Box L341, The Motor Cycle Offices, 20, Under St., E.C.

11h.p. Aster Engined Rowland Motor Cycle, Chater-Lea spring forks, brass torpedo tank, 2½ Palmer tyres, uncut, automatic lubrication, low frame, new condition, not ridden 200 miles; £20, or near offer.—11, Laverstock Hill, N.W.

1909 Triumph, Mabon clutch, spare tube and belt carrier, etc., £37; 5h.p. twin magneto Sarolea-Chater, £23; 3½h.p. Record, Chater frame, £13 10s.; 3h.p. Lurquin, Chater frame, £13 10s.—26, Halstead St., Robart St., Brixton.

3½h.p. Rex, 1907, free engine, new tyres and tubes, Whittle belt, new accumulator, also nearly new rigid sidecar, with new tyres, lot of spares, including new Ducy belt; first decent offer gets the lot.—740, Seven Sisters' Rd., S. Tottenham.

TRIUMPH, late 1907, Palmer cords, with 1909 Mabon clutch, variable pulley, handle-bar control, new pl. piston, and engine, Watawata belt, magneto as new, no saddles, lamp, horn, spares; bargain, £30; buying h.p. machine.—King, 6, Fieldhouse Rd., Balham.

14 10s.—4h.p. Twin Werner, spring forks, new condition, re-enamelled, plated and rebushed, new res. belt, etc., genuine bargain, B. and B. carburetter, L.B. control, less one spring; 10s.; wanted, Sunbeam cycle.—Russell, Light Oaks, St. James Rd., Sutton.

ARIEL, 3h.p., spring forks, engine just overhauled, M.O. valves, B.B. carburetter, new Stanley belt, new accumulator, trembler coil, B100 saddle, Dunlops (back new), fast, perfect; only selling through ill health; bargain, £14.—W. Kirkham, 71, Melford Rd., Leytonstone.

11h.p. Triumph, magneto, September, 1907, not run 24,000 miles, adjustable pulley, uncut rubber non-skids and Peter-Union punctureproof band, many spares and tools, less and better used than many 1909 machines; 25 10s.—Crow, Nottingham Rd., Croydon. Tel.: 230, Croydon.

BRAND New 2½h.p. Lightweight Peugeot, fitted with all latest improvements, including Amac carburetter, Lucas King of the Road lamp, stand, carrier, low build, and very smart appearance; £22.—Can be seen any time, or by appointment with A. Morgan, 86, Dean St., Soho.

NIDEARIST.—1908 twin Rex, Bosch magneto, Roc clutch, spring forks, cantilever seat, Whittle belt, L.B. control, horn, lamp, pump, Mills-Fulford sidecar, motor wheel (made fixed at will), starts like a car, guaranteed perfect throughout; £30.—41, Ashford Rd., Ricklewood.

3h.p. Brown, very flexible, in good order, tyres good, 24" new Michelin tube. Longuemare, new Lithanode accumulator, trembler coil, Matchless stand, T.B. seat-pillar, long bars, B100 saddle. L.A.C. spring forks, as lamp, horn, bag and spares; £11.—110, Sunnyhill Rd., Streatham.

5h.p. Twin 76 by 81 Rex, 1908, magneto, 24 by 21, low, racy, large valves, J.A.P. H.B. control carburetter, large assortment spares, two covers, four Rich tubes, spare engine valves and set tools, spare belt; price £20; if with Jones speedometer, £25.—Lt. Davis, N.N. Barracks, Chatham.

1909 3½h.p. Minerva, two accumulators, all spares, Mabon free clutch variable pulley, not run 100 miles, also Mills rigid sidecar, not quite new, but perfect condition; £35 lowest, cost £45 two months ago; any evening by appointment.—S. Blenkarn, Norham, Bromwell Rd., Beckenham.

WINTER Prices.—3½h.p. Bat. spring frame, £14; 4½ h.p. twin Minerva, low built, pan seat, excellent condition, cash bargain, £15 10s.; 2½h.p. J.A.P., vertical, light, fast, £10 10s.; 3½h.p. Peugeot twin, magneto, spring forks, Palmer tyres, £20; Rex de Luxe, win. clutch, magneto, £24; 2½h.p. Phoenix, magneto, two speeds, grand machine, £15; 2½h.p. Brown, vertical engine, excellent condition, £10 10s.; 3½h.p. Excelsior, M.C. engine, excellent condition, £9 10s.; 2½h.p. Kerry, £9 15s.; several machines, in perfect order, £5. Ve do exchanges.—128, High Rd., South Tottenham.

"SCUM"

is the proper name for some of the low-priced Sidecars at present on the market.

FARRAR'S SIDECARS are equal to any £8 8s. sidecar on the market.

FARRAR'S SIDECARS are guaranteed 12 months. FARRAR'S Sidecars are sent on approval.

BETTER THAN THE BEST, AND HALF THE COST.

Each £4 17 6 Each.

Coach-built body, £2 extra.

An IDEAL WINTER ATTACHMENT. Quite Rigid. No sideslip. Can be ridden without passenger. Guaranteed twelve months. Full particulars on request. Get one on approval. You will be delighted

—A SQUARE DEAL—

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CASH, EXCHANGE, or EASY PAYMENTS.

3½ h.p. 1908 TRIUMPH, very good	£29
4-5 h.p. Twin N.S.U., magneto, spring forks ..	£19
3½ h.p. REX, magneto, two-speed gear	£19
1908 F.N. Lightweight, Bosch magneto	£18 0
3½ h.p. Magneto REX, H.B. control	£17 0
3½ h.p. GRITZNER, 1908, magneto ignition ..	£17 0
1908 N.S.U. Lightweight, magneto	£22 0
3½ h.p. 1908 N.S.U., magneto and spring forks	£25 0
1908 Magneto REX, single cylinder	£18 0
3½ h.p. 1906 REX, M.O.V., spring forks ..	£13 10
REX DE LUXE, magneto, clutch	£26 10
5½ h.p. TWIN REX a beauty	£15 10
3½ h.p. REX, M.O.V., spray	£10 10
6 h.p. TWIN-REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
3½ h.p. BROWN, vertical, M.O.V.	£12 0
3½ h.p. BROWN, magneto, H.B. control	£20 0
3 h.p. MINERVA, champion condition	£11 0
3½ h.p. 1907 REX, lovely goer	£15 15
1908 5½ h.p. REX DE LUXE, Roc two speeds, clutch, magneto	£34 0
4 h.p. ANTOINE, M.O.V., fine goer	£11 0

TRICARS.

5½ h.p. REXETTE, fine machine	£24 0
5-6 h.p. ROVER, newly enamelled	£17 0
4½ h.p. PHOENIX, two-speed	£14 0

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto, £17 10s., or exchange.

SPECIAL PURCHASE.

1909 AMAC carburetters, handle-bar control, 19/6 each.
BROWN & BARLOW ditto, 23/- each.

£3 DOWN secures any of these. Balance 5/- per week.

2½ h.p. Singer, mag.	£6 12½ h.p. Stevens	£5
3½ h.p. Rex	19 12½ h.p. R. and P. ..	£7
3 h.p. Dux	19 12½ h.p. Humber ..	£5
3 h.p. Fafner	19 12½ h.p. King	£8
3 h.p. Noble, M.O.V. £7 1	½ h.p. Humber, 26"	
2½ h.p. Whitelev ..	£6 1 wheels	£9

1909 "PREMIER" Magnetos.

Absolutely the finest magneto. £3 15s. each. DELIVERY FROM STOCK.

"FARRAR'S SPECIAL" BELTING.

Absolutely the finest rubber belt on the market. 33% cheaper than any other high-class belt. 5in., 9d. 7in., 1/1. 7in., 1/3. 1in., 1/6 per foot.

SPECIAL BARGAINS.

Montgomery Flexible Sidecar	£4 4
"Fit-All" two-speed gear, h.b. control ..	£3 5
2½ h.p. Humber engine	30/-
Tricar frame, for wheel-steering	50/-
Low motor cycle frame, vertical	30/-
Very good sidecar, rigid	£3 5
Long Handle-bars, plated	5/6
Re Pattern Handle-bars, drop ends	6/6

Send for Price List of Accessories—Pounds Saved.

Clincher A Won Covers, all sizes, 17/3 each.

Clincher Rubber Studded Covers, 25/- each.

Tubes with valve, all sizes, 4/11.

High-class Machines Wanted. Cash Waiting.

E. FARRAR,

Albion Works, Square Rd., HALIFAX.

MOTOR BICYCLES FOR SALE

2½h.p. Griffon, light, low, fast, £10, or offer; 2 low 2½p. Minerva, footboards, weight 85 £9; new 5h.p. Peugeot engined Trafalgar, 2½ Palm spring forks, £22; must sell.—Seen, 39, East St., V.

3½h.p. Fafner, almost new, Clinchers, re-enamelled and plated, not been 50 miles, £13, or near offer; also 2½h.p. Peugeot, vertical, new Michelin tyre, splendid condition, £11.—38, Barrington Rd., Hors.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1908 3½h.p. Minerva, as new, not run 800 miles, unpunctured; selling through no fault.—Price Bear St., Barnstaple.

F.N., 4-cyl., 5-6h.p., September, 1908, H.B. control, footboards, pedals, R.O.M. tyre (unpunctured), spare, Premier absorber, tools, and spares; 30 guineas buying tricar.—Turner, Newtown, Sidmouth.

F.N., 3½h.p. 4-cyl., magneto, perfect condition, piston rings, gudgeon pins, all bearings correctly adjusted, magneto recently overhauled, recent Michelin-skids both wheels, reliable two-speed gear, with engine, spring forks and saddle-pillar, all spares, including butt-ended tube garaged in Bath; £22, or near offer.—Motorist, 1, St. Michael's Terrace, Helston.

SECTION X.

Scotland.

2½h.p. Singer, good condition, newly overhauled; gain, £7.—W. McRadzean, Straiton, Ayrshire.

5h.p. Roc, two-speed (sidecar optional), every part perfect; what offers?—Tolfree, 47, Falcon Edinburgh.

WHAT Offers?—5h.p. Rex, cantilever seat, Whittle belt, new non-skid back, run 1,975 miles.—Kn Walls, Lerwick.

REX Lightweight, 1908, 2½h.p., little used; all accessories; £16.—Nelson V. Johnston, St. Stephen, Edinburgh.

TRIUMPH, 1909, unscratched, new June, perfect condition, Palmer cord, only used a few times; £38.—Apply, R. Wilson, Glencraig, Fife.

1908 Rex, magneto, lightweight, extra large saddle, footrests, stand, carrier, headlight, toolbag, tools, and spares; £18.—3,336, The Motor Cycle Offices, entry.

TRIUMPH, 1909, new June, guaranteed perfect, mer cord, run 200 miles; owner must sell; £38.—Apply, No. 3,340, The Motor Cycle Offices, entry.

THE Largest Stock and largest variety.—Rex, Moto-Reve, Excelsior, Douglas, Roc, Minerva, Zenith, Indian, Norton. We can supply any make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

LATE 1909 5h.p. Rex de Luxe, Roc clutch, two-speed gear, spring seat-pillar and spring forks, magneto switch and handle-bar control, Premier searchlight, bag, spare new Palmer cord tyre and tube, spare plugs, etc., all in perfect order.—Offers to 3,342, Motor Cycle Offices, Coventry.

TRICARS FOR SALE.

NYE'S!—Two-speed Chain Driven Tricar, Fafner engine, B. and B., good tyres; offers.

NYE'S!—Tricar, complete, less engine, good tyres, etc., adaptable any engine.—69, Leather Lane, Holborn, E.C. Phone, £299 Holborn.

4½h.p. Humber Tricar, free engine, two-speed, water-cooled; any trial; £25.—W. A. Tovey, Hounslow.

£12. — 3½h.p. Singer Tricar, magneto, coach-built in good condition.—Strong, jun., Acton.

ARIEL, magneto, three-speed, perfect; £16, or offer; must sell.—94, Norwood Rd., Herne Bay.

PHOENIX Trimco, 3½h.p. Minerva, tyres good, new splendid running order; £10.—38, Leyland Lee.

SEVERAL Tricars and light cars; want twin or single motor cycles, cash.—2d, Potterneton Lane, Leeds.

5h.p. Garrard Tricar, three speeds, water-cooled, control; £25; others cheap.—20, Potterneton Lane, Leeds.

£10 Cash.—3½h.p. Rex tricar, band brakes, 26 inch wheels, excellent condition.—128, High Rd., Tottenham. Trial.

10h.p. Rextette, seats three, non-skids all wheels, excellent condition; trial; £35, offers.—136, Ibbeth Walk, S.E.

TRICAR Chassis, coach-built, two-speed gear, clutch, radiators, wheel steering; best offer.—74, Croydon Rd., Beckenham.

£16 cash.—6h.p. twin Rex Triette, four speeds, overhauled, money wanted; must sell at once.—Grand Parade, Haringay.

3½h.p. Minerva Tricar, good condition; £13 10s. photograph or lathe part payment.—2, U Kennington Lane, London.

4½h.p. Humber, water-cooled, handle, two speeds, grand condition; offers, or exchange; must sell.—39, Coldharbour Lane, S.E.

TRICARS FOR SALE.

9h.p. Twin-cyl. Water-cooled Tricar, tyres non-skid back, fast and reliable; £40.—Bod-ealcheapen St., Worcester.

ater-Lea, open frame, three speeds, reverse, lamps; £39 10s.; exchange tricar and cash, cycle.—61, Denmark Hill, S.E.

LE 3h.p. Humber Tricar, two speeds and engine, good condition; sell or exchange.—Ivory St., Leathley Rd., Hunslet.

p. Twin Antoine Engine Tricar, chain drive free engine clutch, wing mudguards, grand £20.—26, Birchdale Rd., Forest Gate, E.

quadrant Tricar, Mabon clutch, Watawata, two accumulators, tyres excellent, thorough going rs.—White, 1, Peak Hill Gardens, Sydenham.

x Tricar, seats three, wheel steering, open, two speeds, splendid condition throughout; any time.—115, Boundary Rd., St. John's

car, 4h.p. Stevens engine, perfect condition, engine, fan, two accumulators, tyres unpunc-O.—W. Boct, 8, Beverstone Rd., Thornton

Phoenix Trimco, fan, two-speed, coach-built seat, new tyres, runabout attachment; photo; — Tweedie, Wallacrag, Baldwin Gardens,

4h.p. White and Poppe Tricar, Kent three-gear, side levers, foot clutch, warranted, etc.; exchange bike and little cash, magneto bike pre-Sun St., Pitsmoor Sheffield.

e Light Ormonde Forecar, coach body, with ete front wheel, girder forks to convert into plendid order; £16; sell forecar separate, fit £4.—Burton, Portslade, Sussex.

icar, Chater-Lea, 6h.p. Sarolea, Osborne four-d and free engine, wheel steering and con-non-skid back, Dunlops front, splendid con-; exchange small car.—Caple, Spilsby.

in Peugeot 7-9h.p. Tricar, bucket seats side side, Anglian two-speed, free, Dunlop non-res, perfect light car, run 800, cost £105, st, 838, Harrow Rd., Kensal Green. (P)

Phoenix Trimco, run eight months, just over-l, extra heavy back wheel, non-skid, Cape spares, headlight; owner bought car; cost or nearest offer.—Dr. Moxon, Darley Dale.

o Carrier) Tricar, bucket seats, new September, accessory, two ignitions; any trial; will; buying large car, this tricar is the finest rket; absolutely no trouble.—21, Swan St.,

and Poppe 4h.p. Tricar, coach-built, two ds, free engine, wheel steering, foot clutch, ins, Palmer cord tyres, acetylene lamps, tools, ra studded cover; £30.—Aylwin, 1, Claygate Ealing.

ter-Lea throughout, pressed steel frame, car rs, two-speed, side levers, new 9in. Chater old chains, new tyres 700 by 75, perfect here; trial; £22 10s.; particulars and photo, Ladysmith Rd., St. Albans.

nith Light Tricar, 6h.p. twin J.A.P., three ds, free engine, hand starting, H.B. control, and well sprung, two new accumulators, pair s King of Road lamps, with separate gener-tyres, spares, and the whole in excellent con-e £35; view and trial by appointment. —vner," 5, Beech Mansions, West Hampstead,

C Trimco, 6h.p., 1907, fan-cooled, Peugeot V engine, car lamps, Michelin car tyre, large 40 amp. P.R.E. accumulators, R.O.M. contact ach-built, wheel steering; leaving for Japan month; will accept first offer if genuine; thers invited to inspect after 5 p.m.—J.D.S., Terrace, Chestnut Walk, Whipp's Cross,

ECARS AND FORECARS.

t, plated springs and rim, 26in.; bargain; £3.—James, 17, Rutland Rd., Catford.

S, best value, £4 15s. and £5 10s.; second-from £3 15s.—C. A. Edgar, 123, Holloway n.

'S Halifax Sidecars are sent on approval; ated 12 months; immediate delivery; to fit cycle.

X Sidecars are superb value; £4 17s. 6d.; equalling others costing double.—Farrar's quare Rd., Halifax.

decar, wicker, splendidly upholstered, 26 Pal-tyre, attached Triumph; bargain, £3 15s.—q., E.

Enquiries wanted for any kind of sidecars; exchange, instalments.—69, Leather Lane, ondon.

t, rigid, new August, never used, splendidly tered in red, with apron; cost £7, sacrifice quine bargain; exchange.—Fuller, 79, Harold stone.

12 Guinea Sidecar, brand new, and built hout with genuine Chater-Lea fittings, and linciner tyre; 6 guineas.—H. Bert, 9, Gaskell n, S.W.

Don't go to BLACKPOOL and be disappointed but come to MAUDES' and be SATISFIED.

3½ h.p. 1908 N.S.U., brand new	£31 0
3½ h.p. MINERVA, spring forks	£15 0
4 h.p. HAMILTON, will climb anything ..	£14 0
3½ h.p. N.S.U., Roc two-speed gear and free engine, splendid condition	£22 0
3 h.p. TRIUMPH, magneto, practically new tyres to both wheels, handle-bar control, guaranteed to climb Sutton Bank; a beauty	£20 0
2 h.p. MOTO-REVE, magneto ignition, spring forks	£20 0
3½ h.p. CENFAUR, in good condition	£9 0
3½ h.p. DOWSON, M.O.V.; a bargain	£9 0
2½ h.p. BARTER, Brooks saddle, 26in. wheels	£8 0
5 h.p. Tvin REX, 1906, first cheque secures ..	£15 0
2 h.p. BRADBURY, three-speed pulley and free engine	£10 0
2 h.p. MINERVA, new enamelled, in good condition	£8 0

All machines guaranteed in running order.

50/- DOWN and 5/- weekly secures the following:

QUADRANT, 2 h.p., spray	£8 0
SINGER, 2 h.p., magneto	£6 0
MINERVA, 1½ h.p., coil and accumulator ..	£5 0
REX, 3½ h.p., aluminium finish	£9 0
DOWSON, 3½ h.p., long wheelbase	£10 0

TRICARS.

3½ h.p. HUMBER, cane chair, upholstered in red, splendid condition throughout, and fitted with good tyres, etc.	£15 0
PHENIX Trimco, two-speed gear, foot brake, coach-built, good tyres to all wheels	£15 0

TRICYCLE.

DE DION, fitted with genuine De Dion engine, perfect order, enamelling and plating in splendid condition	£7 10
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CAR.

DARRACQ, r8 h.p., four-cylinder, live axle, three speeds and reverse, four-seater, tyres 880 x 120 mm. back, 870 x 90 mm. front, all practically new, £79 or exchange ..	£79 0
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Beautiful Forecar Attachment, 26in. wheels, Dunlop tyres	£4 0
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Screw-cutting Lathe, 6½in. centres, 6ft. bed, back geared, compound rest, 22 change wheels, overhead reverse motion	£15 0
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You will receive best attention at our hands.

All orders promptly executed.

All machines guaranteed in good running order.

MISCELLANEOUS.

AMAC Carburettors, handle-bar control, all guaranteed. Our price 20/- each complete.

Several bargains in CLINCHER Dreadnought Covers, studded, 26 x 2in. and 26 x 2½in.

Genuine 26 x 2½in. CLINCHER Rubber-studded Tyres. List price 31/6. Our price 25/-

CLINCHER 26 x 2½in. Tubes. Post paid .. 5/6

F.R.S. Lamp, brand new. A bargain 19/6 |

HELLA Searchlight, best plated, divided glasses, complete with generator 14/11 |

Trinote Horns. "What a noise!" 7/3 |

Treble-twist Horns. Will shift a tram 6/6 |

Double-twist Horns, heavily plated 4/6 |

Variable Pulleys, heavily plated 12/6 |

Mudguards, well finished, 3in. 2/11 |

Mudguards, 4in. 3/6 |

MABON Free-engine Clutch, nearly new.... 30/- |

BROWN AND BARLOW Carburettors, handle-bar control, latest type 30/- |

FULLER Plain Midget Coils, 10/6; Tremblers, 17/6.

Liberal allowance on old coils.

FULLER'S Accumulators, 20 amp., 17/; REX, 16/-; MINERVA, 16/-; Midget, 16/-; 5/6

allowed for old accumulators in part payment. All 1909 models.

Long Handle-bars, slightly upturned, dropped ends, 6/6; straight, 5/6.

Swan-neck Seat-pillars, 4/6.

Tubular Carriers, 4/11.

NOTE THE ADDRESS—

MAUDES' MOTOR MART, POWELL STREET, HALIFAX.

Telephone—433 Day, 904 Night.

Telegrams—"Petrol, Halifax."

Also at 136, Great Portland Street, LONDON, W.

SIDECARS AND FORECARS.

LIGHT Rigid Sidecar, 26in. wheel, left, good condition; must sell; £3 5s.—Brown, 140, Turnpike Lane, Hornsey, N.

TRAFALGAR Flexible or Rigid Cane Sidecar, £3 3s.; wanted, screw-cutting lathe (treadle).—172a, Earlsfield Rd., Wansworth.

WHOLESALE and Retail manufacturers.—Baskets, springs, fittings.—Middleton and Co., Watson St., Newington Green, London, N.

STAMFORD HILL.—Our famous sidecars at £4 17s. 6d. are giving great satisfaction.—128, High Rd., Tottenham. Deliveries from stock.

LADY'S Humber Bicycle, fitted new Ariel coupler, spring forks (reinforced), motor saddle, £4; coupler only £1 1s.—13, Grove Hill Rd., Deunmark Hill.

HALIFAX.—Rigid de Luxe Sidecars, enamelled and plated, luxuriously sprung, everything of the best, fit any machine, 26 by 2½ tyres, £6; art cane bodies, 15s. extra; cheaper quality, as advertised, £4 17s.; second-hand sidecars taken in exchange.—Halifax Motor Exchange, Westgate, Halifax.

MILLS-FULFORD Rigid (brand new and unused) Sidecar, with special 26 by 2½ rigid wheel; accept £6 10s.—Halifax Motor Exchange, Westgate, Halifax.

HALIFAX.—Two forecars, 26in. wheels, long side stays, good tyres, less front seat; £2 15s. each.—Motor Exchange, Westgate, Halifax.

MOTOR TRICYCLES.

3 h.p. M.M.C. Tricycle, perfect condition, gear driven; £10 10s.—O.E.C., 57a, Chadwick Rd., Peckham, London, S.E.

3 h.p. Ariel, water-cooled head, two speeds, engine, gear, tyres excellent condition; £12.—Payne, Hil-marton, Calne.

4 h.p. De Dion Motor Tricycle, water-cooled, two-speed, chain driven, perfect condition; £35.—Kemp, Bungalow, Mountfield, Sussex.

QUADCARS.

PHENIX Quad, 8h.p., 2-cyl., magneto, two speeds, five spare tubes, two covers, and many other spares, everything like new, guaranteed great bargain, £60, or near offer.—R. Cripps and Co., Nottingham.

CARS FOR SALE.

PALMER.—15h.p. Darracq, 1906, 4-cyl., hood, screen, dual ignition, fully equipped, fast car; £125.

PALMER.—8h.p. Regal, tonneau, single-cyl., artillery wheels, light, reliable little car; £40.

PALMER.—12h.p. M.M.C., tonneau, seats five, 2-cyl., 810 by 90 tyres, wonderful condition at price, £40.

PALMER.—8h.p. De Dion, genuine, seats five, engine under bonnet, solid tyres; £35.

PALMER.—12-16h.p. Panhard delivery van, 4-cyl., carry about 25cwt., magnificent condition; £60.

PALMER.—16-22h.p. Gladiator, side entrance, 4-cyl., five lamps; great bargain, £125.

PALMER.—16-20h.p. De Dietrich, 4-cyl., side entrance, magneto, hood, screen; bargain, £100.

PALMER.—12-14h.p. Humber, tonneau, 4-cyl., nearly new Moseley tyres, raked steering; £85.

PALMER.—18-24h.p. Prunel landaulet, side entrance, 4-cyl., M.O.V., grand hire car; great value, £125.

PALMER.—17-21h.p. Mors limousine, 4-cyl., magneto, side entrance, pressed steel frame, silent, reliable carriage; £150.

PALMER.—40-50h.p. Lorraine-Dietrich, 1907, 4-cyl., magnificent vehicle; cost over £1,000, sacrifice for £325.

PALMER.—16-24h.p. F.I.A.T., side entrance, late type, splendid touring car, fully equipped; £220.

PALMER.—15h.p. Darracq, 5-seater, 4-cyl., hood, screen, direct top drive, fast, silent; £95.

PALMER.—24-40h.p. F.I.A.T., 5-seater, Roi des Belges body, gate change, hood, screen; £175.

PALMER.—L. N. Palmer, 190, Mellison Rd., Tooting. Phone, 208, Streatham. Garage one minute Merton Rd. tram terminus, Tooting. Cars seen here any day, Sundays before 2. Photos, details per return; easy terms arranged; exchanges.

16 h.p. Prunel Car, 4 cys.; £65; smaller car, tricar, part.—14, Zernatt St., Chapeltown, Leeds.

5 h.p. Alldays, 5h.p. Vauxhall, light 2-seaters: £25; motor cycle part.—20, Potternewton Lane, Leeds.

10 h.p. 2-Cyl. Ariel, latest type, seats four, guaranteed condition; £55.—27, Kingsbury Rd., Dalston.

DARRACQ, 9h.p., detachable tonneau, good condition; advertised £55, take £20.—140, Camberwell Grove, S.E.

9 h.p. Darracq, 2-seater, hood, screen, three speeds; £49 10s.; exchange motor cycle.—13, Peckham Rd., S.E.

POWERFUL 6h.p. Water-cooled Aster, three speeds; exceptional bargain, £25.—Priory, Hardway, Gosport.

SMART 2-seater, 6h.p. Clyde, perfect condition.—Sully's, 10, Old Town, Clapham. Tel.: 1781 Battersea.

In answering these advertisements it is desirable to mention "The Motor Cycle."

CARS FOR SALE.

LIPSE.—12h.p. Aster, 2-cyl., side entrance, pressed steel, Stepney, hood, screen, lamps, speedometer; price bargain, £65.

LIPSE.—20-30h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.

LIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

LIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £42 10s.

LIPSE.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.

LIPSE.—14h.p. Brooke, tonneau, 3-cyl., three speeds, in excellent order; £50.

LIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £57 10s.

LIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

LIPSE.—10-12h.p. Sorex Cab, 4 seats, in splendid order; £87 10s.

LIPSE.—5h.p. Beeston Humberette, two speeds, climbs anything; £28 10s.—Eclipse Engineering Motor Co., 255, Earlsfield Rd., Wandsworth. 'Phone, Putney.

Vauxhall Car, two-speed, artillery wheels; offers wanted; £16.—Ferguson, Walmesley Terrace, Broad.

Darracq, 2-seater, fast and reliable; any trial; £110.—Speke and Ramsden, 35, Crimbles St.,

M.M.C., 4-seater, single-cyl., artillery wheels, three speeds and reverse, fine condition; £25, bar-

Peugeot, 2-cyl., three speeds, reverse, magneto, 2-seater, extremely good condition; £50.

De Dion Phaeton Runabout, two speeds, equal wheels, good condition, perfect order; £18 10s.—High Rd., Tottenham. Exchanges. Photos, parts by return.

Cash and 12 monthly payments of £5 buys splendid Panhard limousine.—Dymchurch, Mellison Rd.,

De Dion engine, side entrance, Cape hood; 85 guineas.—84, Queen's Rd.,

Humber, 2 cyls., Dunlops; trial; £57 10s.; exchange lower power, or motor cycle.—6, Chalsey Brockley.

Durkopp, 2-cyl., 6-seater, perfect order; £35, or exchange.—Brown, 2a, Seagrave Rd., Brompton.

Victrix Car, 4 cyls., condition guaranteed, hood, screen; £85; trial; part exchange 2-seater.—Ealing Rd., W.

UNEL, 20h.p., 4 cyls., 2-seater, very powerful, as new; £75, cycle or tri-car in part.—R. Armstrong, Aldhall Chambers, E.C.

LIFAX.—8-10h.p. 2-cyl. Ford 2-Seated Car, artillery wheels; £24 10s., bargain.—Motor Exchange, Westgate, Halifax.

IENT Motor Buckboard, 4h.p., 2-seater, two speeds, fan-cooled, oil feed from seat, numerous, as new; £25.—The Triplex, Wrexham.

Victrix-De Dion, 2-seater, three speeds and reverse, new Dunlop tyres fitted this season; any condition; £55.—Beardsley, 6, Manners Rd., Ilkeston.

BY Peugeot, 5h.p., three and reverse, perfect condition, hood, lamps, and spares; £45, near office; trial.—Aldington, 59, Haydon's Park Rd., Wimble-

15-18h.p. Ford, 2-seater, 4 cyls., will do 40, very fast uphill, excellent condition; £80; allow £25 good motor cycle.—Pilkington, Marble Place, South-

h.p. M.M.C. 2-seated Car, three speeds and reverse, good condition; sell, or exchange for first-motor cycle.—Particulars, Melville, electrician, Kirk-

12h.p. Car, 5-seater, three and reverse, new gears and tyres, 870 by 90, three lamps, horn, and cover and tube; £45; trial run, or exchange 2-cyl.; photo.—Hewlett, Upton-on-Severn.

12h.p. 2-cyl. Ford, side entrance, hood and screen, absolutely perfect, fast and comfortable, light res and petrol; small 2-seater entertained part: seen on.—Box 3,354, The Motor Cycle Offices, Coventry.

INSURANCE.

EASE Send for full covering Motor Cycle Policy from 18s. 6d. per annum.—Bass, Insurance Broker, r.

URANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance Broker, rich; fire, 2s. 6d.; third party, 7s. 6d.; accidents, inclusive policy, 18s. 6d.; please write for particu-

TUITION.

TOR Car Driving Taught; 10 lessons 30s.—Trafalgar Motors, 39, East St., W.

TOR Car Driving and motor tyre repairs taught in one month.—Particulars, Stimpson, Stratford-on-

COLLIER'S MOTORIES,

37, Park Cross Street,

(Facing Town Hall.)

LEEDS.

CASH OFFERS and EXCHANGES

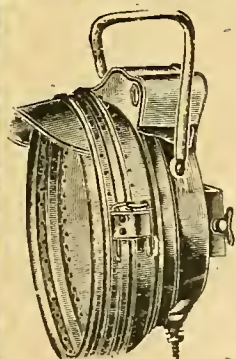
receive every consideration.

Brand New 1909 V.S. : good stuff....	from £48 0
Brand New 1909 N.S.U.'s	£27 10
1908 3½ Magneto MINERVA, spring forks	£21 10
ROC, 1907, magneto, H.B. control; cheap...	£23 0
MOTO-REVE, Druid forks, magneto & belt	£25 0
MOTOSACOCHE, 1908, spring forks.....	£22 10
N.S.U., 3½ magneto, low.....	£20 0
3½ h.p. ARIEL, M.O.V., 26in. wheels	£15 15
F.N., 2½, vertical, 26in. wheels, magneto....	£15 5
REX, 3½, 1906, spring forks, M.O.V.	£12 10
4 h.p. ANTOINE, M.O.V., spray, vertical ..	£15 0
1907 3½ QUADRANT, spring forks	£16 10
M.M.C., very low Chater-Lea, vertical	£12 15
1907 3½ REX, spring forks, low	£16 10
ALLDAYS, 2½, 26in. wheels, spring forks	£11 0
REX, 3½, John-o'-Groat's model, 22in. frame	£9 10
KERRY, 2½, spray, 26in. wheels	£10 10
BUCHET, 2½, long low mount	£9 10
3 h.p. HUMBER, spray, clutch	£7 10
REX, 3½, spray, vertical; very cheap.....	£7 0
TRIUMPH, 2 h.p. Minerva engine, spray ..	£9 10
QUADRANT, 2 h.p., low, 26in. wheels	£8 10
REX, 3 h.p., long bars, dropped seat	£7 10
RALEIGH, 2 h.p., vertical	£7 5
REX, 3 h.p., good value, vertical engine....	£6 15
MINERVA, 2 h.p., M.O.V., spray	£6 15

Full list on application.

"BIRDIP" BEATERS.

1909 Twin VINDEC	£64 0
Twin REX, 5-6 h.p., magneto.....	£21 0
Four-cylinder F.N., 1908 model	£27 10
1908 Twin REX DE LUXE	£32 10
Twin REX DE LUXE, two speed.....	£32 10
6 h.p. Twin ANTOINE, ROM, a filter	£16 0
5½ h.p. Twin REX, spring forks	£17 17



The BRITELITE.

Best generator lamp on the market. Perfect in every detail, complete with clip and extra large generator, 17/6.

Approval against cash.

£3

deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

BROWN AND BARLOW and AMAC Carburettors, with handle-bar control. B. and B., 25/-; Amac, from 20/-. BIG EXCHANGE ALLOWANCES.

£6

is more than some dealers ask for a sidecar, but it's cheap when you see what you get. We will send on appro. on receipt of cash. 2½ tyre.

5½ h.p. REX DE LUXE, magneto, spring forks, handle starting, and new art cane sidecar, 26 x 2½ Clincher tyre, £29 10s.

MISCELLANEOUS.

The Latest in Headlights, The BRITELITE	17/6
The Latest in Magneto Cut-outs.....	2/-
Lever Belt Punches	2/3
Screw Belt Punches, extra strong	1/6
BOSCH Plugs, post free	3/-
Second-hand XL'ALL Spring forks.....	11/6
HORNS, double twist, marvels of value ..	5/3
COWEY SPEEDOMETER	£3 10 0
New XL'ALL Spring Forks	17/6
Swan-neck Seat-pillars	4/-
Separate Generator Headlights	8/6
Rex Pattern Handle-bars, heavy gauge ..	6/6

Enamelled Mudguards, complete with stays: 3in. 2/11. 3½in. 3/6 per pair.

TYRES DEARER !!!

NOT AT COLLIER'S

ALL NEW, PERFECT, AND BEST MAKES.

24 x 2½ 15/6; 26 x 2½ 18/6; other sizes 17/3 each. Send for Lists (free)

CONTINENTAL TYRES BY RETURN.

Send for list giving allowances.

SITUATIONS WANTED.

GENTLEMAN, 26, public school, desires situation with motor cycle firm, six years' experience with leading car manufacturers, including three years' practical, five years' motor cycling experience, London preferred.—3,350, The Motor Cycle Offices, Coventry.

APPRENTICES.

APPRENTICE.—Those who wrote enquiring premium required, please write again to C. Wray, Sutton Weaver, Warrington.

GARAGES.

GARAGE.—Motor cycles, tricars, cars garaged during winter, from 6d. weekly.—Goodwin, 246, Coldharbour Lane, Brixton.

AGENCIES.

AGENCY.—City motor and cycle depot open for a good motor cycle agency for coming season.—Letters Anglo, 31, Newgate St., City.

BUSINESSES FOR SALE.

MOTOR Garage.—Premises to let, main road London to Newmarket; low rent.—Full particulars, apply H. Brazier, Hill House, Harlow Common, Essex.

DOES anyone know any district, London or within 100 miles, where absolute need exists for good motor repairing works and small garage. Only skilled mechanics employed, under advertiser's personal supervision.—Replies gratefully received by "Rex," Messrs Deacon's, Leadenhall St., London

ENGINES.

6 h.p. De Dion Engine, good condition; £8.—289a, Brixton Rd., London.

GENUINE De Dion Air-cooled Engine, 8h.p., 2-cyl. complete; £12 10s.—22, Catford Hill, Catford.

3 h.p. M.M.C. Petrol Engine, £4; 6h.p. twin, £6.—Murray, 37a, Charles St., Hatton Garden, Holborn.

ENGINES.—Roc 4h.p. ball bearing engines, M.O.V. British workmanship.—A. W. Wall, Ltd., Ro Wks., Birmingham.

4½ h.p. Genuine De Dion Engine, carburetter, and clutch, guaranteed; £10.—Fry, 71, Woodberry Av., Winchmore Hill.

5 h.p. Water-cooled Petrol Engine, nearly new, suit boat or stationary work, with outside flywheel, internal clutch; £7 10s.—205, Barton St., Gloucester.

OFFERS Wanted.—3h.p. Kelecom, just rebushed and overhauled, including new cyrmoer; exchange No. 6 frame and wheels.—3,351, The Motor Cycle Offices Coventry.

FIRST £6 10s. secures 5h.p. twin Sareola engine Longuemare carburetter, with inlet pipe, and silencers, all in good order; must sell (rare bargain).—Crickton, Bonnersfield, Sunderland.

10 h.p. Double-cyl. Pick Engine, with Longuemare carburetter, inlet pipes, and exhaust, water pump and unions, in perfect condition throughout; £9 10s. a bargain; seen any time.—115, Boundary Rd., St John's Wood.

NEW and Second-hand Engines, 1½ to 8h.p.; cash instalments or exchange; 12 years' Coventry experience; all types cycle motors; M.M.C., De Dion parts in stock; all repairs, prompt and moderate.—The Record Motor Co., Wembley, Middlesex.

MADISON Dynamo and Motor Works, Littleover Derby, have designed and improved a neat, practical, reliable water-cooled model ½h.p. petrol motor, and are supplying sets machined at 9s. 9d. upwards. These the company are selling for aerial and practical experimenting work, and mechanics and others will do well to see their wonderful illustrated 4d. catalogue; 30 sizes above; nothing equal on the market; get prices.

IGNITION APPLIANCES.

IT is a fact.—Pure platinum is best for contact tips.—Meredith, G.O.M., Sumner Lane, Birmingham.

TREMBLERS for all makes of engines, with solid pure platinum tips, 1s. 3d. each.—Meredith G.O.M., Birmingham.

PREMIER Magnetos, brand new, 1909 model, single cyl., £3 15s.; twin-cyl., £4 10s.—Farrar, Squar Rd., Halifax.

4-CELL Primary Battery, for charging ignition accumulators, from 2s. 6d.—Pearce, 23, Repton Rd. Brislington, Bristol.

JEBRON, Registered 291-289, vastly superior to platinum, cures misfiring; best contacts for blades screws, rockers, magnetos, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmers 9d.; Jebron screws fit Bosch magnetos DA2, DAV contact breakers 5a, 5b, 5c, 5s, 6d. pair; old screws Jebronised, 2s. 6d. each. Over 10,000 fitted. Try it.

JEBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent. Liberal trade terms.

JEBRON Contacts were used by Messrs. H. A. Collie (24 hour), C. R. Collier, H. V. Colver, Harr, Martin, when making their recent world's records.

IRIDIUM Champion Contacts.—Any parts fitted returned same day, 1s. 3d. each, warranted pure special iridium trimmers, 9d.; magneto screws refitted 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.



IMPORTANT.

Having considerably increased our plant for the production of motor cycle belting, we have pleasure in announcing that all orders can now be executed from stock, same day as received.

1/1	1/4	1/9	2/4	3/6	per foot.
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CAMEL BELTS



May be obtained wholesale from—

- Messrs.
 EAST LONDON RUBBER CO.,
 29, Gt. Eastern St., E.C.
 BRANSOM KENT & Co., LTD.,
 43, Gt. Eastern St., E.C.
 CHATER & Co.,
 101, Uxbridge Rd., Shepherds Bush.
 CUTHBE & Co.,
 37, Gt. Eastern St., E.C.
 J. BRIDGER,
 Tamworth Rd., Croydon.
 TIMSON BROS.,
 Snow Hill, Birmingham.
 C. LOHMANN,
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 and
 BROWN BROS., LTD.,
 Gt. Eastern St., E.C.

F. REDDAWAY & CO., LTD.
 16, Great Eastern Street,
 LONDON, E.C.



IGNITION APPLIANCES.

IGNITION Coils and Magnetos Repaired, any make; accumulators repaired and charged; best workmanship, moderate charges. Tel.: 453.—Glover Bros., Electricians, Coventry.

R.O.M. Synchronised and Ideal Contact Breakers, strongly recommended by "The Motor Cycle." Catalogue free.—Continental Motor Co., 32, Rosebery Av., London, E.C.

E.I.C. Plain Coil, guaranteed two years, 21s.; accumulators, guaranteed make, new, 5 amp., 6s. 6d.; 11 amp., 9s.; 20 amp., 12s. 6d.; 40 amp., 21s.; 60 amp., 25s. 6d.—Astley, 88, Landcroft Rd., Dulwich.

MOTORISTS, we are experts on ignition; send your coils, accumulators, and magnetos to us for overhauling and repairs; all work guaranteed; promptness and dispatch.—The Victoria Garage and Electrical Co., Ltd., Coventry.

MAGNETO Repairs.—Bosch magnetos repaired in two days at half makers' prices; work guaranteed; accumulator and coil repairs a speciality; Mayfair accumulators, 15 amp., 10s. 6d.; guaranteed.—Fellows, 49, Hertford St., Mayfair.

MAGNETOS! Magnetos!!—High tension Bosch from £3 15s.; Ruthardt from £4; C.A.V. from £4 10s.; Simms from £3 15s.; deliveries by return. From 10s. to 30s. allowed for your coil and accumulator in part payment. Accessories to value accepted in payment if required.—Continental Motor Co., 32, Rosebery Av., London, E.C.

TYRES.

HOLDTITE Patches, the absolutely only sure patch on the market.

HOLDTITE Patches, the only patch that will not come off, no matter what heat or speed of tyre.

HOLDTITE Patches, small size, 1s. per dozen; sample free on receipt of 1d. stamp.

SURRIDGE'S Indiarubber Magneto Covers, 2s. 6d. each, post free.

HOLDTITE Solution, splendidly made; 6d. and 1s. per tin.

SURRIDGE, 58, George St., Camberwell, London, S.E.

MAGNETO Covers made of special high-class rubber, warranted not to tear; wet, mud, and oil resisting; 2s. 6d. each; post 1d.—Below.

SURRIDGE'S Special Heavy Inner Tubes, made of best red rubber, will stand speed and the roughest of handling.—Below.

SURRIDGE Tubes are the result of a practical hard rider of all weathers; the absolutely best obtainable.

SURRIDGE Tubes, 26in. by 24in., 13s.; 26in. by 24in., 13s. 6d.; money returned with pleasure if not approved; best quality.—58, George St., Camberwell, London.

26 by 24 Michelin Extra Heavy Wired Cover, new; 30s., cost £2.—18, Ranelagh Av., Barnes.

26 by 24 Clincher A Won Cover, £1 1s.; inner tube, 6s. 6d.—C. Sullivan, 283, Clapham Rd., S.W.

SIDE-SLIP Defied.—Jacknoskid, the combined non-skid and jack, fit any motor cycle; approval, 25s.

JACKNOSKID, latest pattern, simple to operate, guaranteed stop side-slip; as jack, unequalled for usefulness.

JACKNOSKID, as non-skid, does not slow machine; as jack, quickest operated.—Hayes, 44, Ball's Pond Rd.

26 by 24 Dunlop beaded tyre and tube, 10s.; 26 by 24 Clincher, 6s.—Brown, 2a, Seagrave Rd., West Brompton.

BASTONE for Covers and Tubes.—See last week's advert. — 215 and 217, Pentonville Rd., King's Cross, London, N.

RUBBER Studded Re-treading.—Motor cycle covers, all sizes, 13s. 6d.; plain, 10s. 6d.—Ardea Co., King St., Hammersmith.

2,000 Clincher Tubes, 28 by 2, 24, 21, 3s. 11d.; 26 by 2, 24, 4s. 11d.; 26 by 24, 5s. 6d.; all brand new.—Booth's Motories, Halifax.

1,000 Clincher Covers, 17s. 6d.; Clincher rubber studded, 25s.; 26 by 24 Peter-Unions, 17s. 6d.—Booth's Motories.

5,000 Old Covers and Tubes wanted in part payment for new Continentals, R.O.M., Palmers, Shamrocks; gratifying allowances; right place for tyres.—Booth's Motories, Halifax.

NON-SKIDS, all makes, from 11s., fitted to your own cover; lists free.—Continental Motor Co., 32, Rosebery Av., London, E.C.

CHEAPEST House in Trade.—Heavy motor cycle covers, all sizes, 12s. 6d. each; special quality, 28 by 24, 27s. each.—Stockport Garage, Wellington Rd. N., Stockport.

LUCKY Farrar.—Bought two tons tyres before rubber advanced; Clincher covers, 17s. 6d.; tubes, 4s. 11d., all sizes; Continentals and other makes equally cheap.—Square Rd., Halifax.

700 by 85 Stepney, complete, £3 15s.; 760 by 90 Michelin, new non-skid, 47s. 6d.; wired covers, motor cycle, 11s. 6d. each; beaded, 13s. 6d.—128, High Rd., S. Tottenham. Cash, approval.



6/6 Each.



HELLESEN DRY BATTERIES

IDEAL FOR TOURING. NO CHARGING, NO ACID, AND NO TROUBLE.

GOLD MEDAL

LONDON to EDINBURGH

NON-STOP

QUARTERLY TRIALS.

SURREY M.C.

12 HOURS'

RELIABILITY TRIALS,
 Farnham to Weymouth
 on SEPTEMBER 15th,

ABOUT 200 MILES,

Mr. F. A. McNAB, on 3½ h.p.

TRUMP MACHINE, made a

NON-STOP

and secured

GOLD MEDAL.

His only form of ignition being a single
 H.H. "FLASH" ELLESEN BATTERY
 as illustrated above.

Write for Catalogue and Descriptive
 Booklet, free on application.

A. H. HUNT,

115-117, Cannon Street,

LONDON, E.C.

£1,000**TO EXCHANGE FOR
SECOND-HAND
MOTOR CYCLES FOR
FOREIGN
EXPORTATION.**

Send up specifications of your old machine; state age, condition, ignition, and your selling price. Don't ask £10 when you are prepared to accept £5; this only wastes time and postage. I want 100 machines at £5, 100 machines at £10, and as many as I can buy at higher prices; also any make of sidecar. I am the buyer of magneto machines; you can do better for you; **prompt cash.** **Note.**—I am the largest buyer for foreign exportation, and have the money waiting.

NEW 1910 MODELS.—Order now if you want it for Easter, as all makers are busy with colonial orders. I am booking for delivery of all makes in February, and if you want a machine for Easter you must order it **at once.** I will take your old machine and will allow you a romping good price off the price of new model, which will be sent direct from the makers.

SECOND-HAND MACHINES.—I have always a good stock of right machines to suit all pockets, from £5 up to £40. State what make you want, what you are prepared to pay for it; if for cash or on deferred payments; also if you are wanting to exchange another. I can fix you up anyway and all ways; write me, it will only cost a penny, and may be worth pounds. **Note.**—I send my crocks abroad, and only sell in England well-used machines which will travel; therefore I am in the best position to suit you.

HAVE YOU HAD MY MONTHLY BARGAIN LIST? If not send up at once before the cheap lots are cleared. I cannot place. All are job lots bought for spot cash. Remember, I am the largest job lot buyer in the motor trade, and do a big trade on **small profits and quick returns.**

LINCOLN ELKS.—Before wishing you a weekly good-bye, let me mention that **the Elks are going strong,** and I have only two in stock, yet **fifty on order.** Can I send you specifications? The price for 3 h.p. is **£27, carriage paid.** I will accept your old machine in part payment, and book delivery at once. Testimonials from satisfied riders arrive daily. **Worth knowing.**—No one else will send you an **Elk carriage paid.** I have contracted for the sole wholesale and retail agency, therefore am in at the bottom price.

5 TO GIVE AWAY.—Did you read last week's *Motor Cycle*? If not, buy, beg, or borrow one, and see my advertisement for the offer to customers buying new or second-hand motor cycles from me.

GOOD-BYE, GOOD-BYE, BOYS.—Now I must dry up, so I will leave what more I have to say until next week. In the meantime, don't forget to write for that **Bargain List,** now ready for despatch.

Remember the old address:

**HITCHEN'S LANCASHIRE
MOTOR EXCHANGE,**

Aston Rd., Morecambe, Lancs., England.

tel.: 112. Telegrams: "Motor, Morecambe."

TYRES.

ALL 26 by 2½.—Two Peter-Union tubes, new, 8s. each; two Rich detachables, 10s. 6d. each; one Continental, new, one patch, 6s.; two ribbed covers, new, 17s. each; two new rubber studded, 30s. each. **All 26 by 2¼.**—Two Peter-Union tubes, new, 7s. each; one new rubber studded cover, 21s.; one second-hand Palmer cover, 15s.; two rubber studded, heavy, 27s. 6d. each; two new ribbed, 16s. 6d. each. **All 26 by 2.**—one new ribbed, 16s. 6d.; one re-treaded, 10s.; one second-hand tube, 4s.; 28 by 2 new ribbed cover, 16s. 6d.; 28 by 2½ second-hand rubber studded, 7s.; one 24 by 2½ new tube, 10s.; approval.—J. Fox, 136, Suffolk St., Birmingham.

REPAIRERS.

PREMIER Motor Co. for all repairs.

PREMIER Motor Co. for Antoine parts.—Aston Rd., Birmingham.

ANTOINE Cylinders, pistons, etc.; prompt delivery.—Premier Motor Co., Aston Rd., Birmingham.

COMPRESSION.—Cylinders ground and new pistons fitted; 24s.; oldest engines restored to highest vitality.—Premier Motor, Birmingham.

OBsolete Parts accurately duplicated; irreproachable work; quotations free for all repairs.—Premier Motor Co., Ltd., Aston Rd., Birmingham.

£5 Any Motor Cycle we cannot repair.—White's, 22, Brooks Alley, Liverpool. Royal 3782.

ACER, Ltd., for repairs.—64, Grosvenor Rd., Hanwell, W. Tel.: 438 P.O., Ealing.

COMPRESSION Restored, cylinders ground to .001 in. guaranteed; pistons fitted.—Acer, Ltd.

ENGINE Repairs in all branches.—Overhauling, re-bushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges. Lists free.—Acer, Ltd.

CLEMENT-GARRARD Interchangeable Parts.—The makers, Garrard-Maxfield Motor Mfg. Co., Aston Rd., Birmingham.

OXY-ACETYLENE Welding.—Broken cyls., flanges, cracked water jackets, valve seatings, pistons, and any broken castings.

OXY-ACETYLENE Welding.—Aluminium crankcases a speciality, overhauling, cyls. ground, new pistons fitted, all work guaranteed.—West London Welding Co., Essex Place, Chiswick. Tel.: 536.

CRACKED Water Jackets of Motors successfully repaired by Lea's metallurgical process.—Lea and Son, Engineers, Runcorn.

TO West of England Motosists.—Car and motor cycle repairs, prompt and reliable; cylinders rebored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Wks., Bridgwater.

CCCCCCCC.—Compression means power; cyl. rebored and new piston fitted; guaranteed fit. 4-1,000 in., bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

MOTORISTS save money, secure highest efficiency by sending repairs, any kind, here. We are compression specialists. Cylinders rebored, ground, and new pistons fitted from 12s. 6d.—Tennant Engineering Co., 53, Tennant St., Birmingham.

WELDING and Machining.—Cylinders, all motor parts and every description of machinery welded by experts; re-boring, re-bushing, and other machining and fitting executed by Commercial Inventions Exploitation Co., Ltd., 148, Edmund St., Birmingham.

NOW is the time to get your repairs done. There is nothing too great or small in this direction; let us send you our terms, or, better still, trust us by sending your work on direct.—Note carefully the address, The South London Motor Co., 5 and 6, The Parade, Coldharbour Lane, S.E. Phone, 868 Brixton.

EXCHANGE.

LADY'S £8 10s. Centaur, from stock, for motor bike.—124, Romford Rd., Stratford.

MOTOR Cycle, 2h.p., requires coil; £5, or exchange lady's cycle.—Russell, Belle Lane, King's Norton.

3½ h.p. Singer Tricar, magneto, for light twin, small cash adjustment.—Motorist, 66, Brouncker Rd., Acton.

4½ h.p. De Dion Forecar, open, good condition; £15, or good bike and £10.—16, Wheeldon St., Gainsborough.

TRICAR, less engine, for bike, less engine, spring forks, finished or unfinished.—4a, Shandon Rd., Clapham.

TAKE push bike and £8 10s. for Humber tricar, splendid order throughout; stamp, photo.—2, Freehold St., Hull.

3 h.p. Birmingham Quadrant, exchange for lathe or band sawing machine, or sell.—Thomas Bond, Barford.

EXCHANGE, new 11-guinea three-speed cycle for good motor cycle.—Hutchison, Apsley Villas, Clapham, S.W.

10—12h.p. Regal, spares; exchange for motor cycle and little cash.—Groves, plumber, Church St., Edmonton.

EXCHANGE £8 8s. lady's cycle (new) for motor cycle, any condition, lathe wanted.—172a, Earlsfield Rd., Wandsworth.

**CLIFFORD
WILSON,****SIDECARS.**

Knowing that there is a demand for a really first-class Sidecar at a reasonable figure, I have decided to introduce the

HAMOEX SPECIAL.

The finest sidecar ever produced. Fitted with Clincher Air or Clipper Reflex tyre, art cane body or luxuriously upholstered wicker body, steel mud-guard, and improved three point attachment. Plenty of leg room is provided. Equal to any ten-guinea sidecar upon the market. My price is . . . **£7**

HAMOEX POPULAR.

Introduced to meet the demand for a sidecar at a popular price. First-quality wicker body, good tyre, etc. **£4 17 6**

LAMPS.**HAMOEX SEARCHLIGHT.**

Mirror lens, divided glasses, large burner, separate generator, with extra strong clip, riveted joints, perfect finish; astounding value . . . **24/6**

HAMOEX POPULAR.

A thoroughly well-made and efficient separate generator lamp, with same quality generator as the Hamoex Searchlight, convex lens . . . **18/6**
*Either of above lamps on four days' trial
Money refunded if not approved of.*

PIPES.

A motorist's pipe at last. Correct design for perfect combustion. Comfortable and light. In briar only.

Specially selected . . . **1/-**
Superior quality . . . **1/6**
Mounted . . . **2/-**

BOOTS.

High legs, shaped calf, in brown, willow, or black calf, any fitting or size . . . **14/6**
Specially strong, cleans with oil. Very suitable for winter riding . . . **11/6**

HORNS.

Strong double-twist horns, good clips, a perfect road clearer . . . **5/6**

CARBURETTERS.

Special 1910 Amac, variable jet, new h.b. control. Each carburetter adjusted to make of machine ordered for **32/6**
Brown & Barlow, with h.b. control **26/6**

COATS.

Specially made for winter riding, double-breasted, inside pocket, yellow oil skin. Any length and chest . . . **15/-**

Speed King Rexes converted to all-weather roadsters, including new handlebars, footrests, etc., complete and fitted . . . **£2 5**

**HARROGATE
MOTOR EXCHANGE,**

near Drill Hall.

IF YOU OWNED A HORSE

you wouldn't give it any rubbishy kind of food and treatment and yet expect the best service from it, now would you?

**DOESN'T YOUR STEEL
STEED,
YOUR MOTOR CYCLE,**

serve at least the same careful consideration?

**IS
ANY OIL, the first that comes
along, good enough for the
ENGINE?**

practical Motor Cyclists, we say most emphatically that the best, the very best, only is good enough, and that mere cost is a detail compared with result.

CHEMICO MOTOR BIKE OIL

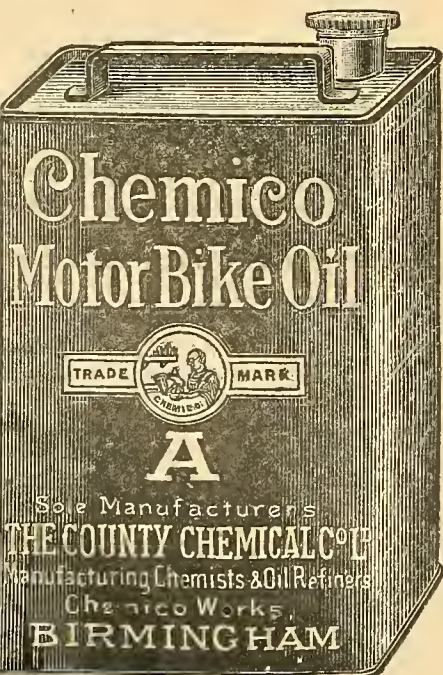
the best yet. Hundreds have found it so and have said so, yet the price is within reason,

1/8 per quart.

FOR YOUR OWN SAKE TRY IT.

**the County Chemical Co. Ltd.
BIRMINGHAM.**

London—43, Great Eastern Street.
Manchester—235, Deansgate.
Glasgow—128, Renfield Street.



EXCHANGE.

EXCHANGE. Amazon Parrot, splendid talker, for belts, tyres, or lamps.—234, High Town Rd., Luton, Beds.

WILL give complete photograph outfit, value £12, and cash, for motor bike.—Beech, postmaster, Shireoaks, Workscp.

5-6h.p. Twin Peugeot and sidecar, not ridden 300 miles, for good 2-seater car, or sell.—Rhodes, Derbyshire Lane, Hucknall, Notts.

UPRIGHT Iron Grand Pianoforte, cost £29 8s. this year, for magneto motor cycle.—Evans, furnisher, Sparkhill, Birmingham.

EXCHANGE. 5h.p. Twin Kerrv. perfect, for light-weight Moto-Reve, Motosacoche, Douglas.—Powell, 31, Fitzgeorge Av., Kensington.

5h.p. Beeston Humber, water-cooled, chain driven, for small car, solid tyres, and cash; no rubbish.—49, Abbott's Park Rd., Leyton, Essex.

21h.p. Singer, magneto, wants slight repairs; will exchange for 1909 three-speed push bike, or sell £8.—Kay, Tyn-y-fiordd, Colwyn Bay.

GIVE new rubber belt for X'all spring forks, or other accessory. Give new treadle lathe for air or water-cooled engine.—Booth's Motories, Halifax.

4h.p. Antoine, spare cover, accumulator, valves, lamp, etc., plating and enamelling not scratched, for strong lathe.—Gale, 8, Baker St., Enfield.

EXCHANGE 3h.p., low, long bars, B. and B., latest, perfect, also 2h.p. Quadrant, for twin motor cycle and sidecar.—Betts, butcher, Bulwell, Notts.

8h.p. 2-cyl. Car, seats four; exchange, tricar, or motor cycle and sidecar; seen by appointment.—Castleman Brown, Pannett's Garage, Kemp Town, Brighton.

BACK-GEARED Lathe. 4½ centres, set round adjustable split dies and tap, from ¼ to 2in., for good motor cycle or tricar.—3,341, The Motor Cycle Offices, Coventry.

GIVE Heavy Silver Waltham for H.B. control carburetter, new; give new lady's silver watch, for 10 amp. accumulator, perfect.—Heap, 26, Fitzwilliam St., Huddersfield.

EXCHANGE. 3h.p. Humber tricar, free engine, and N.S.U. bike, both in good order, for 1909 bike, long, low, magneto, must be in first-class condition.—L. Horton, The Firs, Smethwick.

SINGER Tricar, two-speed gear, magneto, foot clutch, wheel steering, starts like a car, grand running order, for 4h.p. magneto motor cycle and sidecar, or sell £22.—Axell, Elm Rd., Purley.

1910 Latest B. and B., or Amac H.B. control carburetters: delivery by return; we allow 7s. 6d. to 30s. on your old carburetter in part exchange.—Continental Motor Co., 32, Rosebery Av., E.C.

EXCHANGE for good motor cycle, tricar, or reliable small car, new high-class furniture, any description, valued wholesale, direct from works.—Furniture Manufacturers, 9, French Place, Shoreditch, London.

EXCHANGE Nice little 4-seater, 10-12h.p. Buchet engine, Panhard gears, splendid running order, beautifully upholstered and painted green, £50, for good motor bike and sidecar.—Fairfield, 2, Newarke St., Leicester.

REX. 3h.p., Continental tyres, two accumulators, in perfect condition; will exchange for Triumph or Rex, magneto ignition, new or second-hand, must be perfect; cash adjustment.—8, Beech Rd., Bourneville, Birmingham.

31h.p. Humber Engine, for vertical frame, complete with Albion free engine clutch and fittings, adjustable pulley, latest B. and B. handle-bar control carburetter, the whole in first-class order; sacrifice £5, or exchange useful accessories and cash.—32, Rosebery Av., E.C.

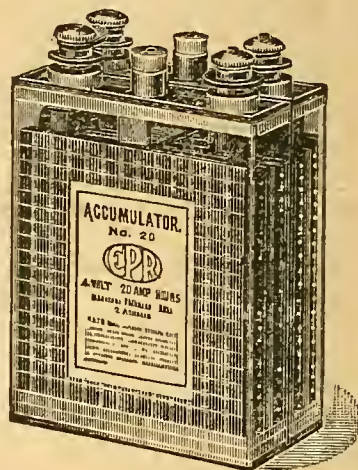
MICHELIN Cover, good Palmer, fair; two good tubes and rims, all 28in. by 2in., beaded, 25s.; oil skin jacket, good, chest about 46in., 6s.; new pulley, off 1906 twin Rex, 4in., 3s.; 8ft. 6in. by 4in. leather belt, 5s.; for Brooks B105 P. saddle, or 1909 B. and B. carburetter.—Finch, St. Mary's Rd., Southampton.

23h.p. Lightweight Adams-Precision, Eadie torpedo, F.N. carburetter, trembler, Mitcham double butted, excellent, low, also gent's 22in. roadster, Eadie throughout, 2ft. drop, Palmers, Brooks, coaster, Crabbe, Dover guards, Lucas carrier, etc., best plating and enamelling, as new; exchange for sidecar mount; £20.—46, Eade Rd., Finsbury Park.

6-7h.p. J.A.P. 2-seater Car, racing type, bucket seats, raked steering, Cape hood, wind screen, 2-cy. three speeds and reverse, Lodge synchronised ignition, three-point suspension, everything, including tyres, in perfect condition; would accept modern magneto motor cycle (two-speeds preferred) and cash, or sell £60.—Oliver, 13, Weighton Rd., Anerley, S.E.

SUNBEAM Push Bicycle, with little oil bath, as good as when it left the factory, both in appearance and actuality, two speeds, Sunbeam patent back-peddalling brake, cost £16, has not been ridden more than 200 miles altogether; also Royal focal plane camera, 5 by 4, cost £6 6s., hand or stand, capable of taking pictures from 1-2400th part of a second upwards; also powerful telescope, new this year, costing £4, length when extended, 2ft. 7in.; in exchange for modern H.B. control Triumph, or other motor cycle; no rubbish; must stand every test.—Barlow, Blackheath, Birmingham.

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For racing purposes some experienced riders still prefer accumulators and coils for getting the utmost out of an engine. The first and the third machines in the October Motor Cycle Handicap at Brooklands last Wednesday had accumulator ignition, also the first and second in the Autumn Handicap."

Extract from last week's issue of

"The Motor Cycle," Oct. 13, 1909.

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THE MOTOR CYCLE

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

A REPLY TO A TAXATION QUERY.

WE have received the annexed most interesting and valuable letter from JS 92 on the subject of taxation. As it is too lengthy for the "Letters to the Editor" columns we publish it separately:

Referring to the paragraph under the above heading in a recent issue, I take the liberty of pointing out a very general misapprehension as regards the collection and administration of the taxes on motor cycles and other vehicles. This misapprehension has arisen from failure to note the legal changes in connection with these imposts made by the Finance Act of last year. The produce of the carriage taxes (also of those on dogs, guns, etc.) has since the year 1888 been allocated (in England) to the county and borough councils under the heading of "Local Taxation Licence Duties." Until this year the duties accruing in each county and county borough were collected by the Inland Revenue Department, and handed over to the councils concerned. By the provisions of the Finance Act, 1908, the collection was transferred to the councils themselves through the medium of the Post Office, and the Inland Revenue Department has now nothing whatever to do with it. It is, therefore, a misnomer, and has been so for the last twenty years, to describe these taxes as "Inland Revenue Licences." The proper term is "local taxation licences," and they are now, except as regards the scale of charges, as local in their character as poor or school rates.

Dealing more particularly with the case you set forth on Oct. 13th, I think it is clear why you cannot reconcile the reply of the Assistant Secretary of the Board of Inland Revenue given in 1905 with that of the Comptroller of the Local Taxation Licences Branch of the L.C.C. given in 1909. Although the administration of these taxes is now purely local, the Acts imposing them have not been altered, and it is the law that possession—apart from use—of a motor cycle, or other taxable vehicle, renders the owner liable. When these taxes were imperial, and were paid into the Exchequer, the Board of Inland Revenue made a regulation of their own exempting from duty any carriage laid by and not used at any time during the year. This regulation was also operative during

the last twenty years during which the duties have been handed over to the councils. Now, however, that the councils collect the duties themselves the exemption granted by the Inland Revenue is not binding, and the local officials are quite at liberty to enforce the law to the letter or to continue the exemption as before.

As a former member of the Inland Revenue Department, I must correct the statement of your correspondent that an Inland Revenue officer demanded payment of the tax from him on an unused machine. What I have written will make the position clear. It also explains the high-handed action of certain police officials, recently reported in your columns, in connection with the prosecution of motor cyclists who were alleged to be liable to licence duty. When an autocratic superintendent of police is newly entrusted with the conduct of prosecutions under laws of which he can only have a rudimentary knowledge, it is a bad case for the luckless motor cyclist who was held to be exempt under the old régime. During the Inland Revenue administration all cases of alleged infractions of the law were reported to Somerset House, and no proceedings were instituted until the matter was considered by legal experts, who had particulars of all test cases and other precedents at their disposal. So much for the benefits of a uniform system. There are over 200 councils in England, and as there are many nice points regarding liability to licence duty in respect of such vehicles as trailers, etc., we may expect under the new state of affairs to find considerable divergence of opinion on these matters amongst the officials of the various local bodies interested.

There was a provision in the Finance Act of last year that if the rate of duty on any local taxation licence is increased by Parliament such increase becomes the property of the Imperial Exchequer. If the proposed scale of duties in the present Budget is eventually sanctioned it would appear that one moiety of the taxes will go to the county councils and the remainder to the Treasury. Whether this will lead to complications remains to be seen.

I may remark that in Scotland the Excise Department still collects the local taxation licences for the county councils. There are, of course, no carriage taxes in Ireland, a "grievance" which Mr. Lloyd George says he will remedy.



AN excellent technical examination of the T.T. Race is contained in an article by Archibald Sharp, B.Sc., printed in the *R.A.C. Journal* for October 7th. He states—and his authority is indisputable—that the conditions of the race put a premium on the engines which possess a stroke very short in relation to their bore. He first of all proves this by general engineering considerations, and afterwards confirms it by an appeal to the results. The winner's Matchless-J.A.P. engine had a stroke of 65 mm. to a bore of 85 mm. The stroke of Lee Evans's Indian was 89 mm., the bore $71\frac{1}{2}$ mm. Applebee's Rex stroke was 79.375 mm. to a bore of 77.5 mm., etc.

Secondly, Mr. Sharp lays great emphasis on the greater efficiency of the chain drive, which when new, properly adjusted, and properly lubricated, gives an efficiency approaching very nearly to 100%, whereas the belt drive drops a certain degree of efficiency by slip on the pulleys, and absorbs a certain amount of power required to bend a stiffish length of belting round the small engine pulleys employed. He further points out that if the roads had been wet and rain had fallen during the race, Lee Evans would almost certainly have romped home an easy winner, because he alone would have covered the distance without any transmission troubles; the question of side-slip is ignored.

Thirdly, he points out that the miniature Premier twin-cylinder engine, with cylinders set at 90° , was considerably more efficient *pro rata* than any of the big twins of normal type. In his own words, it represents "a great advance upon the average twin."

Fourthly, he thinks that if the 1910 race is run under the conditions which ruled this year, it will be an absolute gift to the twins; and he suggests that if the capacity for single-cylinders is kept at its present rating of 500 cc., the capacity for twins shall be reduced to 625 cc., admitting the disadvantage that this or any other fair handicap will exclude most of the present standard twin-cylinder engines.

Practice v. Theory.

I have said this article is a technical examination, and it amply displays the futility of relying purely on technical considerations.

On technical considerations alone, all the twin-cylinders ought to have defeated all the singles, whereas actually single-cylinders were third, fourth, fifth, tenth, eleventh, twelfth, fourteenth, and fifteenth of those which completed the course. Again, Marshall's Triumph and Stanley's Premier, both singles, might

easily have finished in advance of most of the twins if their luck had been a little better.

In this race two factors always take precedence of all technical and scientific considerations. The one is the *man*. As a keen spectator of the race, I am inclined to assert that several *men* were as much as half a minute faster than the general ruck of the competitors per lap; that is to say, that if all the entrants had ridden identical machines in identical tune with identical luck, some four or five men would have finished in a bunch at the very least five minutes ahead of the crowd. The other is the *course*. If the race had been over a straight dash of 158 miles without a single twist or turn in it, the twins would have vastly increased the margin between themselves and the singles. This was evident as we stood and watched the various machines on one of the few stretches where maximum speed was absolutely safe. The twins were visibly faster than the best singles. Incidentally, the winning machine was not the fastest machine entered, unless I am very much mistaken. It was the fastest combination of man and mount, but it owed at least as much to its jockey as to its engine for the fact that it accomplished the actual fastest time.

Combining these observations with Mr. Sharp's technical aspect, we are driven to the irresistible conclusion that so long as we are limited to a difficult course, and so long as we are compelled to admit the human factor, we cannot look to this race for any absolutely dependable lessons about the most efficient machine. Only one fact stands out in absolute definite certainty, viz., that the single-cylinders were handicapped out of this year's race. Neither Marshall, Stanley, Newsome, nor Godfrey could possibly have won except by every twin-cylinder bestridden by riders of equal calibre meeting with serious delays or absolute breakdowns.

Separate Races for Singles and Twins.

This defect has to be remedied for next year. We must not run off two separate classes in one race, or we shall spoil the spectacle of it; if twins and singles ride mixed up together for two separate sets of awards, the spectators will never know what is happening. Two alternatives remain. One is to attempt to frame a fairer handicap. This is what Prof. Sharp suggests. It can be done in two ways—either by increasing the capacity limit for singles or by decreasing the capacity limit for twins. In either case the standard tourist machines in one class or the other will be barred, and

Technical Aspect of the T.T. Race.—

amateur sportsmen will be compelled to acquire a special machine for the purposes of the race. As a single-cylinder of increased capacity would not be a desirable solo machine to own for any purpose other than that of the race, the result of adopting this alternative would be to produce a new type of twin, roughly resembling the Premier, but of about 15% greater cubical capacity. The other alternative is to leave the conditions much as at present, and to run off separate races for the singles and twins, either on separate dates or over a slightly reduced distance on the same day. This is quite a feasible alternative. The race at present only occupies about four hours. If the start were at 9 a.m., the second race could start at 2 p.m., provided stringent measures were taken to stop the slower competitors at the conclusion of four hours. It would then be wise to hold the race a little earlier in the year.

The problem before the A.C.U., therefore, is simply this:

Shall we or shall we not Encourage the Development of a New Twin-cylinder Motor Cycle?

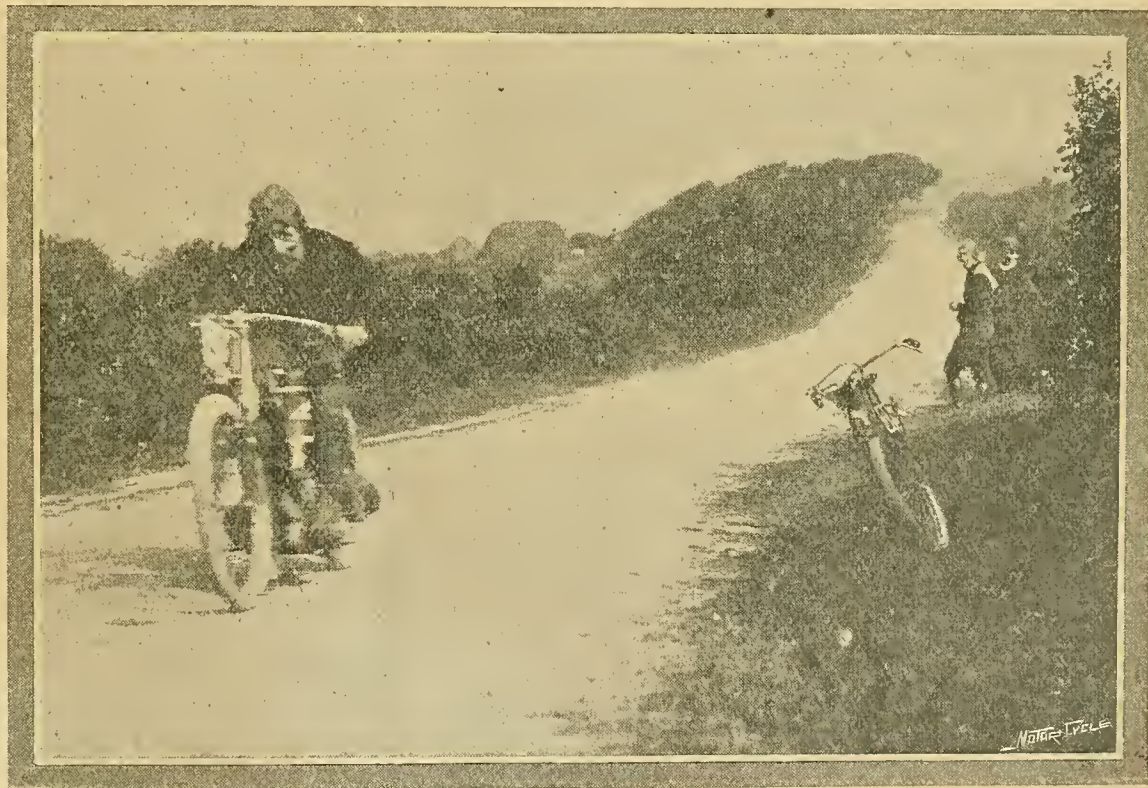
When we consider the many advantages that the Premier twin (which is almost the type of machine required) has over the normal type, we feel this alternative is well worth considering. I should personally deprecate the adoption of this alternative at a late date in 1910. Many amateurs would refrain from competing rather than purchase a special machine hurriedly designed and assembled for the sole purpose of a single race. But matters would be very different if the decision were made almost at once. Riders with an eye on the 1910 T.T. would be able to procure their mounts in ample time, and could learn their eccentricities and individualities. Every club would cater for the new type of twin in its speed events, hill-climbs, Brooklands sprints, etc. And, above all, this new type of twin, especially with cylinders at 90°, would win great popularity on its own merits. It would be as fast, as smooth-running, and as flexible as existing patterns, and, in addition, be considerably lighter and less vibratory. If the conditions are settled soon (and there is a likelihood of this being the case), it is an admirable solution of the difficulty.

Importance of an Early Decision.

If the final conditions are left in abeyance till June or August next, a great many amateur entries will be driven away, and those few men who do go to the expense of building a special machine for next year's race will be saddled with mounts which are of little use, except for competition. Two separate races next year will be preferable to any such tardy decision.

Finally, we have got to remember that wet roads are humanly certain to make the trophy a clean gift to one of the chain-driven machines entered. This is a

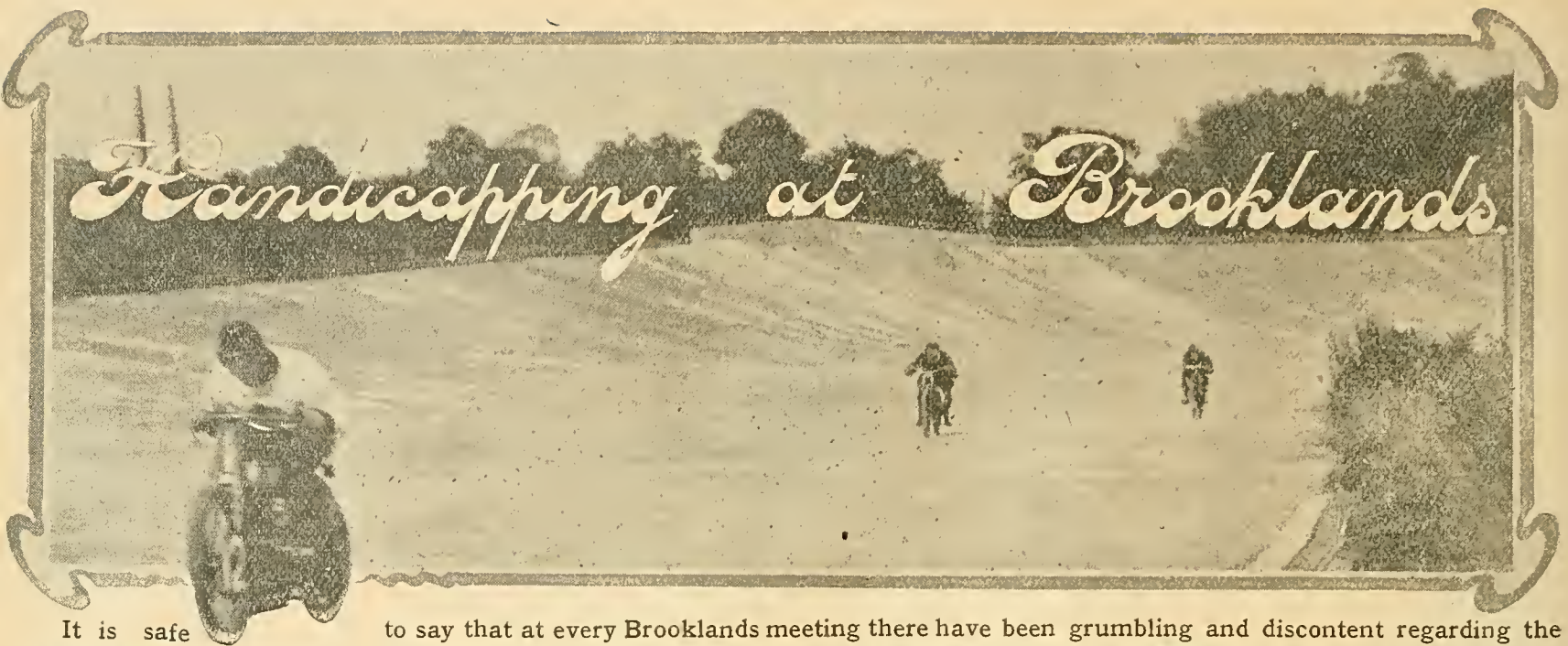
very awkward question. The next year or two will show whether the motor cycling public as a whole shares my personal prejudice against the chain or not. If the chain proves to be the drive of the future, we shall do wrong to discourage it. Up to the present motor cyclists generally have refused to accept chain drive. If the prejudice against it is really widely spread, we have no right to admit its presence in a very important event, so that makers who are catering for what everybody wants are put to considerable expense, only to see all their hopes and plans shattered by a fluke of the weather. I dare not pass opinion on the matter, but must leave it to more impartial judges. We all know the merits and demerits of both chain and belt. What we want is a man of vision who can read the future, and decide which we are to encourage. I do not like penalising the many for the sake of the one or two, unless those one or two are the real prophets or the real leaders—and that is just what we cannot yet be sure about. We shall certainly have to admit chain-driven machines next year. After that, the introduction of soundly designed and well-made chain-drivers may cause belt drive to become less and less popular, year by year, until at last all except the cheapest machines possess a rigid drive. On the



The two-stroke Scott, ridden by Eric Myers, doing a lap of the T.T. course in 22 mins. 33 secs. One of the most striking features of this year is the wonderful progress made with the two-stroke engine. In these days of exhaust valve troubles, an engine without poppet valves is a consummation devoutly to be wished, provided equal results are obtained.

other hand, if motor cyclists generally maintain their present allegiance to the belt when first rate chain-drivers are put before them, we shall perhaps bar chain drive from such events as the T.T. on the principle of excluding fluke victories by machines of a type not generally popular.

Too much emphasis cannot be laid upon the importance of adequately protecting the magneto from wet and moisture. The excellent position in which the magneto is placed on the Bat and Douglas machines not only ensures this most important part of the machine being kept dry, but also renders it easily accessible.



It is safe to say that at every Brooklands meeting there have been grumbling and discontent regarding the handicapping of the motor cycles. Whilst all will agree that it is a most difficult matter to frame a handicap which will give general satisfaction, there certainly seems room for improvement. With a view to evolving some better system of handicapping, we invite practical suggestions from our readers. Below, one of the competitors in the last meeting gives vent to his feelings on the subject.

FOR some time back there has been so much adverse comment and criticism, and at the same time apparently so little attempt on the part of those responsible for the handicaps to remedy matters, that I take up the cudgels on behalf of the dissatisfied ones. I was a competitor in the October meeting, and I can assure readers that the discontent is very real. Since the last Brooklands meeting, several of the best known men in the trade have told me that as long as the handicapping is run on such lines they will never enter another machine.

A Runaway Race.

Let us take some examples from the last meeting. We must look at it from the point of view of the public, the handicapper, and the entrant. The October Motor Cycle Handicap was a runaway win for Matchless machines, three of which finished in a bunch at a speed of seventy miles an hour, literally streets ahead of the rest of the field. Now we all ought to know by this time that the 85 x 85 mm. twin J.A.P.'s can maintain seventy miles an hour (witness the hour record), and can do about seventy-five for a short distance, so that with intelligent consideration the result might have been expected beforehand. With two or three handicappers who know men and machines thoroughly well, there should have been at least one or two other competitors in the finishing straight.

The Starts Allotted.

Let us consider the handicaps of other competitors. We find the twin Indian of 715 cc. on the scratch line with engines of 945 cc. and 964 cc. Is this fair? This particular engine had only run in the T.T. Race, and no one could imagine that it was capable of allowing over 200 cc. to the 8 h.p. J.A.P.'s, especially when it had been beaten by a much smaller J.A.P. engine only the week before in the Isle of Man. Further down the list I find other instances of what I can only consider as inconsistency in the handicaps.

In the Autumn Handicap, McNab on a 482 cc. Trump, which is known to be "hot stuff," is given 10s. start over the 478 cc. Indian, which had never

competed at Brooklands before, and which was scratched in the T.T. I believe because it could not be induced to run well. As a matter of fact, at Brooklands it ran splendidly and finished third from scratch, but this must have been quite a shock to those who penalised it so severely. And the further we look back through the motor cycle races, the more do we perceive what a lottery the whole affair is, and consequently the reason for the runaway wins so often chronicled.

The Role of the Handicapper.

Now, although the handicapper's lot is by no means an easy one, I do think that he ought to make a better job of it. At Brooklands it is the machine much more than the man which does the racing. The man sits tight, bends low, and, having turned everything full on, steers as near to the inside edge as he can, so it depends on his mount whether he wins. To get better finishes the first thing to do is to have the races all the same length, or, at any rate, two or three times the usual distance, otherwise calculations based on previous performances are liable to all sorts of errors. The handicappers should attend every meeting, and should also be present on the practice days, and should take note of what the competitors can do per lap. For instance, we know that Bowen can do 59 $\frac{1}{4}$ and keep it up, whilst Fenn is not quite as fast.

The Special B.M.C.R.C. Races.

With the special speed classes of the B.M.C.R.C. it ought not to be difficult to know the capabilities of all the best known men and machines, provided they always rode the same or similar engines. Then, after the race, the times and positions of every man finishing should be noted. Sometimes a man makes a bad start, but this is rare, especially if he is one of the "old hands" and is taking things seriously. When twenty or thirty races have been run off (as there have been during the past two years), the handicappers should have collected sufficient data to work upon and to accurately gauge the form of every well-known rider. At first they could, and should, handicap a newcomer and his engine on cubic capacity alone; then if he won

Handicapping at Brooklands.—

he would be penalised next time according to his performances, and *vice versa*.

A distinction should also be drawn between the man who can attend the practice days before the meeting and the man who can only get to the track for the race itself. To put both these men on similar engines on the same mark is unfair, as it is next to impossible to get the best results for track work by tuning up at home or on the road.

In conclusion the handicapping of the motor cycle events should be thoroughly revised, or no more entries will be received from disappointed amateurs and dissatisfied experts, and it is noticeable that the entries were not so numerous at the end of the year as they were at the beginning. Considering the number of motor cycle races that have been held, there is no excuse whatever for the ridiculous finish we witnessed at the Brooklands October Meeting. Perhaps matters will improve next year. A BROOKLANDS RIDER.

OCCASIONAL COMMENTS.

By "IXION."

Hooter Clips.

I have often in the past complained of the clips fitted to the average hooter, and if any rider has discovered a hooter clip which is both proof against vibration, and which will also grip the handle-bar so tightly that it never slips, I shall be glad to hear of it. Personally, if I do not strike something new in this line before next Easter I shall make myself a really sturdy clip and prevent it from moving by inserting a short screw in clip and handle-bar.

Big Filler Caps.

I should like to draw attention to the Davison oil and petrol filler caps, which I have also spotted on successful machines in important trials. I believe the maker regards the fastener of these caps as the main virtue, but, personally, I feel a warmer admiration for their size. Why should we be afflicted with half-inch orifices, so that it takes us a quarter of an hour to fill our petrol and oil tanks, and no average garage funnel can insinuate its snout into our petrol tanks at any price, when it is perfectly simple to arrange larger orifices on most motor cycle tanks? In addition, the cover of the Davison filler has a spring hinge, and so cannot be lost.

The Advance of Two-speed Gears.

At the end of every year we of *The Motor Cycle*, who for years past have steadily and consistently advocated change-speed gears, look about us and report progress. We cannot claim that our dream, our Utopia, has come true, and that variable gears have become universal. In fact the first scene in the last act of the drama has yet to be played. The motor cycling public will never demand variable gears with a single, loud and unanimous voice, until some firm has for a year or two steadily marketed a light, cheap, and simple variably-gear machine; and up to the present there is nothing on the market which quite fits this description. Still there is very great progress. Probably during no previous year were so many variably-gear machines sold to the public as in 1909. We find on the list such names as Shelon and Moore, the N.S.U. (another well-tried old stager), the Roc, and the Rex (which is a licensed adaptation of the Roc), the Nala, etc. But perhaps above all, the Zenith-Gradua gear and theogue of the adjustable pulley show which way the wind is blowing. The Zenith-Gradua gear has actually been barred from hill climbs in certain instances, because the single-gear owners refused to ride against it, knowing they had little chance of defeating it on formula. And further, no machine is now

reckoned up to date which does not boast an adjustable pulley—and what is an adjustable pulley but a cheap and clumsy substitute for a variable gear? Other gears still are coming on the market, such as the very promising device compounded with the Scott two-stroke design, and the dog-clutch gears fitted to two models of the F.N. Altogether we of *The Motor Cycle* staff and such outside enthusiasts as B. H. Davies may take credit to ourselves for our previous propaganda—they are bearing fruit.

The Progress of Lightweights.

Another healthy bantling of the trade is the lightweight. It continues to equal the performances of the second-rate heavy roadsters in the big reliability trials, and though on these occasions it is sometimes handled by an expert of rather less than average weight, it may fairly be estimated that it deserves to rank in the second class of machines, at the very least, seeing that these trials are framed with an eye to faster and more powerful machines, and that the lightweight has generally to be rather overdriven in competition work. Its main failings at present are twofold. One is up to date inherent in its design and construction, viz., the prospect of transmission troubles, due to using a very small belt on very small pulleys. The other failing may be disregarded if a lightweight is driven at the proper lightweight average of about sixteen miles an hour. The springing of no motor bicycle is as yet ideal, and this is especially true of machines on which every ounce of weight has to be seriously considered. Lightweights, like other machines, are fairly adequately sprung for the pace at which they are meant to travel, but they are not sufficiently well sprung to endure being forced along over rough roads. Their lighter fittings soon evince signs of such ill usage. If owners of lightweights were content to travel at a slower average speed than owners of standard tourist machines, little trouble would be experienced with the light fittings; but unfortunately the average motor cyclist imagines he is crawling unless he maintains legal limit average, and consequently many lightweights get man-handled by ruthless owners, and suffer in reputation accordingly. A man told me the other week that he had averaged twenty-eight miles per hour for quite a long journey on an 80 lb. machine. On inspection it was not surprising to find it showed many signs of the rough treatment he had given it. If a lightweight is put in the hands of a steady going driver, it will give faithful service, and only needs certain transmission improvements to make it the equal of a standard tourist mount, albeit for a less exacting plan of service.

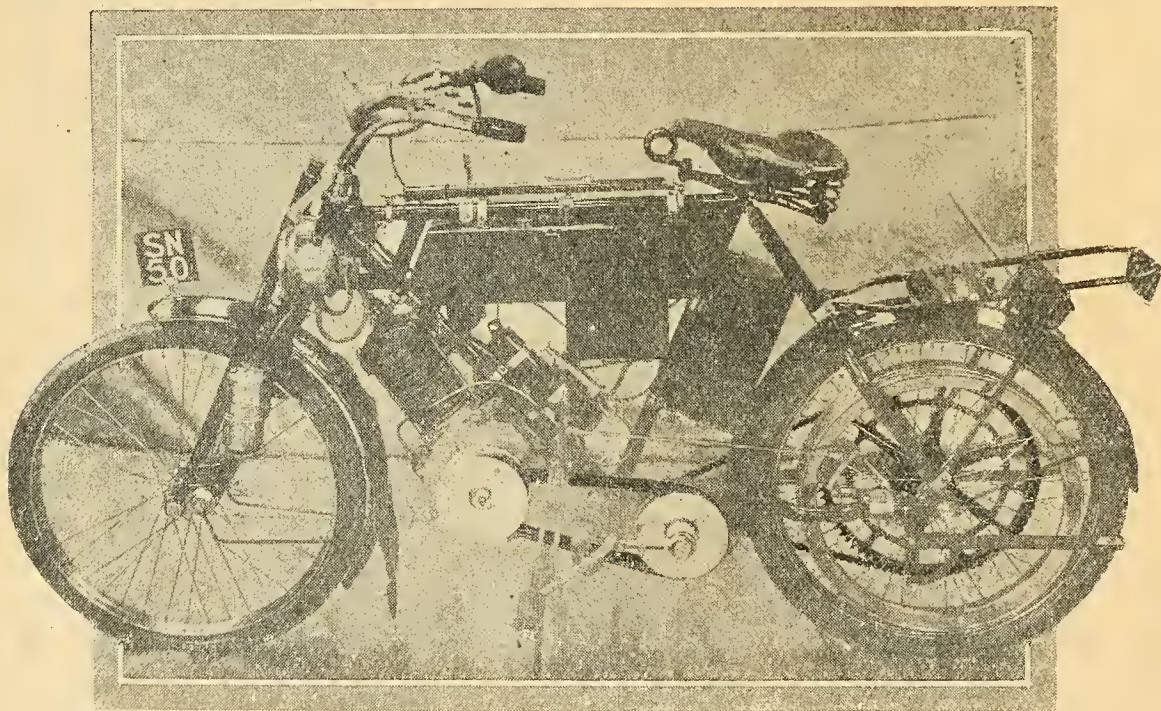
THE BUSINESS EXHIBITION.

ITEMS OF INTEREST IN THE INVENTORS' SECTION.

THE Business Exhibition at Olympia which closed last week, though not of general interest to motor cyclists, had in its Inventors' Section four or five stands where motor cyclists could see some novelties which are not yet on the market. The exception to the above rule was the new dust and wind screen made and sold by Taylor's Cycle and Motor Works, Lower Edmonton, for fitting to tricars, sidecars, or trailers. The screens are so arranged that the passenger can enter or leave from either side, and the screens can be swung round like an ordinary carriage screen, or can be entirely detached. Their weight is only 3 lbs.

A New Gear.

The only complete machine in the show was a motor bicycle of ancient design exhibited by H. B. Wedgwood, Riverdale, Sheffield, demonstrating a two-speed gear. The gear consists of two expanding pulleys, one attached to the engine-shaft and the other mounted on a counter-shaft. From this counter-shaft to the rear wheel the transmission is by means of a chain. The gear in question is worked by means of a lever, the forward end of which opens the groove on the forward pulley at the same time as its rear end closes the groove of the rearward pulley, the result being that the gear is raised or lowered without altering the belt tension. Means are provided whereby any slack of the

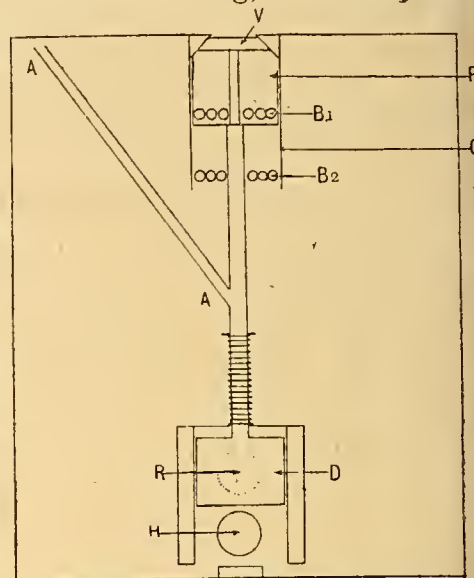


An old pattern motor bicycle fitted with Wedgwood's patent gear which was on exhibition in the Inventors' Section of the Business Exhibition at Olympia.

belt may be quickly taken up. Mr. Wedgwood has had the gear in actual use for some time, and informs us that it has given him the greatest satisfaction. One of the advantages claimed for this variable gear device is the reduction in ratios from 3 to 1 to 12 to 1 obtained without having recourse to a jockey pulley or even an adjustable belt fastener. Another of the motor cycle exhibits was Browning's collapsable tricar frame, described and illustrated in the issue of October 13th, page 777. This frame has been designed to enable tricar frames to enter a narrow passage or doorway.

An Automatic Oiler.

E. A. Glen, St. Alphin, the Avenue, Chingford, Essex, has patented, and was exhibiting, a novel system of lubrication for motor bicycles. This consists of a reservoir, at the bottom of which there is an outlet to the crank chamber (the whole being clamped tightly against the latter), to which a certain quantity of oil is fed on the same principle as that employed in the usual bird drinking fountain, which consists of a reservoir and a drinking trough, the level of the water in the



A diagrammatic sketch of E. A. Glen's patent automatic lubricator.

trough remaining constant. The object therefore is to maintain a fixed quantity of oil in the crank case. Oil is introduced into the top of the reservoir from the usual oil tank by means of a pump. When the usual plunger is depressed the oil bearing on the piston P causes it to descend and uncover a series of holes B₂ at the bottom of the cylinder C, in which it slides, these holes registering with holes B₁ in the piston. In doing so, it closes a valve R H, which is the outlet from the reservoir to the crank chamber. When about twelve pumpfuls of oil have been injected, the air thus displaced passes through a pipe A leading to the highest part of the reservoir and into the crank case through a recess in the sliding valve D. The hole H which leads to the crank case has attached to it a small pipe which points in a forward direction between the flywheels. Only a certain quantity of oil can reach the engine at a time as long as this pipe is covered, but, in the event of the crank case being tilted by the machine going uphill, the mouth of the outlet pipe is uncovered and more oil reaches the crank chamber. The level of the oil in the

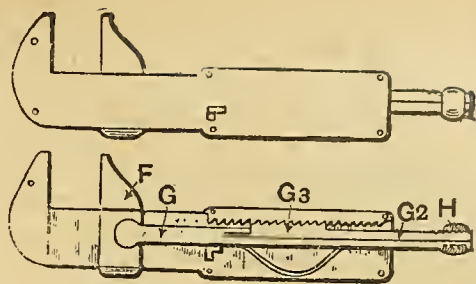
crank chamber is maintained in accordance with the height of the feed pipe outlets, because when the oil level sinks below the feed pipe H, a quantity of air is pumped by the descending piston from the crank case into the reservoir through the feed pipe and releases from the vacuum in the reservoir a corresponding quantity of oil, which is sucked into the crank case by the upward stroke of the piston. The incoming oil raises the level in the crank case to the level in the feed pipe, thus forming an air seal until, as the oil is consumed, the level sinks and the operation is repeated.

The Business Exhibition.—

The reservoir is made airtight, and above the ingress valve V of piston P is placed a cap so as to ensure that this is the case. Mr. Glen has fitted this device to his machine, and assures us that it works satisfactorily. The reservoir being fitted close up against the crank case, ensures the necessary amount of heat to keep the oil from being too viscous to flow properly, and it therefore should be an automatic lubricator which genuinely is automatic under all weather conditions. Mr. Glen hopes to put the lubricator to a thorough test at no distant date.

A Quickly Adjustable Spanner.

Another item shown of interest to readers is a new spanner patented by John Sinclair, of the Belfast Museum. In appearance, the spanner strongly resembles the ordinary motor cyclist's wrench, but it possesses the advantage that it can be instantly



The Sinclair wrench with instantaneous adjustment.

adjusted to the size of the nut which it has to turn. The bars G G₂ of the lower jaw are provided with ratchet teeth which keep them in engagement with another bar G₃, also provided with teeth

and attached to the upper end of the spanner handle, as shown in the annexed drawing. To set the spanner, the handle H is pulled down until the required dimensions are obtained, when, if the handle is let go, the ratchets will again engage. To secure a fine adjustment, the milled nut H is turned, thereby sliding the bar G along the bar G₂, and setting the jaw F close up to the nut to be turned.

The Twenty-four Hours' Record claimed by America.

THE wonderful stories which emanate from America, not to mention the recent "discoveries" of the North Pole, make one especially suspicious with regard to speed records. It is a pity that this state of affairs exists. Nevertheless, the fact remains. If we were to believe explicitly all the claimed speeds accomplished by American riders on American made motor cycles, English riders hold practically no records at all! No matter on what kind of track an American race meeting is held, world's records go by the board, and usually at the first attempt, too. The latest world's record to be claimed by an American motor cyclist is the twenty-four hours, and although we are not yet aware whether the Auto Cycle Union will recognise the performance, we give some particulars as supplied to us. On October 1st and 2nd, Charles S. Spencer, at the Springfield, Mass., three lap track covered a distance of 1,089 miles 199 yards in twenty-four hours, which is equal to an average speed of

41.2 miles per hour. H. A. Collier's record—which was admittedly open to much improvement—stood at 775 miles 1,340 yards, so that Spencer claims to have improved upon it by 313 miles 619 yards. Two riders actually started in an attempt to beat Collier's record—Spencer and Gustafson—both riding 5 h.p. twin-cylinder Indians, and both, we are told, were successful, Gustafson covering 1,043 miles odd. At the end of the first hour the distance traversed was 56 miles 586 yards; two hours, 114 miles (which is four miles less than Colver's new record created on the 9th inst.) In the third hour, Gustafson led with 163 miles 1,172 yards, but in the fourth hour, he broke a chain, and the delay occasioned enabled Spencer to regain the lead, and at the end of 240 minutes he was credited with having covered 204 miles 586 yards. Spencer was still in front at half-time, having covered 559 miles 586 yards. At the eighteenth hour the distance announced was 812 miles 586 yards.

British M.C.R.C. Two Hours' Record Race, Saturday, October 9th, 1909.
THE OFFICIAL TIMES AND DISTANCES.

Class.	Rider.	Machine.	No. of Cyls.	C.C.	Completed Circuits.	Distance Ridden in one Hour.	Distance Ridden in two Hours.	Time for 50 Miles.	Time for 100 Miles.
						miles. yards.	miles. yards.	h. m. s.	h. m. s.
B	F. W. Dayrell	Martin-J.A.P.	1	340	28	(a)	78 132	1 23 54	—
B	G. Fletcher	Douglas	2	340	25	34 542	68 362	1 29 25	—
C	G. Lee Evans	Indian	1	497	38	51 839	*105 85	58 20 ³ / ₅	*1 54 19 ³ / ₅
C	F. A. McNab	Trump-J.A.P.	1	482	37	48 22	100 1189	1 2 19	1 59 18 ¹ / ₅
C	A. Maitland	Trump-J.A.P.	1	482	36	47 976	99 1391	1 2 43 ¹ / ₅	—
C	W. H. Bashall	Triumph	1	499	35	45 1338	95 1080	1 4 41 ¹ / ₅	—
C	E. Fitzherbert	F.N.	4	448	34	46 806	94 695	1 5 40 ³ / ₅	—
C	T. M. Loughboro	F.N.	4	448	24	40 16	Retired	1 13 38	—
C	G. L. Garrett	N.L.G.	1	482	4	Retired	—	—	—
D	L. W. Bellinger	Indian	2	714	35	39 1710	95 694	1 10 44 ² / ₅	—
D	W. Krause	V.S.	2	672	34	46 818	92 433	1 4 28 ¹ / ₅	—
D	F. C. Wood	Bat-J.A.P.	2	738	7	Retired	—	—	—
E	H. V. Colver	Matchless-J.A.P.	2	964	43	59 291	†118 719	†48 25 ³ / ₅	†1 39 4 ¹ / ₅
E	E. Gwynne	V.S.	2	986	32	46 204	87 0	1 4 42	—
E	H. Martin	Bat-J.A.P.	2	964	17	Retired	—	—	—

aStopped at 45 mins. *Best performance single-cylinder under 500 c.c., and establishes a record for Class C.
†World's record for 50 miles, 100 miles, and two hours. Distance of each circuit, 2.71767 miles.

A. GEO. REYNOLDS,
Hon. Sec.

Signed A. V. EBBLEWHITE
F. STRAIGHT
A. GEO. REYNOLDS } Official Timekeepers A.C.U.

OFFICIAL RESULTS

OF THE

AUTO CYCLE UNION QUARTERLY TRIALS,

Saturday, October 16th, 1909.

BICYCLE CLASS.

Rider and Machine.	No. of Cyl.	Bore and Stroke mm.	Marks Awarded.								Total	Remarks.
			Hill-climbing.		Ease of Start-ing.	Brakes	Silencer	Acces-sibility	Stand and Carrier	Relia-bility.		
			Dash-wood Hill. (10)	Rec-tory Hill. (10)								
*Miss Muriel Hind, 5 Rex	2	76×80	10	—	5	5	10	5	5	—	40	Several stops, various causes, retired two miles from finish.
W. Pratt, 3½ P. and M.	1	82×88	10	10	5	5	10	5	5	50	100	Non-stop.
B. Marians, 2½ P. and M.	1	66×76	10	5	5	5	10	5	5	40	85	Stopped on Rectory Hill. had assistance to start at Banbury.
*E. A. C. Wiver, 3½ Triumph	1	84×86	10	5	5	5	10	5	5	50	95	Non-stop.
*R. C. Griesbach, 3½ Triumph ...	1	84×86	10	10	5	5	10	5	5	50	100	Non-stop.
*G. T. Gray, 3½ N.S.U.	1	80×80	10	8	5	5	8	5	3	45	89	Stopped to assist another competitor.
F. Smith, 3 Clyno	1	72×80	10	5	5	5	8	5	5	45	88	Stopped on Rectory Hill.
A. L. Barker, 5 Clyde	2	85×65	10	8	5	5	10	5	5	50	98	Non-stop.
H. Williamson, 3½ Rex (2-stroke)	1	82×89	8	5	5	5	8	5	5	45	86	One stop, punctured front tyre.
*B. Allen Hill, 2¾ Douglas	2	60×60	10	5	5	5	10	5	5	50	95	Non-stop.
G. L. Fletcher, 2¾ Douglas	2	60×60	10	10	5	5	10	5	5	40	90	Two stops, broken belt fastener; ran alongside of machine on Rectory Hill.
W. W. Douglas, 2¾ Douglas	2	60×60	10	10	5	5	10	5	5	50	100	Non-stop.
Eli Clarke, 2¾ Douglas	2	60×60	5	10	5	5	10	5	5	45	90	Stopped on Dashwood Hill.
T. H. Tessier, 7-8 Bat	2	85×85	10	10	5	5	8	5	5	50	98	Non-stop.
H. Martin, 6-7 Bat	2	76×95	10	10	5	5	8	5	5	50	98	Non-stop.
F. W. Dayrell, 5 Bat	2	85×75	10	10	5	5	10	5	5	50	100	Non-stop.
*D. F. Steeves, 5 N.S.U.	2	75×84	10	—	5	5	6	5	5	—	36	Retired.
*W. G. Ayling, 2½ Blumfield	1	70×76	5	—	4	5	8	5	5	—	32	Retired, various causes.
*F. C. Wood, 4 N.S.U.	1	82×105	10	10	5	5	10	5	5	45	95	Mudguard & stand strapped on at Banbury.
G. E. Stanley, 3½ Premier	1	85×90	10	5	5	5	10	5	5	45	90	Stopped on Rectory Hill.
B. V. Jones, 3¾ Premier	2	66×80	10	10	5	5	10	5	5	50	100	Non-stop.
*J. Harwood, 3½ Triumph	1	84×86	10	10	5	5	7	5	5	50	97	Non-stop.
J. Marshall, 3½ Triumph	1	85×88	10	10	5	5	10	5	5	50	100	Non-stop.
W. F. Newsome, 3½ Triumph ...	1	85×88	10	10	5	5	10	5	5	50	100	Non-stop.
*P. W. Bischoff, 3½ Triumph	1	84×86	10	10	5	5	10	5	5	50	100	Non-stop.
R. M. Brice, 3½ Brown	1	85×85	10	5	5	5	6	5	5	45	86	Stopped on Rectory Hill.
*W. Cooper, 3½ Triumph	1	84×86	10	10	5	5	10	5	5	45	95	One stop, broken belt fastener.
*S. A. M. Whitham, 2½ N.S.U. ...	2	52×74	10	—	5	5	10	5	5	—	40	Retired, cause unknown.
*T. A. Womersley, 3½ Premier ...	1	85×85	10	10	5	5	10	5	5	40	90	Two stops to adjust carburetter.
*C. C. Cooke, 3½ Triumph	1	84×86	10	5	5	5	10	5	5	45	90	Stopped on Rectory Hill.
C. J. Janssen, 2 Moto-Rêve	2	52×70	10	5	5	5	10	5	5	45	90	Oiled magneto at Banbury.
V. Underhill, 3½ L.M.C.	1	84×86	10	—	5	5	10	5	5	—	40	Retired, cause unknown.
— 3½ James	1	81×88	10	—	5	5	10	5	5	—	40	Delayed, burst tyre.
*H. Newey, 3½ L.M.C.	1	81×88	10	10	5	5	10	5	5	50	100	Non-stop.
C. Cross, 3½ L.M.C.	1	81×88	10	5	5	5	10	5	5	45	90	Stopped on Rectory Hill.
*H. Bevir, 3½ L.M.C.	1	81×88	10	5	5	5	10	5	5	50	95	Non-stop, pedalled on Rectory Hill.
W. Smith, 3½ Scott (2-stroke) ...	2	66×63	10	8	5	5	10	5	5	45	93	One stop, cleaned plug.
F. W. Applebee, 5 Rex	2	76×80	10	10	5	5	10	5	5	50	100	Non-stop.
A. R. Abbott, 3½ Triumph	1	84×86	10	5	5	5	10	5	5	45	90	Ran alongside machine on Rectory Hill.
O. C. Godfrey, 3½ Rex	1	82×89	10	5	5	5	10	5	5	45	90	Ran alongside machine on Rectory Hill.
F. A. Applebee, 3½ Rex	1	82×89	10	5	5	5	10	5	5	45	90	Dismounted on Rectory Hill.

*Private owners.

The
Wonderful
Consistency
of the

Triumph

RESULT OF THE FOUR A.C.U. QUARTERLY TRIALS HELD DURING 1909

Mr. J. Marshall, $3\frac{1}{2}$ Triumph, 1st.

Winner of Silver Cup.

Mr. W. F. Newsome, $3\frac{1}{2}$ Triumph, 2nd.

Mr. R. C. Griesbach, $3\frac{1}{2}$ Triumph, 3rd.

This is the 4th consecutive Trial in which Marshall on his Triumph made Non-stop Runs—the distance covered being 500 miles—which makes him the winner of the much coveted A.C.U. Silver Cup, and demonstrates once and for all the Absolute Reliability and Consistent Running of the Triumph Motor.

In this year's trials Triumphs also won 2nd and 3rd positions.

A fitting close to a year of wonderful records.

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In answering this advertisement it is desirable to mention "The Motor Cycle."

PASSENGER CLASS.

Rider and Machine.	No. of Cyl.	Bore and Stroke. mm.	Marks Awarded.									Remarks.
			Hill- climbing.		Ease of Start- ing.	Brakes	Silencer	Acces- sibility	Stand and Carrier	Relia- bility.	Total	
			Dash- wood Hill. (10)	Rec- tory Hill. (10)								
W. Scholes, 5-6 A.C. Tricar ..	1	90×102	10	—	5	5	10	†5	5	40	80	Penalised for going off the course.
Veller, 5-6 A.C. Tricar	1	90×102	10	10	5	5	10	†5	5	50	100	Non-stop.
Van Vestrant, 5-6 A.C. Tricar	1	90×102	10	8	5	5	10	†5	5	45	93	One stop, air-lock in petrol pipe.
W. Purrett, 5-6 A.C. Sociable ..	1	90×102	10	—	5	5	8	†5	5	—	38	Retired, burst tyre.
Portwine, 5-6 A.C. Tricar ...	1	90×102	10	10	5	5	10	†5	5	35	85	Three stops—needle valve stuck, chain off, adjusted coil.
W. Seymour, 5-6 A.C. Tricar ...	1	90×102	10	10	5	5	10	†5	5	50	100	Non-stop.
Eagles, 6 N.S.U. Sidecar	2	75× 90	10	10	5	5	10	†5	5	45	95	Punctured at High Wycombe
West, 5 Rex Sidecar	2	76× 80	—	—	5	5	10	†5	5	—	30	Retired, broken change speed rod.
Davis, 3½ Phänomen and Sidecar	1	—	10	—	5	5	8	†5	5	45	83	Failed Rectory Hill, passenger assisted to push machine

*Private owners. †Luggage capacity.

NOTE.—The maximum number of marks obtainable are given in parentheses at the head of the respective columns. The Committee of the Union desires to thank Mr. J. R. Nisbet (Bowden's Syndicate, Ltd.), Mr. Frank Shorland (Clément-Bott, Ltd.), and the Adams Motor Manufacturing Co. for kindly placing cars at its disposal for the conveyance of officials, etc.

Judges' Report.

The last of the series of Quarterly Trials for the present year was held on Saturday, the 16th inst., over the usual course from Uxbridge to Banbury via Wheatley Bridge, passing through Bicester and Aylesbury, and again Rectory Hill was used for the second test hill instead of Gore Hill, as previously.

There were forty-six entrants in the motor bicycle class, of this number only five failed to start, whilst seventeen made non-stop runs, eighteen made several stoppages from various causes, which can easily be seen by referring to the full report on the previous page, and six retired for various reasons.

The weather was rather unfavourable, rain having fallen heavily on the previous day, rendering the roads soft and wet, and during the day several showers, more or less heavy, were encountered. Happily, the roads were not wet to cause side-slips.

Rectory Hill was again a stumbling block to many competitors, and, although the hill is steep, yet it does not appear that any ordinary motor cycle should not climb it with ease. There were several machines entered that were new to the trials, the most interesting being a 3½ h.p. James and 3 h.p. Phelon and Moore lightweight. The former broke exhaust valve before reaching Dashwood, which hill it did not well, but further reports concerning that machine could not be obtained, as it retired from unknown causes at an early place. On the other hand, the Phelon and Moore lightweight made a very creditable performance, and had the rider not been quite new to these trials, and therefore unacquainted with Rectory Hill, the machine would doubtless have come through with a clean sheet, instead of being criticised for a faulty ascent of the hill in question. The two-stroke motor cycle came through the trial fairly, whilst in appearance it is a neater machine than the four-stroke, it certainly did not perform so well. However, it is quite a new motor, and doubtless, in the course of time, the faults that were discovered on Saturday last will be remedied before the machine is submitted for another test. Only all the machines passed the silencer test and received marks, but there are one or two still that are distinctly noisy, and it is believed that, in many cases, private riders do not fit the silencer after the machine has been delivered to them, and thereby make what would otherwise be a fairly quiet machine into a distinctly noisy one. The wet weather, consequently bad roads, were again the cause of many of the free-wheel clutches being clogged, and on examination

of the machines at Uxbridge after the trials many were noticed to be in this condition.

The contest for the silver cup was interesting right to the finish, for it was only on Rectory Hill, which the Premier machine failed to climb at the first attempt owing to the silencer being clogged with mud, that the issue was settled in favour of a Triumph machine. Up to this point it had been a neck-and-neck race between the Premier ridden by Stanley and the Triumph by Marshall, for the former had 295 marks to his credit against 296 to the latter, closely followed by a second Triumph machine driven by W. Newsome, who had 289 marks. The total number of marks for the four trials to the credit of the leading competitors is as follows:

	Marks.
J. Marshall (3½ h.p. Triumph)	396
W. Newsome (3½ h.p. Triumph)	389
R. C. Griesbach (3½ h.p. Triumph)	387
G. E. Stanley (3½ h.p. Premier)	385
W. Pratt (3½ Phelon and Moore)	371
F. W. Applebee (5 h.p. Rex)	358

In the Passenger Class there were ten entrants, and of these one was a non-starter, two retired, five stopped for various reasons, and only two made non-stop runs.

This compares very unfavourably with the trials held in July last, and is, perhaps, accounted for by the fact that one-half the entrants were private owners.

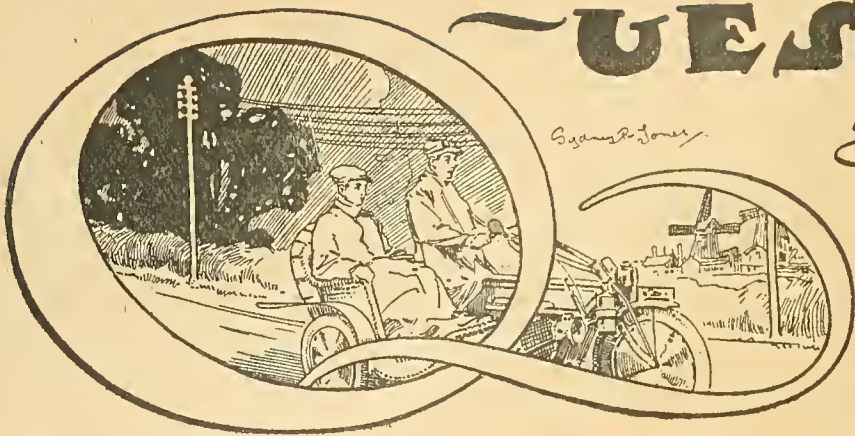
There were two novelties—one an A.C. sociable and the other a Phänomen and sidecar. The mechanism of the former was similar to the A.C. tricar, but the passenger and driver sat side by side under a serviceable hood. The Phänomen machine was fixed to a sidecar with seats for two persons, in which sat the driver and passenger, the motor bicycle being controlled by tiller steering.

The judges have again to express their gratification at the spirit shown by the competitors in face of the adverse climatic conditions. They also thank the marshals and observers who assisted the judges in their work, for without their help a good report of the trial would have been impossible. It is as well to mention, by the way, that this report is subject to confirmation by the General Committee of the Auto Cycle Union, and that it is published at this early date in order that competitors may see at the earliest opportunity the marks awarded them by the judges.

Judges { H. GILLARD COVE
A. GEO. REYNOLDS.
ARCHD. SHARP.

QUESTIONS

AND REPLIES



A selection of questions of general interest received from our readers and our replies thereto. When particular makes of machines, accessories, or tyres are mentioned, numbers must be used, the writer to keep a key for reference. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St. E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Reducing Noise. Flame from Induction Pipe.

Q

(1.) My tricar has a 6 h.p. twin (a.o.i.v.) Antoine engine. In the exhaust valve guides are three small holes (in each) which may have been made by drilling. From these a fair portion of the exploded charge issues, making the machine noisy. Could these be stopped up without detriment to the engine? (2) In the induction pipe an extra air inlet is provided (between $\frac{1}{4}$ in. and $\frac{1}{2}$ in. diameter). At various times spurts of flame issue from this, I think, exploded charge. Could you tell me the cause of the defect?—F. M.

(1.) Yes; you can put screw plugs into the holes without detriment to the running of the engine. The holes are to facilitate the removal of the guides. The escape indicates that it is time the guides or valves were renewed. (2.) The cause of spurts of flame issuing from the extra air inlet is due to the inlet valves probably having too much opening, or to the springs or the mixture being too weak.

Type of Ignition for V-type Twins.

Q

(1.) I have been advised by a local repairer to have my 5 h.p. twin Rex (1906 pattern) fitted with wipe contact. It has now trembler coil and make and break contact, and I should like your opinion. There is some difficulty in getting both cylinders to fire at the right time at present, and I take it that the ignition would be synchronised if I had wipe contact. Am I correct? Would it be much trouble and expense to convert, and would the timing have to be altered? (2.) I am troubled with a blow-back (only to be seen when the carburetter is hot) through carburetter when each piston is on the exhaust stroke. I have ground in all the valves, and fitted new copper and asbestos washers to inlet valve seatings. What is the cure?—B. W. T.

(1.) There is no doubt whatever that the most efficient form of battery ignition is a non-trembler coil with make and break contact. You will get good synchronisation with the wipe contact (although the adjustment of the trembler coil varies, and consequently very slightly alters the timing of the spark), and better still, with the aid of a high tension distributor. Better than anything is a magneto for a twin cylinder if you do not mind the extra first cost. If you wish to fit a wipe contact on your machine it would not be much

trouble to put on, but you must be careful to time it differently, as with a wipe contact the spark takes place at the moment the spring wiper touches the metal segment, and with a make and break contact and plain coil the spark takes place at the moment of breaking contact. (2.) Try reducing the opening of the inlet valves. fit fairly strong springs, and see that their strength is about equal.

Adjusting Valve Tappets. Knocking and Overheating.

Q

Kindly tell me how to adjust the overhead m.o.i.v. tappet on my N.S.U. in order to get the highest speed. I had my cylinder down recently and scraped off the deposit, but the engine still makes a knocking noise. Do you think it is the magneto drive? The engine gets rather hot, and will not run slowly, but that does not matter so long as I can get a good turn of speed.—W. R.

You should adjust the nut on the bottom of the tappet so that there is 1 mm. clearance between the top of the rod and the valve striker. The knocking may be due to a worn bearing in the engine, but if you suspect the magneto drive why not dismantle this for inspection? The overheating may be due to several reasons—to the exhaust tappet being a trifle short, to the exhaust valve spring being weak, maladjustment of the carburetter, or to the spark being timed rather late.

Single v. Twin-cylinder Machines.

Q

What advantage is held by the twin-cylinder machine over the single-cylinder in other respects than higher speed on hills? Do high-powered cycles, e.g., 8 h.p. Bat, make more noise and create more vibration than a $3\frac{1}{2}$ h.p. single-cylinder of the same make? What speed would an 8 h.p. Bat be capable of maintaining on a give and take road and also a $3\frac{1}{2}$ h.p. single of the same make? Is a very powerful motor more injurious to the system than a medium powered one?—B. W.

The advantages claimed for a twin-cylinder engine are greater flexibility,

The 1d. Edition of "The Autocar."

Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.

smoother running, and ability to pick up speed more quickly on hills. The noise created depends on the type of silencer fitted. The twin would cause less vibration. An 8 h.p. machine is capable of a mile a minute gait, and a $3\frac{1}{2}$ h.p. single of about fifty miles an hour. You will gain some idea of possible average speed by perusing the results of the Tourist Trophy Race. Whether a powerful machine is more injurious to the system than a medium-powered machine depends very largely upon how the former is driven. Of course if it is forced along rough roads at a very high rate of speed it is liable to cause fatigue. Do not overlook the fact that starting is usually much more difficult with a high-powered machine owing to its great weight and high gear. Running costs are also higher.

Motor Cycle and Sidecar for Business Purposes.

Q

I shall be travelling shortly on business fifty miles round London, chiefly in Surrey, Sussex, Kent, and Hampshire, and shall require a motor cycle for every-day use, fitted with pedals and a light sidecar, to take sample weighing about 28 lbs., or else a lad passenger whose weight is about 9 st. (my weight is 10 st.) I do not want a two-speed gear unless I can help it. I want the engine to be a powerful single-cylinder, and air-cooled, so will you kindly let me know your opinion of the following questions: (1.) What is the lowest h.p. I should want? (2.) Is the J.A.P. engine really good one for my purpose? (3.) Do you advise accumulator or magneto ignition, and if the latter, which of the following two makes do you think the more reliable: (i.) Simm or (ii.) Bosch? (4.) Carburetter. Is there a better than the Brown and Barlow? (5.) What gear ratio would suit my purpose? Should you think a two-speed gear a necessity, kindly mention a suitable make.—F.W.

(1.) The lowest h.p. would be $3\frac{1}{2}$. (2.) The engine mentioned would be highly suitable for your requirements. (3.) We emphatically recommend magneto ignition, and regard the two makes mentioned as being equal in merit. (4.) The B. and B. carburetter will give you satisfaction. (5.) You would require a gear of about $5\frac{1}{2}$ to 1. A change speed gear would be practically indispensable for a passenger attachment, or otherwise you would be called upon to assist with the pedals on hills exceeding 1 in 12 or 14.

Piston Rings.

? Kindly tell me what quality of metal piston rings should be made of? The old rings I have taken out of my 2½ h.p. lightweight are made of very soft metal, not burnt steel, as I thought at first. In having new ones made would you think it best to have them made from best crucible cast steel?—F.S.N.

Piston rings should be made of special quality close-grained cast iron. You had better get the rings sold by the makers of your machine, as we consider they would be the most suitable for your engine. Steel rings would not be suitable.

Flooding Causing Waste of Petrol.

? I am troubled with flooding and waste of petrol with my carburetter (1909 B. and B.) When I lift the exhaust valve of the engine in traffic the petrol commences to drip very fast from the bottom of the jet. Kindly explain this, as I consider I use an excessive quantity of petrol. My machine is a 1907 3½ Rex, and I am told that I should get 120 miles to the gallon. Is this too much to expect?—H. R.

The trouble may be due to two reasons. (1.) That the level of the petrol is too high in the float chamber. (2.) That the needle does not seat properly, i.e., the needle may be bent, or the cone require grinding in. If you have not had sufficient experience to put the carburetter in order, the makers will put it right for you in a very short time. One hundred and twenty miles to the gallon is certainly an excellent petrol consumption for a 3½ h.p. machine, one which, in our opinion, can hardly be expected under normal conditions. One hundred miles per gallon is a good average.

Petrol Supply Impeded.

? Could you advise me where to look for the trouble in my carburetter? It is a Longuemare. I always flood it before starting the machine, and after a short distance the engine slows down owing to want of petrol. If I raise the needle whilst riding along it picks up speed again all right, but as soon as I let go the engine gradually stops. The feed pipe is not choked, and the float seems in perfect order.—G.J.

It seems as if the position of the weights on the needle has been altered, and is not allowing sufficient petrol to enter the float chamber. You can prove if this is the case by testing the petrol level. To do this, take off the spray chamber cover, remove the jet, and then turn on the petrol tap. The level of the petrol can then be noted. It should rise to within ¼ in. of the top of the orifice, with the machine standing quite level. If this is found to be in order, and the feed passages quite clear, we should be inclined to think that the needle valve is bent, or perhaps one of the balance weights of the carburetter sticks and does not allow the needle to rise properly.

Magneto Contact Breaker Worn. Carburetter Adjustment.

? (1.) The bell crank lever on contact - breaker of my magneto machine seems to be worn, and consequently the points are not meeting exactly in line, but somewhat to the side. Machine is firing quite regularly, however, and points appear to be flat. Is it worth while doing anything to make the lever tight? I think it is the brass bearing that is worn. (2.) When running on the level at 20 m.p.h. and then coming to a slight down-grade, the machine, of course, gathers speed. If I shut the throttle a little to check it, the engine always misfires, and no position of the air lever makes any difference. The only way I can get it to keep to the legal limit is to put on the foot brake or bring back the ignition lever as far as it will go, neither of which ways can be good for the machine. Do you know any other way to stop the misfiring?—L. A.

(1.) Probably a new lever and a new fibre ring would cure the trouble. If the points do not meet squarely, the

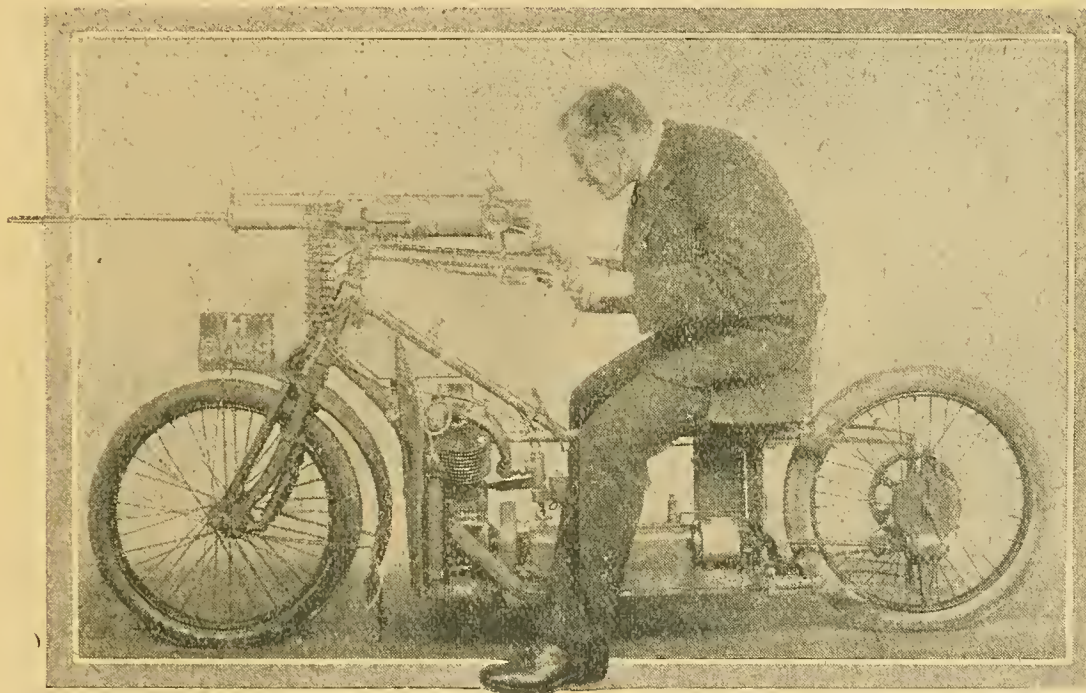
pression easily. The valves appear all right, also the joints, and I spaced the piston rings out in refitting. The oil has certainly not worked into all the bearings yet.—P.S.

You must first of all make sure that all the joints are gastight. You can prove this by spreading lubricating oil over them, and afterwards testing the compression. If there is any leakage at these points tiny bubbles will appear. We may, however, point out that it is impossible to have good compression unless there is plenty of oil on the piston and the rings, and most probably, after the engine has been run a little while, the compression will return. If you have ground in the valves you may have left no clearance between the valve stem and tappet rod, which would naturally prevent the valves closing.

READERS' REPLIES.

South Africa.

In reference to the enquiry by "AW 354" in *The Motor Cycle* of August 4th—Petrol here is 2s. 6d. per gallon, if bought in quantities 1s. 10d. Up-country prices are higher. The duty



The motor bicycle illustrated is the forerunner of the four-cylinder "T.A.C." recently described in these pages. It is shown with a lightweight, quick-firing gun fitted to the handle-bars. The gun is one manufactured by the Wilkinson Sword Co., and, is not only light but easily detachable.

cheapest way would perhaps be to obtain a new contact plate or complete contact breaker. (2.) The only thing we can suggest is that the petrol is cut down rather too finely, and that a very slightly larger jet may cure the trouble, or, if the consumption is already high enough, the next size smaller choke tube or air adapter would have the same effect.

Restoring Compression.

? Please help me out of my difficulty. I have recently taken my 2½ h.p. De Dion engine down for a new gudgeon pin, bush, and screw to be fitted, and seized the opportunity of taking the whole engine to pieces. I have now fitted it together again, and find that the compression is very bad indeed. With the belt on or off, I can turn the engine over com-

pression easily. No licence for stocking petrol is required. The cost of licence, freight, and duty is about £8. Repairers charge anything they like; in fact, the writer knew a man who had trouble from his plug not working, and the machine remained in the repair shop two days and a charge of 35s. was made owing to the ignorance of the mechanic.—COLONIAL (Port Elizabeth).

In reference to the enquiry from "A.B." in the issue of October 13th about breaking exhaust valves on a 3½ h.p. 1907 Minerva. It is not the fault of the valves, but is due to the contour of the cam being too abrupt on the closing side. If this is eased by being ground down a little the trouble is instantly cured. The small alteration will not affect the running of the engine.—J. BELLERBY.

Time to
light lamps

Special Features

Sydney R. Jones

CURRENT
CHAT

October 27 .. 5.42 p.m.

„ 30 .. 5.37 p.m.

November 3 .. 5.29 p.m.

A.C.U. Annual Dinner.

Arrangements are in hand for the annual dinner of the Auto Cycle Union to be held at the Waldorf Hotel on Thursday, January 20th next.

A.C.U. Council Meeting.

The next meeting of the A.C.U. Council will be held in London on Saturday, November 27th. All notices, etc., for the agenda must be sent to the secretary by Monday, Nov. 8th.

The Regulations for the 1910 T.T. Race.

A meeting of the industry and competitors interested in the International Auto Cycle Tourist Trophy Race will be held one evening during the Stanley Show Week, to consider the conditions governing the Tourist Trophy Race to be held in 1910.

Hill-climb in New South Wales.

The Sydney Motor Cycle Club held a hill-climb on the Figtree Hill, Lane Cove, Sydney, N.S.W., on Saturday, September 11th. Competitors were sent off in pairs, and in the final T. W. Verdant (on a 5 h.p. V.S.), scratch, defeated A. S. Jones (2 h.p. Moto-Rève), 6s. The hill is about two miles in length, of varying grades, but never remarkably steep.

Mirrors to Prevent Accidents.

It has already been found in practice that at certain blind corners the erection of a mirror in such a position that motorists and others are enabled to obtain a view of approaching traffic from other directions is a most effective preventive of accidents. Such a mirror has recently been erected at Woodbridge. The Harrogate and District Automobile Club, assisted by the Motor Union, is endeavouring to arrange for the placing of a similar safety mirror at the end of Park Road, Harrogate.

Stolen from the Brooklands Track Garage.

W. Dewar, Clifton Buildings, Vandy Street, Worship Street, London, E.C., whose T.T. Triumph was stolen from Brooklands Track on July 31st, has heard no trace of the missing machine, and now offers a reward of £10 for information which will lead to its recovery. The engine number of the stolen machine is 5951, frame number 140255. The machine is minus mudguards, stand, and carrier. The tyres are 2½ in. Dunlops, and the carburetter is specially cut away in half crescents on both sides. There are two holes in the induction pipe fitted with hub lubricators, and the bottom fin of the cylinder is broken below the inlet valve.

Barnes's Ambition.

G. A. Barnes, the ex-racing motor cyclist, has got the speed fever again. His ambition, he tells us, is to establish a world's speed record on a British aeroplane. His machine, damaged in the experimental flight at Abbey Wood, is now rebuilt, and "the Kent aviator," as the *Daily Mail* entitles him, will make his first attempt in public at a forthcoming Midland aviation meeting. We wish him every success.

Credit where it is Due.

One of the leading American motor cycle journals prints the following headlines over its account of the Tourist Trophy Race—culled obviously, by the way, from *The Motor Cycle*.

UNCLE SAM SCARES JOHN BULL.

EVANS, ON AMERICAN MOTOR CYCLE, LEADS IN ISLE OF MAN RACE, BUT STOPS FOR FUEL.—COLLIER PASSES AND WINS.

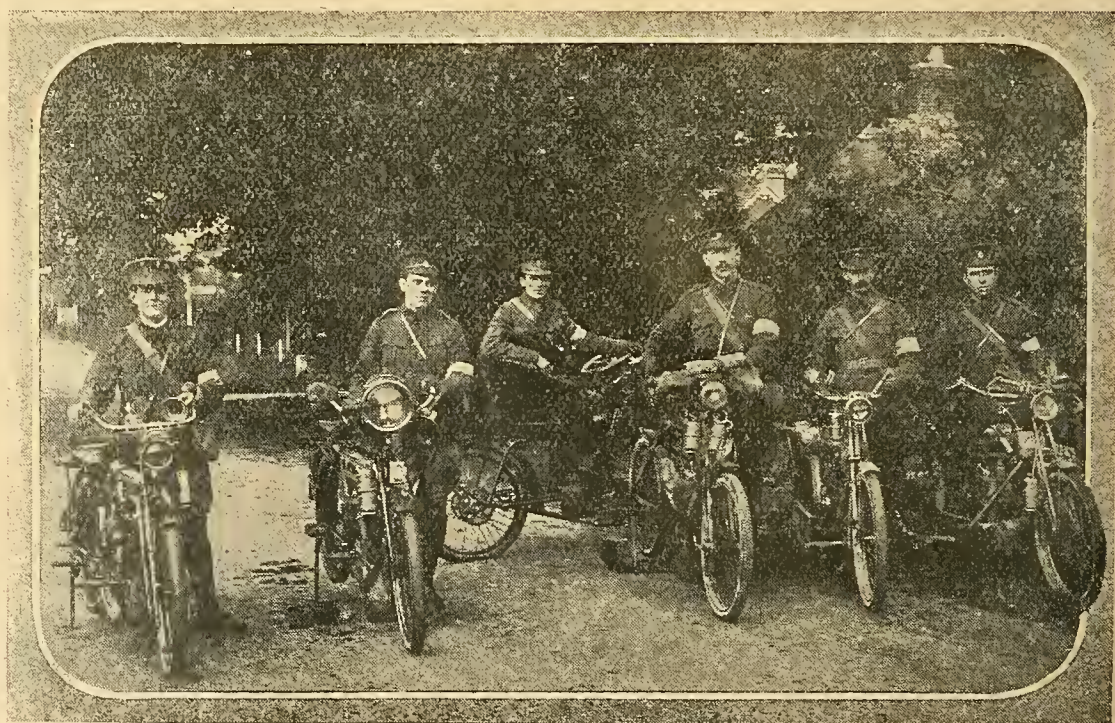
The above headlines give one the impression that Evans's stop for petrol lost him the race, but without wishing to reflect on the splendid performance of Evans in any way, we think it only fair that readers of *The Motor Cycle* on the other side of the Atlantic should know that Collier, the winner, stopped on two occasions for petrol.

Maidstone Road—A Warning.

Special caution is advisable on this favourite motor cycling highway. Owing to the regrettable car accident on Farningham Hill, the police are timing all vehicles from Farningham to Wrotham, and occasionally in the reverse direction. For the present we should strongly advise the alternative route *via* Sevenoaks and Ightham. This also avoids Eltham and Footscray, where a short distance trap is occasionally in operation.

Too Premature.

One or two premature announcements have appeared in cycling and other journals respecting a cycle attachment in the form of a motor wheel for fixing to pedal bicycles, the invention of a manufacturer of motor cycles residing in Birmingham. It is needless to point out that *The Motor Cycle* has been fully conversant with the introduction of this attachment for some time past, but acting in accordance with the wishes of the inventor no details have been published respecting it. The inventor requests us to point out to our readers that *The Motor Cycle* will be in possession of the earliest description and photographs of the attachment as soon as he is prepared to make them public. It is intended to exhibit the device at the Stanley Show.



Members of the Motor Union who took part in the recent Army Manœuvres. These motor cyclists, and many others, were attached to the staff and employed as despatch bearers, earning the warm appreciation of the Army Council for their efficient services. The motor bicycles used were a Rex Triumph, Singer, Twin-cylinder Moto-Reve, and Zenith Gradua.

Opening of the Stanley Show.

Sir Albert K. Rollit has again kindly consented to open the Stanley Show on Friday, the 19th prox.

The Three Show Issues.

The first special issue of *The Motor Cycle*, in connection with the Stanley Show, will appear the week after next, date November 10th. The issue dated November 17th will form a forecast and guide to the show, and the following number will include a complete illustrated description of the exhibits of interest to motor cyclists.

A Novel Idea.

A movement is on foot to organise a London to Edinburgh run for old pattern motor cycles made in 1905 or previous to that year. It is the idea of two enthusiastic amateurs, and already half a dozen promises of entries have been received.

The A.C.U. Race Meeting.

The boisterous wind on Saturday last marred somewhat the success of the A.C.U. race meeting, a fully illustrated description of which appears on the next two pages. C. R. Collier repeated his 1906 performance and won *The Motor Cycle Challenge Cup*, but on account of the wind could not approach the record made by H. V. Colver in 1908 (52 miles 1,650 yards). Collier, however, made an excellent performance, wearing down all opposition and winning a good race by covering 50 miles 858 yards.

The Mile Time Trials and Five Miles Handicaps.

C. R. Collier's time in the mile time trials (flying start) was 1m. 4 $\frac{3}{4}$ s. The record stands at 1m. 2s., made by the same rider in 1907 and at the same meeting, which took place in August, when the weather was more settled than it was last Saturday. Capt. Sir R. K. Arbuthnot secured a most popular win in the five miles handicap for standard touring machines, while H. Martin won the five miles open handicap.

Two New Clubs Proposed.

Two new clubs for motor cyclists are on the tapis—one for riders in East Kent, the other for motor cyclists in Leith, N.B., and district. There are already over one hundred motor cycle clubs in the United Kingdom, something like seventy-five per cent. having been formed during the last four years.

FUTURE EVENTS.

Nov. 12-20—Olympia Motor Exhibition.

„ 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, Islington, N.

„ 22-27—Meeting of the Trade and competitors to consider conditions for the 1910 Tourist Trophy Race.

Jan. 20—Auto Cycle Union annual dinner at the Waldorf Hotel.

Stanley Smoking Concert and Annual Dinner.

The annual invitation smoking concert given by the Stanley Show Committee will be held again this year at the Queen's Hall, on November 5th.

The thirty-fourth annual dinner of the Stanley Cycling Club will be held this year on Saturday, November 13th, the venue as usual being the Whitehall Rooms, Hotel Metropole, S.W., under the chairmanship of Mr. C. W. King, the president of the club.

The Stanley Show.

Motor cycles, motor cycle tyres, and accessories will be exhibited on about 120 stands at the forthcoming Stanley Show. This represents more than one-half of the total exhibitors—probably a larger proportion than ever before.

Motor Cycle Fittings on Aeroplanes.

Observant motor cyclists who attended the Blackpool and Doncaster aviation meetings could not fail to have been impressed with the number of motor cycle fittings used on the aeroplanes. For instance, motor cycle engines (chiefly British-made J.A.P.'s), carburettors, small torpedo petrol tanks, magnetos, free engine clutches, spring forks, motor cycle framework, wheels and tyres, were much in evidence, and in many cases had been fitted to the aeroplanes without any alteration.

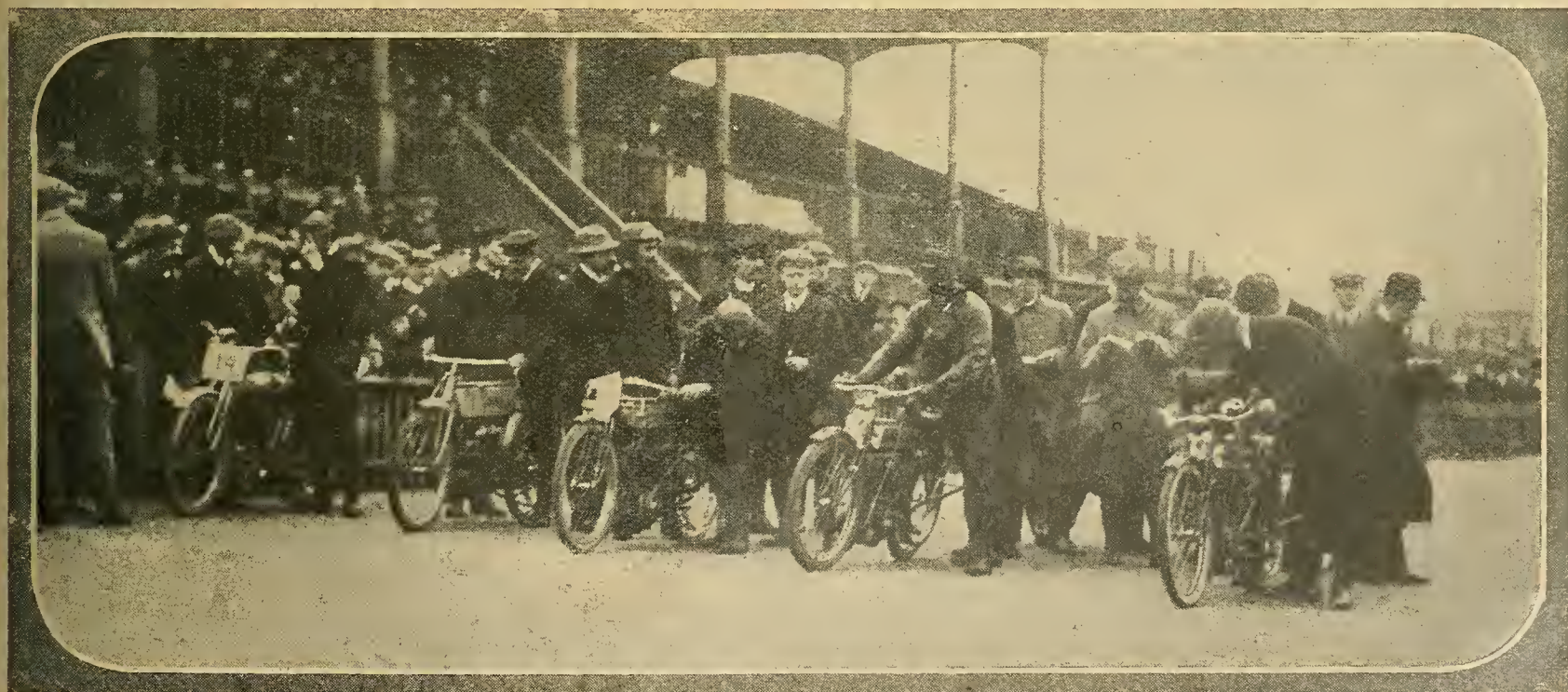
Two-stroke Engines.

We had an opportunity recently of riding the 3 $\frac{1}{2}$ h.p. Rex two-stroke motor cycle which was used by Harold Williamson in the last Quarterly Trials. The engine is simplicity itself, and is built on the usual lines of two-stroke motors where the crankcase is used to compress the gas. During our trial the machine ran exceptionally well; it is fast and a good hill-climber. There remains a slight difficulty to be overcome in the carburation at slow speeds, but this should not be insurmountable.

Motor Cyclists as Aviators.

Four of the leading motor cyclists of England, France, Germany, and Belgium have now turned their attention to aviation, viz., George A. Barnes, who a few years ago ranked as the leading racer and record-breaker at home, and also held his own against the pick of the Continentals; M. Bertin, the famous pacemaker, who paced Wills in his wonderful world's hour record ride at Munich; Franz Hoffmann, who has paced more riders to victory than any other motor cyclist in the ranks; and, lastly, Jean Olie-slaegers, the demon Belgian, and one-time champion motor cyclist.

Glenn H. Curtiss, the most successful American flier next to the Brothers Wright, is also a motor cyclist; in fact, he is the proprietor of the Curtiss Manufacturing Co., makers of Curtiss motor cycles.



The start of the Five Miles Handicap at Canning Town for standard touring machines, engine capacity 500 cc. The gear was limited to 4 to 1 with 26in. wheels.

A.C.U. RACE MEETING AT CANNING TOWN.

Including the One Hour Scratch Race for "The Motor Cycle" Challenge Cup.

ALTHOUGH there had been somewhat short notice of the A.C.U. race meeting, the attendance on Saturday at Canning Town Track was fairly good. The weather, though not of the best, was not actually unpropitious, and the rain only fell slightly at long intervals. Fortunately, however, the boisterous south-westerly gale, though it prevented any records being made, was not so harmful to the motor cycle meeting as to the aeroplane meetings in the North. The first event of the meeting consisted of the mile time trials for the



The well-nigh invincible C. R. Collier and the 85 x 60 mm. Matchless-J.A.P. with which he won "The Motor Cycle" Challenge Cup, riding 50 miles 858 yards in the hour. He also won the "Automotor Journal" Challenge Cup for fastest time in the Mile (flying start) Time Trials. Collier's time was 1 min. 4½ secs. = 56½ miles per hour.

Automotor Journal Challenge Cup. Holder, D. R. Clark; time, 1m. 5½s. Record, 1m. 2s., by C. R. Collier at Canning Town 10th August, 1907. First prize, gold medal; second prize, silver medal; third prize, bronze medal. Open to motor bicycles with engines having a total capacity in which the diameter in mm., squared, multiplied by the stroke, does not exceed 440,000, or, in other words, a capacity equal to an engine having the dimensions 76 by 76 mm.

Results of One Mile Time Trials.

Rider.	Machine and engine.	Bore and stroke.	Time.
1. C. R. Collier (Matchless J.A.P.)	...	85 x 60	1 4½
2. H. Martin (Martin J.A.P.)	...	85 x 60	1 7
3. C. E. Bennett (Genuine Buchet)	...	76 x 73	1 8
4. D. R. Clarke (New Century Givaudan)	...	76 x 76	1 9
5. Oberlander (N.S.U., N.S.U.)	...	75 x 75	1 11
6. F. W. Dayrell (Martin J.A.P.)	...	85 x 60	1 13
7. H. V. Colver (Matchless J.A.P.)	...	76 x 76	1 14
8. H. S. Wallis (King J.A.P.)	...	85 x 60	1 14
9. P. V. Wallis (King J.A.P.)	...	85 x 60	1 15
10. Kirner (N.S.U., N.S.U.)	...	82 x 64	1 25

Event No. 2 was the Five Miles Handicap, limited to standard touring machines fitted with motor cycle

tyres (not less than 2in.), steel mudguards, tool bag with contents not weighing less than 5 lbs., stand, and touring saddle. All machines to be fitted with silencers, cut-outs prohibited, engines not to exceed 500 cc. or the equivalent volume swept out, and the gear not to be higher than 4 to 1 with 26in. wheels. First prize gold medal, second prize silver medal, and third prize bronze medal. The starters were:

Rider.	Machine and engine.	Bore and stroke.	Start.
H. V. Colver (Matchless J.A.P.)	...	85 x 85	scr.
Oberlander (N.S.U. twin)	...	63 x 80	10s.
F. W. Dayrell (Bat J.A.P.)	...	85 x 85	15s.
A. R. Abbott (Triumph)	...	84 x 86	15s.
Capt. Sir R. K. Arbuthnot, Bart., R.N. (Triumph)	...	84 x 86	15s.
F. W. Applebee (Rex)	...	82 x 89	40s.

Captain Arbuthnot had never been on the track before the morning of the race, and had only had time for a few practice spins; consequently he felt by no means at home, and had no hopes of distinguishing himself. Colver started well, and gradually assumed the lead, but misfortune befell him near the end of the race, as engine trouble forced him to retire. Dayrell was another unfortunate, and he also had to retire, a broken connecting rod being the reputed cause of his withdrawal. Meanwhile the little twin N.S.U. was going well. With Colver's retirement Sir Robert was left a leader, and amid the heartiest applause he finished a winner, time 6m. 41⅓s. Oberlander (N.S.U.) was second, 7m. 20s.; and F. W. Applebee (Rex) was third.

Five Miles Open Handicap.

The third event on the programme was the Five Miles Open Motor Cycle Handicap for the *Motor Car Journal* Challenge Cup (holder, D. R. Clarke). First, second, and third prizes, gold, silver, and bronze medals respectively. Open to motor bicycles with engines having a total capacity, in which the diameter in mm., squared, multiplied by the stroke in mm., does not exceed 440,000, or 76 mm. x 76 mm. In heat 1 the starters were:

Name.	Machine and engine.	Bore and stroke.	Start.
D. R. Clarke (New Century Givaudan)	...	76 x 76	scr.
C. R. Collier (Matchless J.A.P.)	...	85 x 60	scr.
P. V. Wallis (King J.A.P.)	...	85 x 60	20s.
F. W. Dayrell (Martin J.A.P.)	...	85 x 60	20s.
Oberlander (N.S.U.)	...	75 x 75	30s.

Collier was not long in establishing a lead, and finished an easy winner. Time, 6m. 17s. Clarke was second, and Oberlander third. The latter's carburetter caught fire just as he was finishing, and, to the amusement of everybody, he shut off the petrol tap and rode on until the flaming petrol burnt or blew out. The starters in the second heat were:

Name.	Machine and engine.	Bore and stroke.	Start.
C. E. Bennett (Genuine Buchet)	...	76 x 73	scr.
H. V. Colver (Matchless Givaudan)	...	76 x 76	5s.
H. Martin (Martin J.A.P.)	...	85 x 60	15s.
H. S. Wallis (King J.A.P.)	...	85 x 60	20s.
Kirner (N.S.U.)	...	82 x 64	20s.
A. Tyler (Chater Lea Givaudan)	...	70 x 70	50s.

Bennett got away well, and rapidly worked up to the front. Martin, however, pressed him hard, and

U. Race Meeting at Canning Town.—

ler and Colver travelled well. Result: 1, Martin, 46 $\frac{1}{5}$ s.; 2, Tyler; 3, Colver.

Hour Race for "The Motor Cycle" Cup.

The next event was the hour scratch race for the Motor Cycle Challenge Cup. Holder, H. V. Colver. Previous winners: 1902, J. Van Hooy-



Capt. Sir R. K. Arbuthnot, R.N., who secured a popular victory in the five miles handicap for standard touring machines. The machine he rode, a h.p. T.T. Triumph, is depicted in the illustration.

k; 1903, J. F. Crundall; 1904, J. F. Crundall; 1905, René Thomas; 1906, C. R. Collier; 1907, H. V. Colver, 51 miles 146 yards; 1908, H. V. Colver, 52 miles 1,650 yards (record). Prizes for first, second, and third places, gold, silver, and bronze medals respectively. Eight riders lined up for the start: P. V. Wallis, C. E. Bennett, H. V. Colver, F. W. Dayrell, H. Martin, Oberlander, Colver, and C. R. Collier. It is interesting to note that of these only the two N.S.U.'s had engines equipped with magneto ignition. All went away well except Oberlander, who had to pedal rather vigorously for the first. Martin led for the first two laps, then Bennett went ahead for four successive laps, after which Martin again took the lead for the remainder of the time. Collier then went ahead for the last lap, and for the next Bennett again led. Collier then shook him off, and established the lead he never afterwards lost. At the end of 25m. Oberlander retired owing to a damaged inner tube: later Bennett also retired through the same troubles. Little by little Collier improved on his position, and at the end of the first quarter of an hour he had covered 15 miles 3 laps, Martin 12 miles 3 laps, and Colver held third place. At the end of

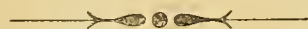
the half-hour the position of these three remained unaltered, and Collier had covered 25 miles 1 lap. At 45m. their positions were still unchanged. Collier had covered 38 miles, Martin 36 miles 2 laps, and Colver 36 miles. At 50m. Wallis dismounted and restarted shortly after, and a few minutes later Colver did likewise. Just before the hour was up Dayrell ran out of petrol, and Martin stopped for a broken ignition wire: Result: 1, Collier, 50 miles 858 yards; 2, Martin, 47 miles 720 yards; 3, Colver 47 miles 440 yards.

Considering the high wind Collier did remarkably well, and added another jewel to the crown of Matchless successes.

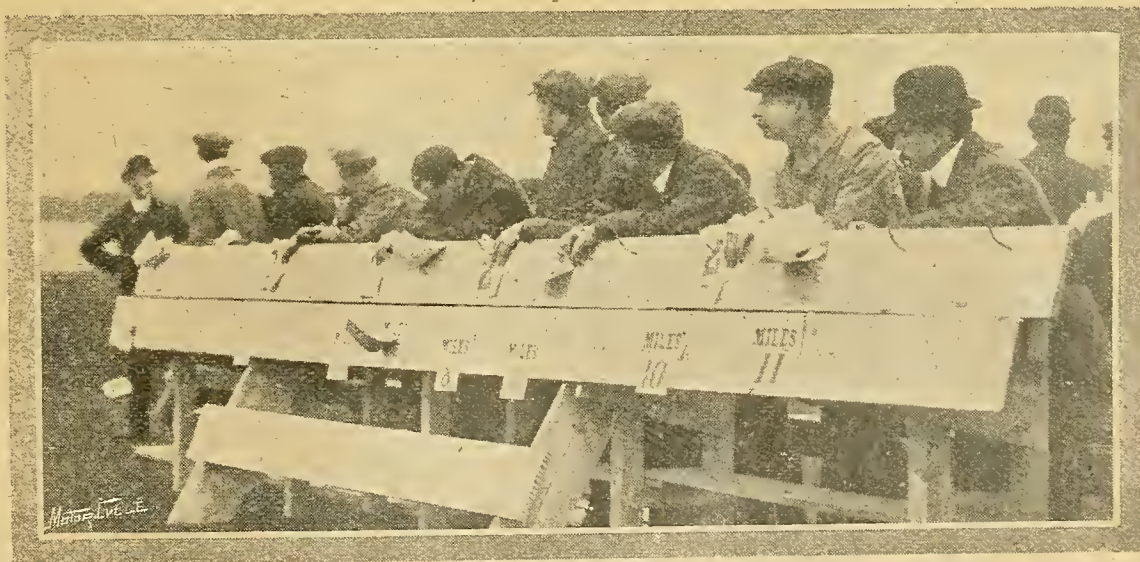
Final of the Five Miles Open Handicap.

In the final heat of the five miles open handicap the starters were: H. V. Colver, C. R. Collier, F. W. Dayrell, H. Martin, D. R. Clarke, and A. Tyler. At the time of the start it was getting dusk, the wind blew harder than ever, and rain fell fitfully. In the gloom the exhaust flames were visible and lent a certain weirdness to the scene. Martin quickly established a lead, and Collier was going well, but Clarke was evidently in trouble. Result: 1, Martin, time 6m. 7 $\frac{2}{5}$ s.; 2, Collier, 6m. 10 $\frac{1}{5}$ s.; 3, Colver.

The following were the officials: Judges, H. P. E. Harding and V. Hart; timekeeper, J. H. Burley; handicapper, F. Straight; umpires, H. G. Cove, S. F. Beavor, C. Cather Cooke, J. Thompson, W. H. Wells, J. W. G. Brooker, R. M. White, and H. C. Horswill; competitors' marshals, E. J. Bass and H. P. Beasley; telegraph steward, W. Pratt; lap scorers, E. C. Reynolds, Stanley Webb, A. E. Livoni, and G. Rudland; starter, A. Vickers.



We are asked to point out that the engine and carburetter fitted to the twin Indian are called the Hed-



The lap-scoring desk in the Hour Race for "The Motor Cycle" Challenge Cup. The scorers were E. C. Reynolds, Stanley Webb, A. E. Livoni, and G. Rudland.

strom, in compliment to Oscar Hedstrom, the designer of the machine. The whole of the Indian, including the engine, is made in the Hendee Co.'s own factory. In the last issue we mentioned that belt transmission would be fitted to these machines for those who preferred it. We are now informed that the belt-driven model was more in the nature of an experiment, and will not be supplied in future.

CLUB NEWS.

Nottingham and District M.C.C.

The winter social programme, 1909-1910, will commence with a smoking concert, to be held at headquarters on Friday next, the 29th inst. All motor cyclists will be welcomed, and tickets may be obtained from Mr. C. A. Aubert Spring, hon. secretary, Stratford Road, West Bridgford, Nottingham.

Proposed Motor Cycle Club for Leith.

A movement is on foot to form a motor cycle club for riders in Leith, N.B., and district. A number of local men promised their support at a recent meeting held to discuss the formation of a club. Intending members are asked to send their names to Geo. Gunn, 369, Leith Walk, Leith, hon. secretary *pro tem*.

Sutton Coldfield A.C.

The second annual petrol consumption trial of the above club took place on Saturday last. The weather and the state of the roads were about as bad as they could be, and this coupled with the strong head wind blowing against the competitors over two-thirds of the course militated against any good performances being made. The route, which was forty-five miles in length, took the competitors over some hilly roads, which helped to upset calculations. Notwithstanding

North Middlesex A.C.

The first of the series of lectures will be given at the club's headquarters, the Great Northern Railway Hotel, King's Cross, N.W., on Thursday next, the 28th inst., 8.15 p.m. "Magneto Ignition" is to be the title of the lecture, which will be delivered by A. E. Bennett, of the Bosch Magneto Co., Ltd.

Middlesbrough and District M.C.C.

There was a good attendance at the annual meeting of the above club at the Corporation Hotel, Middlesbrough, presided over by Mr. J. Bellerby. The club's finances were reported to be good, there being a credit balance of £6 12 9d. Seeing that the year commenced with an adverse balance, this was considered highly satisfactory. The following officials were elected for 1910: Mr. L. F. Gjer, president; D. Almgill, G. Sadler, C. Dorman, L. Enn J. Fowler, N. Downing, F. Shaw, A. Forbes, and J. Ne house, vice-presidents; A. Lauriston, hon. solicitor; J. Dale, captain; E. Rees, vice-captain; G. W. Liddle, hon. sec.; W. A. George, sports sec.; Duchars and Bowe auditors; G. R. Sanderson, treas.; S. L. Gjertsen, J. Bellerby, J. Blincoe, F. Downing, W. Rudland, G. McLaughlin, W. Armstrong, and J. Fairgrieve, committee.

J. H. Dale (1909 $3\frac{1}{2}$ h.p. Triumph) has been awarded the first prize in the recent hill-climbing competition, and Duchars ($3\frac{1}{2}$ h.p. Rex) the second prize. There had been some dispute as to the cylinder capacities of the machines, and J. H. Dale obtained the first prize by an exceedingly small margin.

Stockport and District M.C.C.

On Saturday, the 9th inst., the above club held a hill-climbing competition on the Leek to Buxton road, where about twenty to thirty members were present. The weather was fine, but rather cold. The distance from start to finish was two miles, covering somewhat varied track, the surface being very greasy in places. The results were decided on time only, the formula being used, the rider on a machine making fastest time being declared winner. The following was the order of finishing of the first

three in each class:

SINGLE-CYLINDER CLASS.

W. Heaton ($3\frac{1}{2}$ h.p. Rex)	34s.
— Platt ($3\frac{1}{2}$ h.p. Bradbury)	8s.
— Jones ($3\frac{1}{2}$ h.p. J.A.P.)	32 $\frac{3}{4}$ s.

TWIN-CYLINDER CLASS.

D. Thomas (5 h.p. Peugeot)	X
J. Woodrow (5 h.p. Peugeot)	8 $\frac{3}{4}$ s.
W. Sixsmith (7 h.p. J.A.P.)	34s.

X was the fastest time: the other figures denote number of seconds slower than X.

On the 31st inst. another competition will be held on same hill, the results to be decided on the A.C.U. formula. It will be interesting to compare the positions of the competitors with those given above, provided the winners ride the second event.

Members are desired to weigh their machines beforehand on public weighing scales and bring the weighing tickets with them. The meet will be at the Bull's Head Hotel, Macclesfield, at 12 noon.

Hull and East Riding A.C.C.

The third annual dinner and distribution of prizes will be held at the club's headquarters, the Grosvenor Hotel, Hull, at 7.30 p.m., on Friday, November 5th, under the chairmanship of the president, Dr. W. H. Coates. An attractive musical programme has been arranged to follow, and altogether the evening promises to be a very enjoyable one. Tickets, price 3s. 6d., can be obtained of the hon. secretary, F. Boxhall, 165, Coltman Street, Hull.



Competitors in the Oxford M.C.C. hill-climb at Irondown. F. Alden won the single cylinder, and F. Cooper the multi-cylinder class.

the inclemency of the weather above referred to seven members turned out, and the results proved to be as follows:

Rider and machine.	Combined weight.	Miles per gallon.
1. Howard Smith (Triumph) ...	12 qrs. 7 lbs.	128 $\frac{1}{2}$
2. L. Burnett (Triumph) ...	12 qrs. 7 lbs.	121 $\frac{1}{2}$
3. T. E. Guest (Ivy) ...	12 qrs.	112
4. F. Mayell (Triumph) ...	12 qrs.	106
5. N. Crozier (Triumph) ...	11 qrs. 7 lbs.	90
6. J. W. Leno (Premo, two-stroke) ...	10 qrs. 7 lbs.	43
7. S. Jones (Ivy) ...	10 qrs. 7 lbs.	retired

The figures of merit calculated on the combined weight of rider and machine together with the amount of petrol consumed are as follows:

Position and rider.	Combined weight.	Petrol consumed.	Fig. of merit.
1. Howard Smith	12 qrs. 7 lbs. ...	2 pts. 16 ozs. ...	100
2. L. Burnett	12 qrs. 7 lbs. ...	2 pts. 19 $\frac{1}{4}$ ozs. ...	93 $\frac{3}{4}$
3. T. E. Guest	12 qrs. ...	3 pts. 4 ozs. ...	85 $\frac{3}{4}$
4. F. Mayell	12 qrs. ...	3 pts. 8 ozs. ...	79 $\frac{1}{2}$
5. N. Crozier	11 qrs. 7 lbs. ...	4 pts. ...	65
6. J. W. Leno	10 qrs. 7 lbs. ...	8 pts. 7 $\frac{1}{2}$ ozs. ...	28 $\frac{1}{2}$

It is interesting to note that the results on formula work out in exactly the same order as the mileage results, which is due to the fact that the heaviest machines have in each case accomplished more miles to the gallon than did the lighter ones, being the reverse of what is usually the case.

SALES 14 DAYS ONLY.

LE ACCESSORIES AND CLOTHING.

Special Reductions in Motor Cyclists' Clothing.

An opportunity not
to be missed.



or Reefer
Smart Tweeds
respuns, leather
ough body and
of coat, and
lined throughout.

fixed leather
ing.
ice, 35/11

Fitted with detachable leather lining.

Sale Price, 39/11

The suit consists of Jacket and Breeches.
Send size round chest and waste.

Suits in Coloured Leather Waistcoats.

Coloured Serge **Waistcoats**, lined throughout
leather, 40 and 42 in. chest, slightly soiled.

Sale Price, 7/11 Usual Price, 25/-

her **Waistcoats**, double-breasted and long sleeves,
oughout. All sizes, 36 to 44 chest.

Sale Price, 25/8 Usual Price, 30/-

Coloured Leather **Waistcoats** in Tan, Green, and
own Shades. 36 and 38 in. chest only.

Sale Price, 32/6 Usual Price, 40/-

Waistcoats, with sleeves lined right through with
leather. Sizes 36 to 44 chest.

Sale Price, 23/11 Usual Price, 32/6

otor **Waistcoats** in Canton and Feltine, lined fleece,
in and comfortable. Size 38, 40, and 42 in. chest.

Sale Price, 15/9 Usual Price, 21/- to 25/-

ian Cloth **Waistcoats**, with long sleeves, lined
leather through body and sleeves.

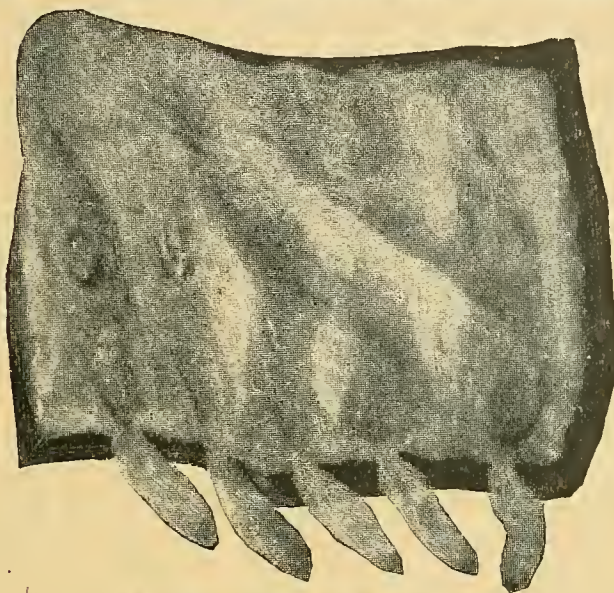
Sale Price, 27/11 Usual Price, 35/-

Give size round chest when ordering.



CLEARANCE OF FUR MOTOR RUGS.

Fur Rugs at Summer Prices.
ADMIRABLY ADAPTED FOR TRAILERS AND TRICARS



Fur Rugs at Bargain Prices.

	Sale Price.	Usual Price.
10 Grey or Black Goat Motor Rugs , full size	39/9	50/-
3 only Wolf Skin ditto	49/9	65/-
10 only selected Wolf Skin ditto, a splendid line	57/6	75/-
6 only Jackal Rugs , a very handsome rug, a bargain	61/6	70/-
3 only Hamster Fur Motor Rugs on Fringed Shawls	69/9	84/-
10 only extra large size Dyed Goat Skin Motor Rugs , sable brown	£4 6 9	£5 0 0
3 only Black Kid Fur Rugs on Check Shawls	31/9	50/-
5 Grey Coney Fur Rugs on Shawl, a very handsome rug	83/9	£5 5 0
3 only selected Hamster Fur Motor Rugs on Fringed Shawls	88/6	£5 10 0



Clearance of Black Leather Waistcoats.

126 Double-breasted
Black Leather
Waistcoats, with
full-length sleeves,
and warmly lined.
All sizes, 36 to 44 in.
chest.

Sale Price, 18/9

89 ditto, superior
quality, can be worn
open at neck, if re-
quired. All sizes,
36 to 44 in. chest.

Sale Price, 24/11.

Usual price, 30/-

Send size round chest
when ordering.



ODD LINES IN MOTOR CYCLE JACKETS.

41 Grey Frieze **Jackets**.
Lined Fleece, as illustration.

Sale Price, 20/11

28 ditto, superior quality.

Sale Price, 27/9

51 ditto, lined leather
through body and sleeves.

Sale Price, 22/11

28 ditto, superior quality,
lined leather through body
and sleeves.

Sale Price, 31/9

28 Grey Frieze with detach-
able leather lining.

Sale Price, 37/9

7 only Irish Frieze, lined
with fixed Chrome leather.

Sale Price, 42/9

Send size round chest over
vest.

SPECIAL ODD LINES.

2 Leather **Jackets**, lined
tweed with fur collars.

6 ditto, assorted tan or
black, fur lined.

Sale Price, 31/9 each.

Worth £3 to £6 6s.

LBORN, LONDON, E.C.

SALE CATALOGUE GRATIS
AND POST FREE ANYWHERE.

In answering this advertisement it is desirable to mention "The Motor Cycle."

THE GRADUA GEAR WILL BE AT

THE STANLEY SHOW, Stand No. 127,

fitted to

The
most
suitable
gear for
winter
riding.

The Zenith Gradua (Druid Spring Fork).

The Zenette Gradua (Spring Frame).

The Triumph Motor Bicycle.

The operation of the gear will be demonstrated by a working model, and gear parts will be on view to demonstrate its absolute simplicity.

THE MOST SUCCESSFUL GEAR FOR ALL ROUND WORK IN
ANY WEATHER. *(Write for particulars.)*

Both Zenith and Zenette (spring frame) Gradua machines are on view at Sherwell's, 46, York Street, Westminster.

ZENITH MOTORS, Ltd.,
WEYBRIDGE. (Phone No. 4.)

THE P. & M.

and the

A.C.U. QUARTERLY TRIALS.

during 1909.

3½ h.p. TOURING MODEL

Ridden by W. PRATT.

RESULT.

JANUARY. NO MECHANICAL TROUBLES.
LOST MARKS THROUGH PUNCTURE.

JULY. NON-STOP. Full Marks.

APRIL. NON-STOP. Full Marks.

OCTOBER. NON-STOP. Full Marks.

The same machine was used in three of the above trials, also the 1,000 Mile Trials, in which it gained GOLD MEDAL and still retains the A.C.U. Official Seal.

2½ h.p. LIGHT MODEL (2 speed, handle starting, chain drive, weight 125 lbs.)

FIRST APPEARANCE smallest Engine in the trials.

RESULT.

OCTOBER. Climbed Dashwood. No Mechanical Troubles.

Both Models on View at our LONDON DEPOT, 12, Mortimer Street, W.

Immediate Delivery of 3½ h.p. Model.

London Depot—
12, Mortimer St., W.

PHELON & MOORE, LTD.

Registered Offices & Works—
Cleckheaton, YORKS.

In answering these advertisements it is desirable to mention "The Motor Cycle."

Club News.—

Southern M.C.

In connection with the forthcoming winter programme, Mr. A. W. Holt, joint hon. secretary, has kindly consented to read a paper on "Competitions." This should open up a very interesting discussion, and it is hoped all members will endeavour to be present and give their views.

Proposed Kentish Motor Cycling Club.

Mr. Stanley Johnson, Luton, Selling, Faversham, is anxious to form a motor cycling club for riders in East Kent. Readers who are interested should send in their names to Mr. Johnson so that a meeting may be held at an early date with a view to the definite formation of the club.

Birmingham M.C.C.

At a committee meeting of the above club it was decided that as there seemed to be some doubt as to who was the winner of the "flexibility" hill-climb, to announce the fact that the really important event of the afternoon was not a question of who made either fastest or slowest time on the hill, but a question of the greatest difference in time a competitor could make between his fast and his slow ascent. In the case of the single-cylinder class R. H. Edwards (3½ h.p. Triumph) was the winner, and in the twin class C. Berryman (5 h.p. Norton). On Saturday, the 16th inst., a paperchase was held with every success. The course taken by the hare was some eighteen miles in length, and the hounds gained about four minutes in the run. J. Roman was the first member of the club to find the hare (R. W. Duke), who had concealed himself in a hedge, and he therefore wins the prize presented by Mr. Duke.

Harrogate and District M.C.C.

This club brought its competition season to a close on October 16th, with a well-supported fuel consumption test. The course chosen was a circular one of twenty-seven miles, with no stiff hills, but also with no down grades; therefore the engines had to be kept firing all the time. The day was fine, but owing to rain falling the previous day, the road surface was left in a heavy state, and in a few parts was extremely treacherous. The result was decided on formula, $\frac{W + C}{P}$ =

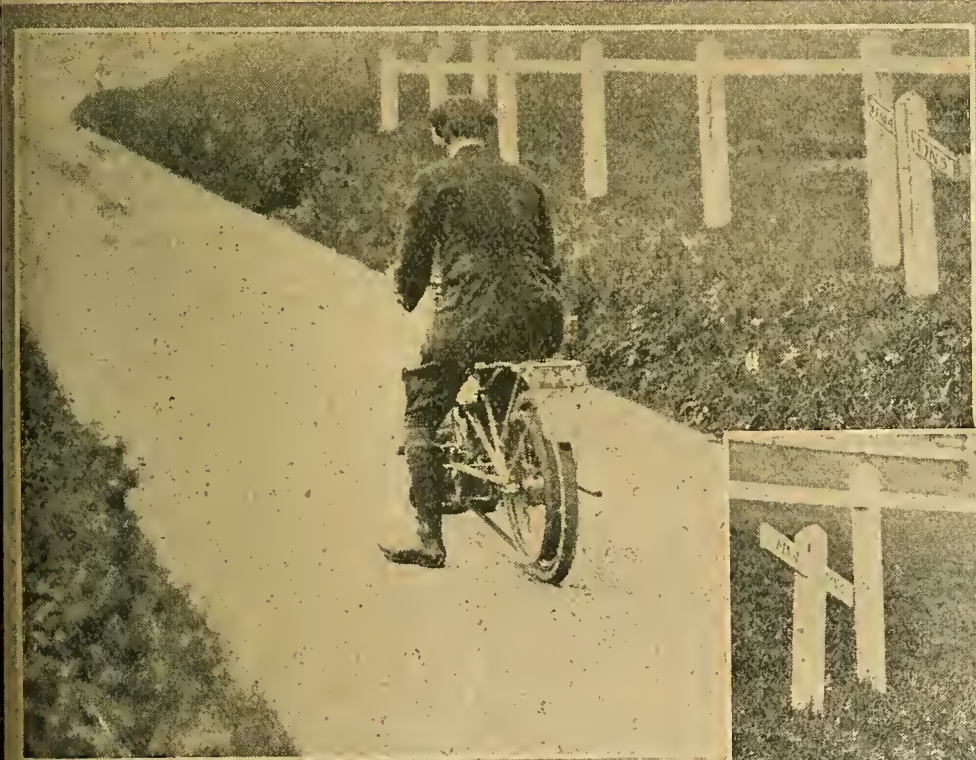
figure of merit. W = combined weight, C = cubical capacity, and P = petrol consumed. This formula was considered by the committee as being the most satisfactory.

The mileage figure per gallon of spirit which is given below came as a surprise and disappointment to most competitors, it being fully expected that the winner's figures would have been over 160 per gallon. The result is as follows:

Rider.	Machine.	Miles per gallon.	Fig. of merit.
T. C. Atkinson	(3 Triumph)	144.00	11.56
F. F. Topham	(5 V.S. and sidecar)	67.55	10.47
W. Broadbank	(3½ Triumph and sidecar)	84.70	10.22
J. A. Tindall	(3½ Triumph)	112.20	10.14
R. A. Breare	(3½ P. and M. and sidecar)	77.83	9.99
C. Wilson	(3½ Rex)	94.72	9.08
J. Bramley	(3½ Triumph)	93.91	8.39
F. Trafford	(3½ Triumph)	75.78	6.91
R. Spencer (3½ P. and M.) skidded and retired.			

During the winter the usual lectures, discussions, etc., will take place. The first is fixed for November 9th. It will be a lantern lecture entitled "The Conquest of the Air."

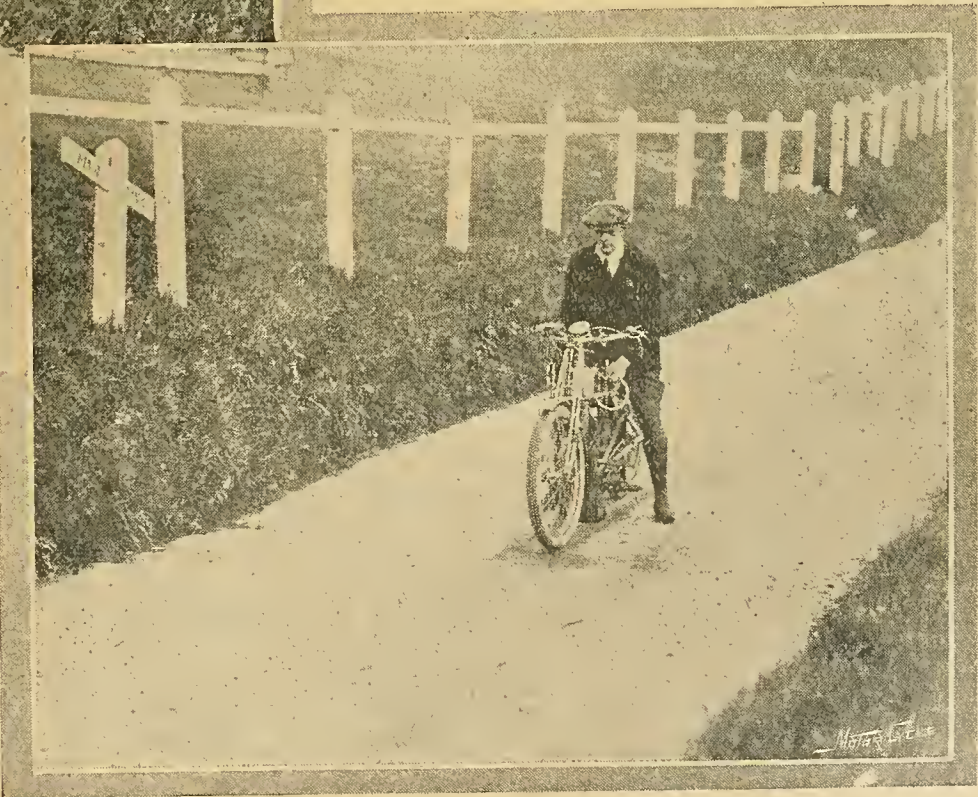
CLIMBING THE BROOKLANDS TEST HILL.

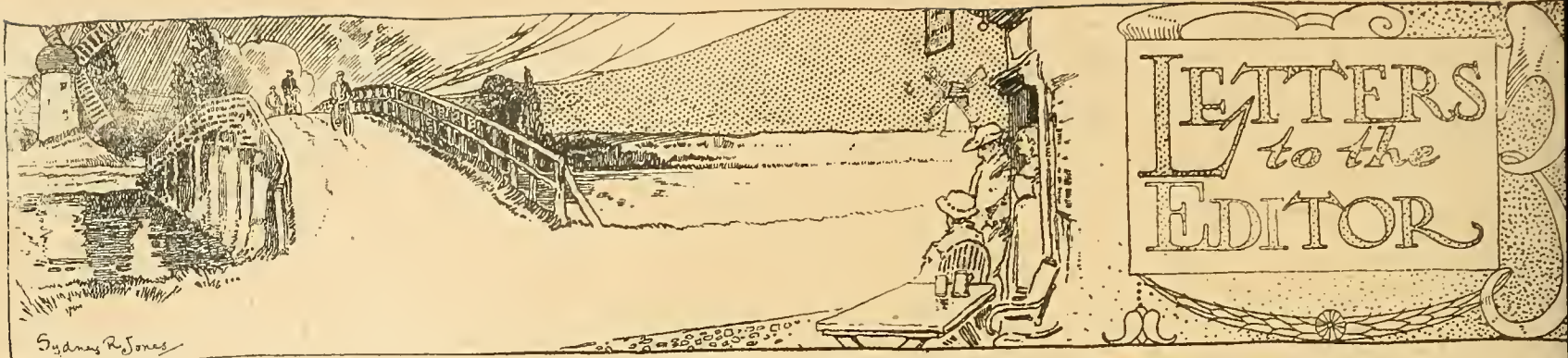


A 3½ h.p. Zenith-Gradua re-starting on the 1 in 5 section of the Brooklands test hill. For the engine to take up the drive, the hand wheel by the side of tank is rotated outwardly—the more it is turned the higher the gear becomes.

On a recent occasion F. W. Barnes, of Zenith Motors, Ltd., demonstrated the efficiency of the Gradua gear in a most convincing manner on the Brooklands test hill. Our readers will remember that the ascent is divided into three sections, comprising gradients of 1 in 8, 1 in 5, and 1 in 4. Mr.

Barnes put the 3½ h.p. Zenith-Gradua at the hill, stopped at the end of the 1 in 8 portion, and restarted, successfully negotiated the 1 in 5, stopped at the top of the section, and again restarted. He finished the ascent in splendid style, the machine overcoming the severe gradient from a standing start without a falter, while the performance certainly added another triumph to the gear, for the design of which Mr. Barnes has been responsible.





The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Amulree Hill-climb.

[4322.]—I notice in your report on the Amulree Hill-climb in *The Motor Cycle* of October 13th that J. Adamson was disqualified in the standard tourist classes "as his machine was of the T.T. type, though fitted with a standard touring engine." Permit me to say that the reason Messrs. Bostock, Syme, and myself disqualified the machine was that on Adamson's own admission it was fitted with the 85 by 38 mm. Triumph engine with which he competed in the Tourist Trophy Race.

JOHN CAMERON.

The Interest in the T.T. Race.

[4323.]—Up to the issue of your paper on October 20th, I was not aware my club had done anything special with reference to interest in the T.T. Race. But since reading letter 4310 I should like Mr. Doodson to note that my club had two members riding in the race, close on one-third of the members present to witness the race, besides the club also made a small contribution towards the fund. I consider, therefore, our average is much better than the South Manchester M.C.C.'s. Harrogate, of course, is much further away from the Isle of Man than Manchester.

H. W. FORTUNE,

Hon. Sec. Harrogate and District M.C.C.

A Foolproof Carburetter.

[4324.]—Having read "Ixion's" article *re* hill-climbing and changing jets, it may be of interest to know that I have a $3\frac{1}{2}$ h.p. Triumph, the carburetter of which I have fitted with a variable jet, controlled from handle-bar by what used to be the air lever. The control is fitted with a dial and index so that the jet can be set to any opening desired while riding. When coasting it can be closed entirely and throttle opened wide, thus cooling engine without wasting petrol. For hill-climbing it can be opened to any size. The carburetter has an automatic air inlet, so there is only one lever to use for general riding. It is quite sand-proof (and we get sand here not dust), and there is nothing to get out of order; it is, in fact, "fool-proof."

THOS. GILL SMITH.

Bloemfontein.

English v. French Measurements.

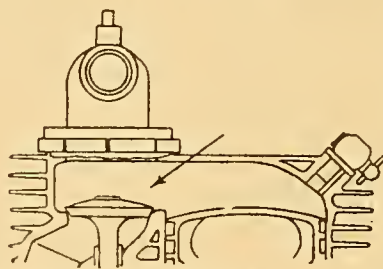
[4325.]—I would point out to Mr. Scott that the reason why we have French measures for our engines is that the petrol motor was first made on the Continent, where the metric system is universal. If we adopted the metric system in England we would have a consistent scheme of measurements. Will Mr. Scott please let us know what relation a cubic inch bears to a gallon, and what relation a pound avoirdupois bears to a mile? When he has solved this puzzle let him see what the relation of a litre is to a centimetre, or a kilogramme to a kilometre. Regarding the inch measures being "understood of the people," the most obtuse of "the people" can easily tell which of the following engines are the biggest, viz., c.c. 964, 738, 340, 453, 478.

If people are going to take sufficient interest in motor cycle engines to desire the cubical capacities they will soon find out what a cubic centimetre is. Besides, the metric system is taught nowadays in all schools, so where is the difficulty? Mr. Scott's remarks *re* "snobbish ideas" would have been better left out. Is the C.G.S. system of electrical science "snobbish"? or would he have it replaced by a drachm—twenty-fifth of an inch—second system?

ANODE.

Lessons from the Tourist Trophy Race.

[4326.]—Referring to "M. C. L.'s" complaint in a recent issue regarding the breaking of inlet valves, it may be comforting to this gentleman to learn that it is not



impossible for a broken valve to enter into the N.S.U. cylinder. For a considerable time back the cylinders of the N.S.U. motor cycles have been designed to prevent the possibility of which your correspondent complains. The opening admitting the gas from the valve pocket to the cylinder (marked with an arrow in the illustration) is arranged so that its width is smaller than the diameter of the valve. Therefore if the valve head breaks off it cannot fall into the cylinder. Further, owing to the valve pocket being very shallow, the broken valve head is unable to stand upright in the opening and therefore it is impossible, should one of the valve heads break off, for the motion of the other valve to press the broken valve head against the upper part of the pocket, which would do a lot of damage.

N.S.U. MOTOR CO., LTD.

[4327.]—"M. C. L." in his letter under the above heading assumes that an m.o.i.v. engine is unsuitable for touring use, owing to the liability of the valves falling into the cylinder in case of breakage; and he also mentions that the Indian and another make apparently suffer from the same disadvantage. Now, "M. C. L." is assuming considerably when he includes the Indian, and shows that he is not at all familiar with the construction of this engine. If he were he would know that, in the first place, on account of the design of the inlet valves, there is not one chance in ten thousand of one ever breaking; and, secondly, if either the inlet or exhaust valves broke, they could not get into the cylinders.

In regard to the overhead type, there are certain makes which have this disadvantage, and others which have decided advantage over the usual side-by-side pocket valve. That on the Indian is placed directly over the exhaust valve so that every charge of cool gas drawn in by the suction of the piston helps to cool the exhaust valve, and adds greatly to its life and efficiency.

I certainly hope that "M. C. L." will take the opportunity of comparing the construction of the mechanically-operated inlet valve as fitted to the Indian with the clumsy device that is used on some other makes at the forthcoming Stanley Show.

W. H. WELLS.

[4328.]—I could not help being struck by an article published immediately after the Tourist Trophy Race in which the writer spoke very highly of the valuable experience gained by manufacturers in these speed events and in track racing. It is unquestionable that these competitions are beneficial, in that they tend to produce a highly efficient engine and a machine that combines strength with lightness. But designers must not confuse touring with racing, they must not sacrifice comfort to speed. My point is this, that the modern, high compression, long stroke engine is not ideal for touring. It is not flexible enough, and it is difficult to start. There is abnormal wear of tyres and engine bearings, excessive vibration, and it does not show up well as a hill-climber owing to its inability to run slowly. The

ly advantages are speed, which very few people want, and slight economy in petrol consumption, which is more than compensated by the extra wear and tear of tyres, belts, and machine generally. Give me comfort rather than speed. Give me something like the old Excelsiors, that would pull slowly and sweetly up anything. It has always seemed to me that the future of motor cycling lies rather in its being treated as a cheap and swift means of locomotion than as an amusement for the venturesome youth.

BENJAMIN CONSTANT.

The End-to-end Record.

[4329.]—It is seldom indeed that a controversy in your columns is brought to such a conclusive termination and complete vindication of the mover of the debate as in the present instance. I am afraid motor cyclists as a whole took but little interest in the discussion, as, except for Mr. W. Holmes, who took my view, it was only the record riders who vainly tried to make good their case.

To those who take a broader view of the pastime I must commend them to the original article on page 650, written by the record holder himself, and then to the damning paragraph in a recent number by "Ixion" under Occasional Comments. Mr. Arthur W. Bentley was very angry with me in his letter [4273], but discreetly refrained from further combat, and "Ixion's" scathing criticism must be a bitter pill for him to swallow, as indeed for many others.

Let readers consider the number of organisations which are strenuously working for their good against a tide of narrow-mindedness, and then ask themselves what good can accrue from a run of this sort with all its attendant dangers?

I am afraid "Ixion's" timely warning will not have much effect on Mr. Bentley because—to use his own words—"neither appreciates a man who has not the courage to put his name to a letter of this sort, nor does he like a man to endeavour to belittle another man's genuine effort."

OWN BAT.

[4530.]—This record is going to cause trouble for the next year who try to break it. There is a speed limit of 20 m.p.h. laid by law for motors, and riders who set out for the liberate purpose of breaking the law ought to be avoided by all considerate riders. They do untold harm to the pastime, and instead of making converts they make enemies. If people want to go more than 20 m.p.h. let them go to Brooklands, and then they break no law.

I had a look at one of the record-breaking machines last week. I never saw such a dirty, travel-stained machine before. It is in a window for public inspection. I heard a lady say to a gentleman (presumably her husband), "If that is the sort of thing you want to get, I shall never ride in it." Suppose the driver and passenger had a wash when they shed their ride, so why not let the machine have a clean wash as well?

I would suggest that in future manufacturers and others who want what is the lowest powered machine they can get to do from End-to-end at an average pace of 16 m.p.h. without pedalling gear being used, and without any break-downs. This would soon bring about a change in the motor cycle fashions of the day. We would then have a 1½ or 2 h.p. variable-gear machine, weighing perhaps 70 or 80 lbs., guaranteed to climb any hill whether on a main or by-road, and to average 16 m.p.h. day in and day out.

ANODE.

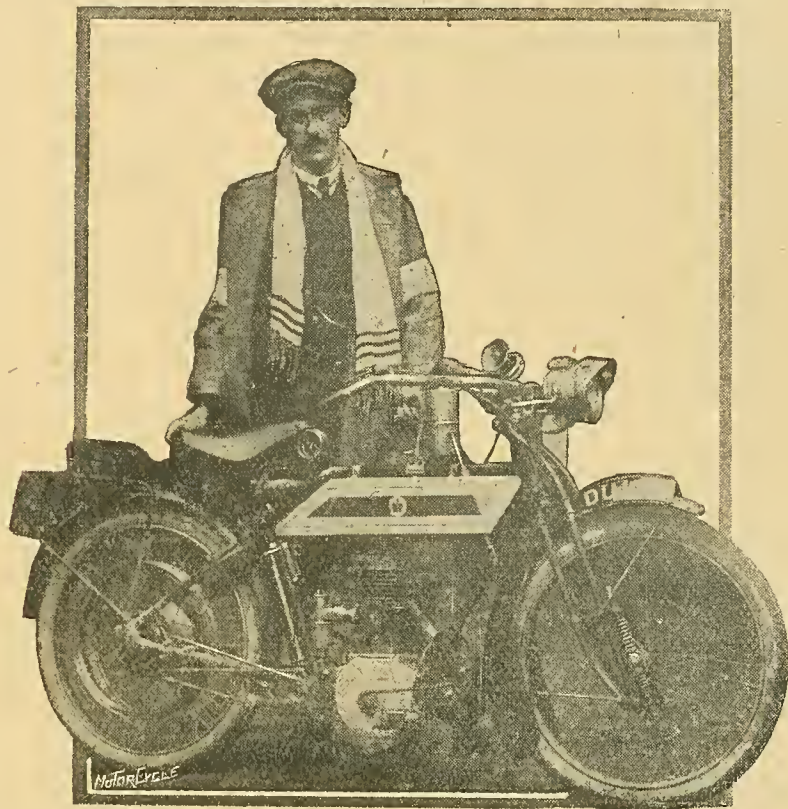
Although we do not wish to defend record-breaking, we think it should be obvious to anyone that if the machines were exhibited in a perfectly clean condition the public would be incredulous in regard to its record-breaking capabilities. Motor cars and pedal bicycles have been exhibited at shows and in manufacturers' windows after the accomplishment of some wonderful performance, in many instances in a dirty condition, but that has not prevented the spread of motoring or bicycling.—Ed.]

Matchless v. Indian in the Isle of Man.

[4331.]—We note with considerable surprise and regret that the Hendee Mfg. Co. refuse to accept our straightforward challenge, and can only assume from the drift of their reply to same in *The Motor Cycle* of October 20th that they prefer to talk about the efficiency of their Indian motor cycles rather than risk putting them to a test, from which they very apparently doubt their successful issue.

Their supposition that honours were equally divided in the I.O.M. competition is absurd, as by doing so, they presume that winning one class of a hill-climb consisting of five classes is equally meritorious as winning the T.T. itself; also they lose sight of the fact that our Mr. C. R. Collier in the all comers' class, riding his T.T. machine, beat Mr. Lee Evans's time by no less than 16s., creating a new record for the Snaefell climb for any type of motor vehicle.

With reference to the Hendee Co.'s remarks *re* handicapping comparisons, we might state that in our opinion the very liberal starts that have previously been allotted to their motor cycles in open handicaps have been the means of obtaining ninety per cent. of their successes in this country.



The 3½ h.p. Two-stroke Rex, which was ridden by H. Williamson in the last A.C.U. Quarterly Trial. Note the magneto driven off the main shaft and position of carburetter.

In the actual race mentioned in their reply our machines finished first, second, and third, although one of theirs received 20s. start. The nearest one finished ninth.

Again regretting that the Hendee Mfg. Co. have not sufficient faith in their production to match them on equal terms when absolutely challenged,

H. COLLIER AND SONS, LTD.

[This correspondence must now be closed. We must leave the challengers and the challenged to conduct any further discussion on the same subject by means of private communications, but if the parties decide to meet each other in a friendly match we shall be pleased to announce the venue and conditions.—Ed.]

New Carburetters.

[4332.]—May I suggest that new carburetters should be sent out by the makers in a reasonable state of adjustment? In June last I got from the makers a new carburetter of well-known type for an engine of which all the necessary particulars were specified; and I naturally concluded that it would be sent out properly adjusted. From the beginning it behaved badly. The gas supply was irregular, the petrol consumption was very great, and the engine overheated. I tried various nipples and adapters, overhauled the timing and electrical arrangements, and even took the engine to pieces, but without result. Finally I sent the carburetter to the makers for inspection, and they returned it with a new needle valve. It then behaved worse than before.

At last I discovered that the petrol level was much too high in the jet, and that the needle valve leaked when under vibration. (I fear it will always leak, as I think it is wrongly designed.) Perfect riding conditions are over for this year, and I have not had one hour's pleasure in my summer's riding, while my time both at home and on the road has been wasted wholesale by fruitless tinkering.

This carburetter is the third I have had on the machine, and even with proper adjustment I think that it is, on the whole, the worst of the three, a Stevens of lift valve type being much more flexible, and an F.N. with twisting handle throttle control being more economical and more convenient when riding. Except in the matter of accessibility, I do not see that there is any improvement in ordinary carburetters during the last six years. IH 4.

Multi-point Ignition.

[4333].—The article on multi-point ignition is of particular interest to me, as Mr. R. W. Ayton claims to be the inventor. I have no knowledge of anyone having employed this method of ignition previous to 1901-2, at which time I experimented upon it, but then had difficulty in procuring satisfactory two-pole plugs, but used a coil with two high tension terminals and ordinary plugs with excellent results. Later, when Mr. C. R. Garrard was superintending the equipment of Messrs. Clément Talbot's works I mentioned the matter to him. He at once saw the advantage, and immediately his firm were in a position to turn out cars, made use of the multi-spark for hill-climbing competitions with well-known results.

Although there is not much in the claim of priority, at the same time it would be interesting to know if Mr. Ayton used the multi-spark previous to 1901; if not, it is evident he must cede his claim of inventor (if this is the correct term, and no one has an earlier claim) to

JAS. L. NORTON.

Lightweights v. Heavyweights.

[4334].—In letter 4318, "20,000 Miles" sums up the whole situation in the last two lines: "The way in which modern engines wear out is appalling. What is needed is a low compression type." It is my firm belief that the standard motor cycle of the future will be a $3\frac{1}{2}$ h.p. single-cylinder low compression type, two-speed gear, and free engine, no pedals, and complete with every necessary fitment weighing about 140 lbs. This would give a flexible engine of long life, absence of vibration, moderate weight, ample strength, and reasonable comfort.

I do not believe the so-called lightweights as now used will ever be popular with hard riders. Proof of this is seen in the long-distance trials, where practically none of the lightweights are ridden by genuine amateurs.

HAROLD KARSLAKE.

[4335].—I have been interested in the recent discussion on lightweights *versus* heavyweights in *The Motor Cycle*, as my case was similar to "Ex-Lightweight," only I fortunately bought my $1\frac{1}{2}$ h.p. second-hand for a few pounds.

As a guide to other men of small means desirous of becoming motor cyclists, I should like to try and elucidate the subject if you can afford me the space. It seems to me that a common mistake made in calculating the relative power to weight of different machines is to ignore that all-important factor, the rider's weight. I think I may take it as an accepted fact that $3\frac{1}{2}$ h.p. is the lowest all-round efficient power for a heavyweight. Therefore to arrive at the comparative efficiency of a $1\frac{1}{2}$ h.p. and a $3\frac{1}{2}$ h.p., our calculation should be, roughly, as follows:

$1\frac{1}{2}$ H.P.		$3\frac{1}{2}$ H.P.	
Weight of machine ...	80 lbs.	Weight of machine ...	160 lbs.
" " rider ...	147 lbs.	" " rider ...	147 lbs.
" " tools, etc. ...	10 lbs.	" " tools, etc. ...	10 lbs.
Total ...	237 lbs.	Total ...	317 lbs.

Difference, 80 lbs. The weight of the lightweight works out, therefore, at almost exactly threequarters the weight of the other; or, in other words, you are asking little more than one-third the power to carry threequarters the weight.

If you then consider that this little engine, with practically no power in reserve; 1st, depends entirely on its compression to develop the whole of the little power it has; 2nd, the whole engine has to be taken down before even the exhaust valve can be ground in; 3rd, taking down a lightweight engine is every bit as much trouble as taking down a $3\frac{1}{2}$ h.p.; 4th, the belt drive is a constant source of trouble and expense, both the belt and pulley being very short-lived; and, 5th, that the chances of small breakages, punctures, wheels getting out of truth, etc., are all greater on the

$1\frac{1}{2}$ h.p. than on the $3\frac{1}{2}$ h.p., I do not think it will be difficult for anyone to decide which is the best value for original cost, or which is likely to prove the cheapest investment in the long run.

E. A. D. S.

SUMMARY OF OTHER CORRESPONDENCE.

We are requested to publish a paragraph asking the motor cyclist who borrowed a coat from the Warminster Motor Works about two months ago to kindly return same to the proprietors.

Will the Cheltenham reader who sent a description of a new carburetter to "Ixion" kindly forward his name and address to the Editor, his original letter having been unfortunately mislaid.

EXPERIENCES WANTED.

"H.E.B.," Attleborough, would like to hear from any reader who has converted a Quadrant tricar, fitted with two separate engines, to a single or twin V engine, and with what result?

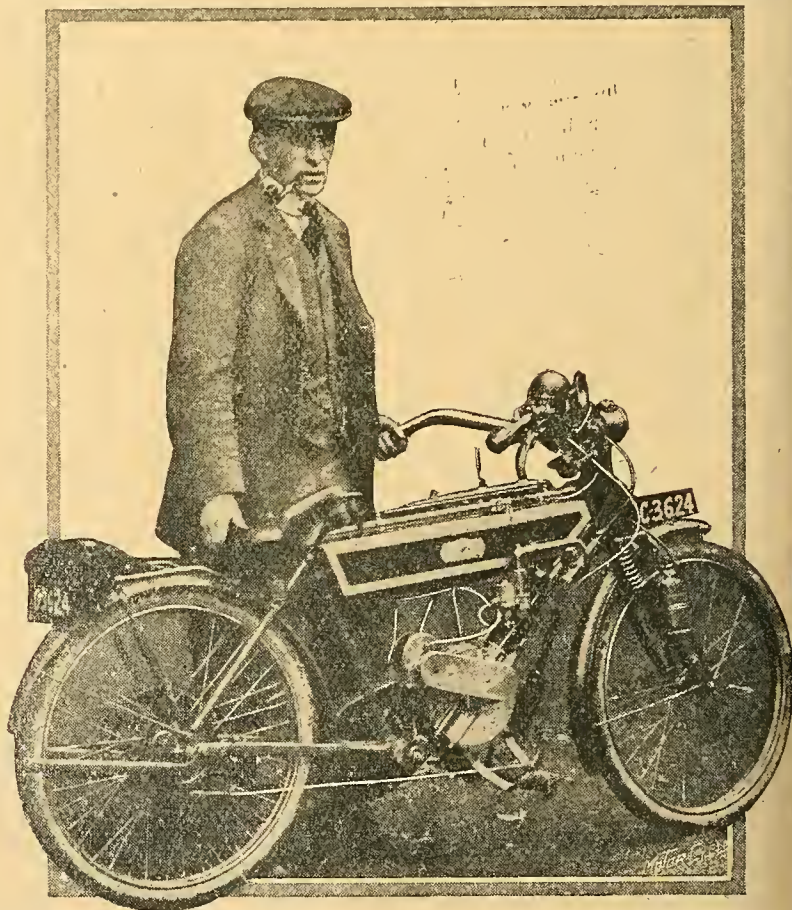
"G.E.," Sussex, would like readers' experiences with the 5 and 7 h.p. V.S., with and without a sidecar or forecar.

"F.S.," Liverpool, would like readers' experiences with the four-cylinder $4\frac{1}{2}$ h.p. F.N. for sidecar work in North Wales.

"R. C. Money" would be glad if readers would provide him with particulars regarding motor cycling in the neighbourhood of Bloemfontein. Particularly with regard to weight of machine, distance of engine crankcase from ground, and power of engine best suited to the locality.

THE $2\frac{1}{2}$ h.p. LIGHTWEIGHT P. & M.

Phelon and Moore, Cleckheaton, and 12, Mortimer Street, W., wish us to point out that the new pattern $2\frac{1}{2}$ h.p. P. and M. lightweight with two-speed gear and free engine which competed in the A.C.U. Quarterly Trials on the 16th was only received from the works on the 15th, and unfortunately there had been no opportunity of giving it a thorough testing either at the works or in London. This machine had



been announced as entered for the Quarterly Trials; the makers therefore thought it their duty to start, but were rather chary as to its performance on hills. The reason of its failure on Rectory Hill was due to the silencer, which was clogged with dirt. The makers are willing to demonstrate at any time that the $2\frac{1}{2}$ h.p. model will climb not only Rectory Hill but hills of far steeper gradient. It climbed Dashwood on the morning of the trial, and we understand has also climbed Netherhall Gardens practically from a standing start.

TWO SPEED GEARS FOR 1910.

The number of ROC Clutch and GEAR sets in use bears testimony to the utility of this system.

The opening of the 1910 Season at the Stanley Show will be marked by its further appreciation.

Already the ROC has the largest sale of any clutch and gear—the advantage of the live-axle hand-starting has helped to make it popular.

Users say they would never revert to the old style. This is how they write to us:

Oct. 20/09.

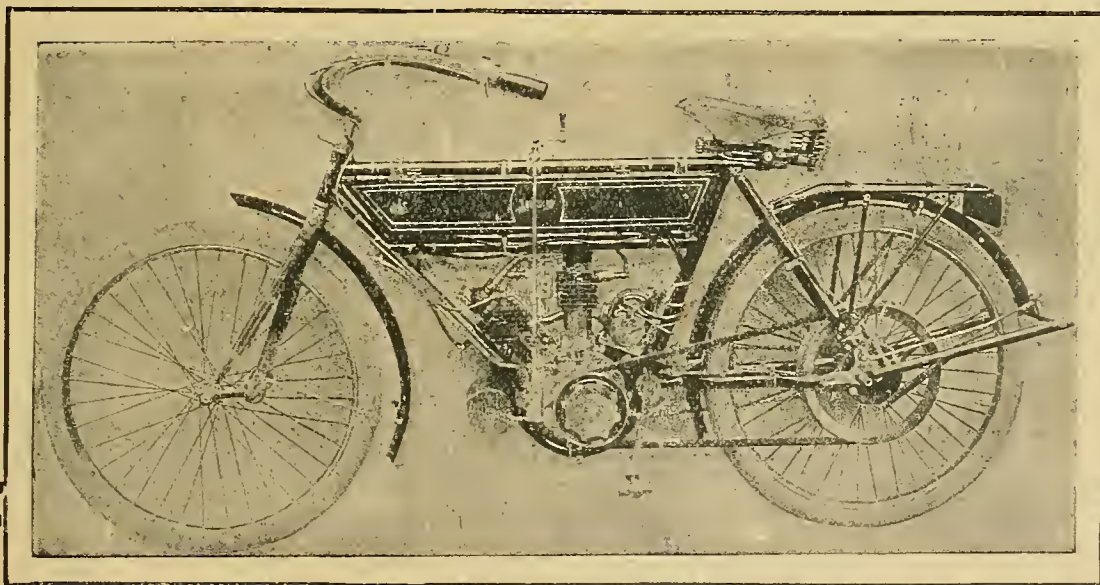
"I could never be satisfied with the best single geared machine on earth after tasting the delights of the Roc."

H. A. SLACK, 150, Turvey St., Nottingham.

Send your machine now for conversion. We will return it converted and tested ready for use within a very few days from receipt. The inclusive charge is twelve guineas. Winter riding needs it.

A. W. WALL, LTD., ROC MOTOR CYCLE WORKS,
ASTON ROAD, BIRMINGHAM.

Manufacturers of the famous Roc Military models, 4 h.p. Single and 5/6 h.p. Twin. Write for booklets.



This 2½ h.p. N.S.U. model beat the best French makes

in a hill-climbing contest on Oct. 10,
on the Mont Cindre near LYONS.

FIRST PLACE. 2½ h.p. N.S.U. Twin Lightweight.

SECOND PLACE. 2½ h.p. N.S.U. Twin Lightweight.

It's a masterpiece of lightweight construction; is fitted with mechanically operated valves, Bosch magneto, efficient spring forks, and handle-bar control.

N.S.U. MOTOR COMPANY, LIMITED.

OFFICES & SHOWROOMS—186, GREAT PORTLAND ST., LONDON, W. GOODS & REPAIRS—83-85, BOLSOVER ST., LONDON, W.

A J W.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—9d. per line of 8 words; minimum, two lines. Name and address must be counted. Thus—

Two lines (16 words or less) costs 1/6
Three lines (24 words or less) costs 2/3
Four lines (32 words or less) costs 3/-

In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, on the Thursday morning, or if sent to London (20, Tudor Street, E.C.), by the Wednesday afternoon previous to the date of publication.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.

York and Lancashire.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

SECTION X.

Scotland.

SECTION XI.

Ireland and Isle of Man.

PREMIER

MOTOR CO., LTD.

ALL BEST MAKES OF MOTOR CYCLES STOCKED. EXCHANGES. DEFERRED PAYMENTS.

TRIUMPHS FROM STOCK.

THE REX FREE-ENGINE.

Model made specially for the

PREMIER

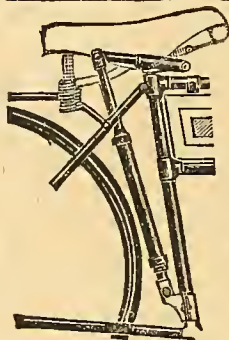
Motor Co. Write for full illustrated details.

1909 NEW N.S.U.'s

at rare bargain prices. Particulars free.

The PREMO (TWO-STROKE)

will be at the **STANLEY SHOW**. The one perfect two-stroke motor cycle.



THE PREMO SHOCK ABSORBER

Patent No. 5620.

Already fitted to dozens of

Triumphs and other makes.

Always successful.

Greater speed on bad roads and

greater comfort at all times.

Low riding position maintained.

Price **30/-**.

Discount to Trade.

FITS ALL MAKES.

THE PREMO LOW SEAT-PILLAR.

Price **5/6**

FITS ALL MAKES.

A boon to riders of old

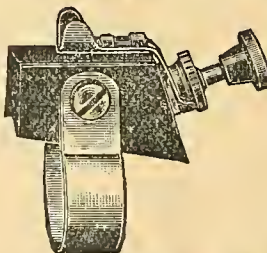
high machines.

Long handle-bars for

use with above, if

required, 6/6.

Discount to Trade.



STRANGELY ENOUGH, it is comparatively rare to see a switch fitted to the modern magneto-fired motor bicycle. Shorting is the only correct way to "switch off the magneto."—Vide "The Motor Cycle," Sept. 8th, 1909.

THE PREMO MAGNETO CUT-OUT is the best and most reliable. 2/6.

Ordinary blade-type cut-outs reduced to 1/6
Usual price 2/-

NEW ACCESSORY LIST JUST OUT.

SEND FOR LIST OF SHOP-SOILED ACCESSORIES.

Premier Motor Co., Ltd.,

ASTON ROAD, BIRMINGHAM.

Telephone 4310. Telegrams: "Primus, Birmingham."

NUMBERED ADDRESSES

For the convenience of advertisers, letters addressed to numbers at "The Motor Cycle" When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be forwarded for replies. Only the number will appear on the advertisement. Replies should be addressed to the "Motor Cycle," Coventry; or if "L" is added to the address, then to the number given in "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown parties may deal in perfect safety by availing themselves of the Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt upon intimation of the arrival and acceptance of goods, the money is forwarded less a charge of registration. The time allowed for a decision after the goods is three days. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged. Deposit matters are dealt with at Coventry, and all money orders should be made payable to Messrs. Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive answer to their enquiries are requested to register their name as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

3 h.p. N.S.U., two-speed gear; £18 10s.—Applied to Newgate St., Morpeth.

4 CYL. F.N., 44 h.p., Palmer cord tyres, in fine condition; £25 or near offer to immediate purchaser.—Hayward, Skinnergate, Darlington.

R EX Lightweight, perfectly new; first cash offer; £16 secures this bargain.—Hayward, Skinnergate, Darlington.

3 1/2 h.p. Excelsior motor bicycle, new; list price £32 offered for £39 10s. cash.—Hayward, Skinnergate, Darlington.

TRIUMPH, assembled 1909, 1909 magneto, ca. 1,050 miles with Mills-Fulford. £35.—Motorist, Ormathwaite Hall, Keswick.

P HOLON and Moore, 3 1/2 h.p., two-speed, handle-bar control, Bosch magneto, condition excellent; 10s.; pair X'fall spring forks, 12s.—H. Parker, Newgate St., Bishop Auckland.

N.S.U., 5 1/2 h.p. twin, magneto, two-speed gear, free engine, spring forks, 24 in. tyres, all Chater-Lea coach-built sidecar for same; the lot £25, Front St., Newbottle, Fence Houses.

SECTION II.

York and Lancashire.

1909 Triumph, very little used; £37.—Whale Delph St., Wigan.

1908 3 1/2 h.p. Triumph, 1909 piston, good condition; £32.—11, Park Drive, Harrogate.

T WIN Werner, £12; 2 1/2 h.p. Minerva, £14; 4 h.p. £18; Douglas, £28.—Gourlay, Fallowfield.

S OUTHPORT.—1909 3 1/2 h.p. Rex, almost new, headlight; £30, or near offer.—36, Derby Rd.

1909 Triumph, new May, guaranteed perfect condition; £35, no offers.—Langton, Call Lane.

L M.C., 3 1/2 h.p., special tourist model, used for runs only; cost £50, accept £35 nett.—Be

W ARNER, 2-cyl., 2 1/2 h.p., in splendid order; £25.—Lancashire Motor and Engineering Co., Preston.

1909 Triumph, condition equal to new, tyre good, horn, lamp; £38.—Fred Lee, Pocklington.

1909 Magneto Brown, handle-bar control, spring forks; £30.—Cross, Triumph agent, Ham.

2 1/2 h.p. Minerva, new tyre on rear wheel, good order; £8 10s.—Cross, Triumph agent, Rotham.

7-8 h.p. Minerva, everything perfect; £25; excellent modern small car, 2-seater.—105, Lark Lane, Liverpool.

L ATE 1907 Triumph, magneto, in splendid condition, first cheque £20 secures it.—Ellis, Cast Tyldesley.

A NTOINE, 4 h.p., good order and condition, lot of 100, Chater-Lea frame; £8 10s.—Walker, H.Rd., Bolton.

In answering these advertisements it is desirable to mention "The Motor Cycle."

FOR BICYCLES FOR SALE.

Minerva, 5hp., magneto, spring forks. Continental tyres, condition as new; £26.—35, Aston Rd.

or Exchange 4-cyl. 4hp. F.N. magneto, petrol; any trial.—Bannister, Ivory St., Leathley Rd., Leeds.

MPH. 1908, splendid condition, two spare tyres, tube, lamp, horn; £30.—11, East Parade, York.

Triumph, 5hp., excellent condition, F.R.S. emeritor lamp, new tyres, spares.—Wall, Swin-Wigan.

MPH. 1906, little ridden, like new, rubber lined tyres; £31, quick sale.—Dragey Warehouse, Barnsley.

MPH. 1909, 5hp., magneto ignition, 32in. s. faultless running condition; £33.—Broadbank, Harrogate.

MPH. 5hp., 1907, magneto, H.B. control, good condition, perfect running order; £26.—Milner, Green, York.

5hp., M.O.V., Palmer, Dermatine, accumulator, spring forks, splendid running; £11.—59, Terrace, Halifax.

Bradbury, new June, little used, extras; £36; exchange Phelon and Moore, cash adjustment.—nston, near Leeds.

Triumph, perfect condition. Model de Course, mp, all spares; £36, bargain.—Turner, 19, Heald nskolme, Manchester.

5hp. Twin Rex, magneto, new studded tyre and belt, condition like new; bargain, £26.—Parker, Roebuck Hotel, Bolton.

5hp., late 1908, free engine, magneto, spring s., condition as new, spares; £30, or nearest ompson, 85, Anaby Rd., Hull.

Triumph, T.T. touring bars, saddle, etc., winner p and gold medal reliability, nearly new; s.—Fawcett, Bignon Rd., Harrogate.

MPH. 1909, as new, winner two hill-climbs, es, also lamp, horn, watch, belts, tube; £41 3 407, The Motor Cycle Office, Coventry.

Triumph, absolutely new, as received from works, able to take delivery from agent; accept best; £40.—Crook, 236, Manchester Rd., Burnley.

HESTER.—4hp. twin Minerva, spring forks, y 2in. tyres, excellent condition; any run; £17.—Ernest E. Hall, 11, Fir Grove, Livers-

5hp. Motor Cycle, first-class condition, a dy, reliable machine, good tyres, two accumu- 2.—E.J., 329, Dickenson Rd., Longsight, Man-

Minerva, 1908, accumulator, Watawana, Hella archlight, horn, stand, and carrier, good tyres, ng order; £22, or nearest.—Everingham, Pous-

2hp., lightweight, magneto, handle-bar con- , spring forks, complete, equal to new; ex- er higher power, or sell.—Hedden, 69, Waterloo nder.

Minerva, White belt, Longemare carburettor, abler coil, tyres nearly new, splendid hill-climber, ar; £7, no offers.—Chaffeur, Teasdale, Blun- , Liverpool.

E.S. lady's motor bicycle; sacrifice £10; splen- running order, magneto, gear driven; ex- for anything valued £10.—B. Isherwood, 60, St., Bolton.

Triumph, immediate delivery; 1908 N.S.U., 3- p., magneto, many extras, splendid order, must s; and inspection invited.—Mollgreen Engineer- s, Huddersfield.

Motor Bike, F.N. engine, spray carburettor, umulator ignition, 28in. wheels, Palmers, s; perfect order throughout; £10 cash wanted.—Bunley Mount, Leeds.

Standard Triumph, all accessories, also spare sosh contact breaker, two valves, inner tubes, cover, two belts, etc.; £39 10s.—Box No. 3,413, r Cycle Office, Coventry.

Triumph, Stanley Show machine, guaranteed in irect condition, new re-readed studded tyres, mp, horn, full set of tools in roll, and spares; Medhouse Lane, Atherton, Manchester.

MPH. 1908, new June, used for experimental poses only, and ridden under 500 miles, complete s, accumulator, horn, spares, and tools; best offer 4.—Hans Renold, Ltd., Brook St., Manchester.

Twin Rex, new cylinders and piston, and newly shed and overhauled throughout, tyres good, up new, in good order; £20, or nearest offer; p.—Schofield, Common Side, Flockton, Wake-

CAMBE is the place to buy anything second- and, or sell anything; bargain list now ready; one at once.—Hitchins, Lancashire Motor Ex- Euston Rd., Morecambe. Tel.: 112. T.A.:

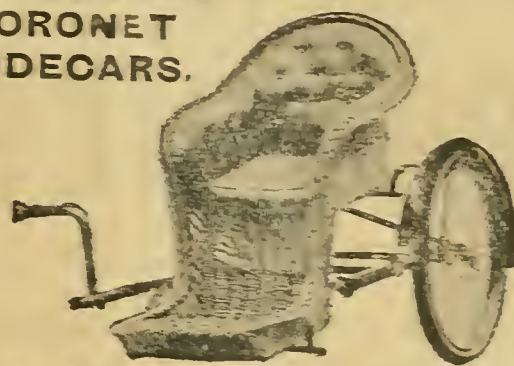
CAMBE.—Write for bargain list before buying elling motor cycle or accessory. Remember r broker.—Hitchins, Lancashire Motor Exchange, 24, Morecambe.

NO DRAG. NO SIDE-SLIP.

IDEAL FOR WINTER RIDING.

£4 17s. 6d.

CORONET SIDECARS.



Before buying a Sidecar, send for illustrated circular, explaining the advantages of "CORONET" Sidecars over other makes. Delivery from stock to suit Minervas, Rexes, N.S.U.'s, Triumphs, and any other make. Attached in three minutes.

Price £4 17s. 6d. each.

BIG DISCOUNT FOR CASH.

3 1/2 h.p. MINERVA, magneto, 24 tyres.....	£18 15
3 h.p. TWIN FAIRY, light and sandy.....	£12 12
3 h.p. J.A.P., Chater Lea frame, spring forks....	£13 10
3 h.p. TRIUMPH, magneto, spring forks, 1906....	£13 10
4 h.p. ANTOINE, 26in. wheels, M.O.V., smart....	£11 10
2 1/2 h.p. LLOYDS, vertical engine, 26in. wheels ..	£8 15
2 1/2 h.p. CLEMENT GARRARD, 26in. wheels, low built.....	£8 15
3 1/2 h.p. 1909 HUMBER, two speeds.....	£37 10
3 1/2 h.p. REX, 1908 1/2, ball bearing, h.b. control ..	£29 10
3 1/2 h.p. TRIUMPH, new.....	£45 0
3 1/2 h.p. N.S.U., magneto, 26in. tyres, long bars ..	£22 10
3 1/2 h.p. N.S.U., magneto, 1908, smart.....	£17 10
3 h.p. REX, 1908, magneto, h.b. control.....	£17 10
3 1/2 h.p. REX, 1909, nearly new.....	£32 0
3 1/2 h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4 1/2 h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built.....	£13 10
3 1/2 h.p. REX, spring forks, trembler coil.....	£10 10
3 1/2 h.p. REX, 26in. wheels, M.O.V., h.b. control... £8 15	

Best cash offer accepted for the following:

3 h.p. FAFNIR, 26in. wheels, h.b. control.....	£9 10
3 1/2 h.p. SPARK, 26in. wheels, magneto ignition ..	£8 10
3 1/2 h.p. EXCELSIOR £8 15	3 1/2 h.p. REX..... £6 15
3 1/2 h.p. QUADRANT £8 15	2 1/2 h.p. GARRARD £8 15
2 h.p. STANDARD £5 5	2 h.p. LIBERTY... £5 5

Send for list of other bargains. Best, biggest, and cheapest stock. Cash buyers liberally treated.

THIS WEEK'S BIGGEST BARGAIN.

£4 19 9 3 1/2 h.p. REX. £4 19 9.
John-o'-Groat's model, originally 30 gns., fitted with vertical engine, trembler coil, accumulator, belt, horn, toolbag, number-plates, etc. 14 19 9. First come, first served.

High-class TRICARS.

1908 6 h.p. REX Litette, light, two-cyl. engine, water-cooled, Roc two speed and free engine, handle-starting, coach-built, chair for passen- ger; cost £78 r/s. £35 10
4 h.p. STEVENS, fan-cooled, belt-drive..... £12 12

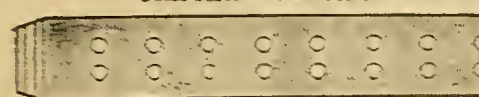
CORONET ADJUSTABLE PULLEY.



The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Special terms to the trade.

Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

"GRIPSKIN" BELTING.



Made from selected parts of hides, correct angle, perfect drive; the best leather belt on the market. Longer life than rubber.

1/2in., 9d.; 1/2in., 10d.; 1/2in., 1/-; 1/2in., 1/1.

Special terms to the trade.

CARBURETTORS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburettors. Be up to date. Price reasonable.

BOOTH'S MOTORIES.

CHARLES STREET, off Square Road.

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

1908 Motozcoombe.—Owing to ill-health, sacrifice £12, or nearest offer; condition: a new everything perfect, stand, horn, accessories; well worth £15; accumulator, any trial.—Scott, 39 Westgate, Gainsborough, Yorks.

BARGAIN, September, 1909, Triumph, free engine, Chater, as coach-built sidecar, Cover indicator and recorder, Lucas lamp, and horn, Clincher tyres, spares; cost £75, our price £35.—Broadgates, Alexandra Rd., Manchester.

LIVERPOOL.—Intending purchasers of Triumphs and Douglas motors should, to obtain the protection of the makers' guarantees, buy only from the official agents.—Hitchings, Ltd., 74, Bold St. (the firm with over 30 years' highest reputation).

VIBRATIONLESS Douglas, the best lightweight on the market and British made; send for list and testimonials.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Douglas and Triumphs.

HITCHINGS, Ltd., specialists in Douglas lightweight motor cycles. Inquiries receive prompt and courteous attention.—74, Bold St., Liverpool.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines. can deliver new machines from stock at low prices; cash, exchange, or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Chatter Rd., Old Trafford.

BARGAINS for Cash.—All guaranteed. 2hp. Thomas, spray, £4 15s.; 2hp. Humber, spray, £5 5s.; 2hp. Minerva, vertical, spray, £5 10s.; 24 h.p. Antoine, vertical, spray, £6; 2hp. Buxton, vertical, spray, £6 5s.; 5hp. Rex, H.B. control, £7 5s.—Below

HALIFAX.—Illustrated list of second-hand Rex motors, and monster list of tricycles and motor cycles on application; ask for special cash discounts.—Motor Exchange, Westgate, Halifax.

OPPORTUNITY for ingenious and practical man.—Experimental machine, standard frame, and wheels, 5hp. Fairair engine, magneto, two brakes, air spring forks, air spring seat pillar, effective silencer, novel design, new friction drive, giving large variation in gear ratio, promising arrangement not quite patented; owner going abroad; what offers?—Appl. W.M.B., Artetaro, Victoria Rd., Todley, Sheffield.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

F.N., 4hp., 4-cyl. magneto, just overhauled and enamelled, takes sidecar; £20.—Thomas, printer, Wrenham.

HUMBER, 1909, special single speed model, shop-soiled only, Bosch magneto; £33.—Oswald Parker, Melbourne, Derby.

PEUGEOT, 5hp., Chater-Lea frame, copper tank, Clincher tyres, two accumulators; £16.—O. Fishwick, Alderley Edge.

1908 N.S.U., 4hp., Hub two-speed free engine, coach-built sidecar, starts like car; cost £65, not done 30 miles, £55.—Below.

3hp. N.S.U., £15, and 5hp. Clarendon, £12; both in grand order; new 1909 N.S.U.'s in stock.—H. Phillips, Glyn, near Chair.

5hp. Twin Roc, Peugeot, magneto, perfect condition throughout; offer to exchange 1908, 1909 Triumph, or P. and M., cash adjustment.—Covey, Handford, Cheshire.

£11.—2hp. Brown, modernised, copper torpede tank, long bars, handle-bar control, Danlows, low frame, engine rebushed, stand, carrier.—113, Wypperton St., Burton-on-Trent.

1907 Triumph, bought 1908, magneto, very little used, tyres new, accessories, guaranteed perfect, and new condition; 15 minutes cash; approval.—Hallam, Bath, George St., Burton.

TRIUMPH, late 1907, magneto, handle-bar control, with everything complete, in perfect order, will do 45 m.p.h. on level, rubber belt, spare; bargain. 207.—Edwin Smith, Bakewell.

MOTO-BEVE, just overhauled, with new cylinder and other parts, extra strong back wheel 2in. steel-lined tyre, butt-ended tube, spare front tyre, etc., very fast machine.—G. Elkington, Holywell.

WHEWILL.—Matchless J.A.P., 4hp. twin, Roc clutch, 1-30 m.p.h., enamel and plating in capital condition; price £32, bargain; exchange 3 1/2hp. good make no rubbish, and cash; photo.—Smith, Rosemont, Chester.

2hp. Twin Rex, in splendid condition, with spares, lamp, stand, and luggage and seat combined for back passenger, Clincher studded back; great sacrifice, for £18 10s.—J. Robinson, Bridge House, Baslow, Cheshire.

1908 Triumph, Shamrock back, new Continental front, Covey speedometer, panner and frame bare, horn, spares, guaranteed perfect condition, machine and engine having just been overhauled by Triumph Co. £42.—South, Brookfield, Walsall.

DOUGLAS Lightweight, British made, twin cyl. magneto, spring forks, a reputation in comfort, ease of starting, power, and reliability, absolutely vibrationless; write for lists.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

MOTOR BICYCLES FOR SALE.

1909 Triumph, new last June, ran 1,000 miles, plating and enamelling as new, new belt, trial, full kit tools; £38, bargain.—Love, High St., Aberavon.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

1909 Triumph, standard, guaranteed perfect; £39.—169, Station Rd., Long Eaton.

1908 Twin Minerva, 7-8h.p., Nala two-speed, new Palmer cord on back; £32.—Below.

1909 Triumph, Palmer cords, not run 500 miles, new condition, not a fault; £38.—Below.

1907 Triumph, Palmer cords, in good condition; £23.—F. J. Bull, St. Giles' Sq., Northampton.

31h.p. 1907 Rex, fine running order, perfect tyres; £11.—22, Victoria Terrace, Leamington.

REX, 3h.p., 1908, magneto, nearly new, perfect; £23, bargain.—Holmes, 12, Spencer St., Leamington.

1909 Triumph, new May, horn, spares, perfect condition; £38.—Fred. Heighton, Fletton Av., Peterborough.

TWIN Rex, 1909, not been 20 miles, spares; £36; exchange twin V.S., 1909.—3,399, *The Motor Cycle* Offices, Coventry.

31h.p. N.S.U., magneto, just overhauled, spares, new tyres; cheap.—Hooper, 195, Aston Lane, Handsworth, Birmingham.

REX, 5h.p., magneto, handle-bar control, spring forks, £18 10s.; also sidecar, £4 10s.—358, Stratford Rd., Birmingham.

1908 Triumph, perfect condition; £33, or offers; write for particulars.—Armitage, Victoria Mills, Leen Side, Nottingham.

QUADRANT, 3h.p. (Birmingham), handle-bar control, perfect; nearest offer to £16.—13, Homer St., Balsall Heath, Birmingham.

DOUGLAS, 2h.p., the lightweight with a reputation; order early to ensure delivery.—Priest and Co., 56, Bishop St., Birmingham.

MOTOSACOCHE, two accumulators, new belt, stand, horn, spring forks, B100 saddle, perfect; £18 18s.—Stamford Garage, Stamford.

ARIEL, Ariel, Ariel.—To clear, a few 1909 2h.p. lightweights, magneto, handle-bar control; end of season bargains.—Ariel Wks., Bournbrook, Birmingham.

31h.p. Peugeot, magneto, spring forks, B. and B., H.B., Albion adjustable, long, low, splendid order; £18 10s.—136, Church St., Lozells, Birmingham.

1h.p. N.S.U., 1908, magneto, spring forks, H.B. control, adjustable pulley; condition as new, with Montgomery flexible sidecar; £30.—S. Howard, 27, Vine St., Coventry.

1909 Triumph, June, practically new, £5 worth of accessories, including Lucas guinea horn and 2 guinea lamp; what offers?—Tunbridge, Rocklands, Woodbourne Rd., Edgbaston.

TRIUMPH, 1909, little ridden, Lucas headlight, horn, spares, all in absolutely perfect condition; £39; must sell at once; financial difficulties; a bargain.—418, *The Motor Cycle* Offices, Coventry.

1909 Triumph, free engine clutch model, new at Easter, no fault, many spares, including belt, valve, and plug; trial; £43.—Geoffrey Smith, 37, Northumberland Rd., Coventry.

HUMBER, 3h.p., delivered June, two-speed gear, Druid forks, perfect order, run 2,000 miles, overhauled, Salsbury Flare lamp, belt, mirror, spares; £37 0s.—Gerald Sutton, 21, Warwick Row, Coventry.

1909 Triumph, with makers' clutch, very little used, and running as well as when new, complete with lamp, generator, horn, spare belt, and usual tools; £42 cash.—C. F. Haywood, Duntroon, Queen Victoria Rd., Coventry.

TRIUMPH, 1908 (with 1909 piston), faultless condition, Premier searchlight lamp, spare belt, valves, and Riche's tubes, two toolbags, with complete kit and many spares; £35, or nearest offer.—Ferguson, Cross Leaping, Coventry.

SMITH Bros. for bargains in second-hand motor cycles, any make supplied; exchanges; pounds saved; covers, accessories, replacements, repairs, overhauling; lowest prices.—C.C.R. Motor Wks., Ford St., t. Anns Well Rd., Nottingham.

MOTOSACOCHE, latest accumulator pattern, in perfect order, has never given a moment's trouble, new tyres, butt-ended tubes, new spare belt, spare pulley, spare cover and tubes, acetylene head lamp, horn, carrier-stand, and spares; a bargain, £17.—C. W. Pennell, Lincoln.

THE Motor Cycle with J.A.P. or Peugeot engine, spring forks, sliding back wheel, free engine, and four-speed pulley; the world's best machine. The Osborne four-speed pulley, with jockey pulley; £6 6s.; this can be supplied with sliding wheel, which does away with all belt shortening; write about the spring forks which take up all vibration; catalogues.—Osborne Co., Lincoln.

A Column of Capability.

The general motoring world is ever keenly and personally interested in the work carried out at

WAUCHOPE'S,

9, Shoe Lane, Fleet St., London, E.C.,

and at present the interest evinced is, if possible, keener than ever.

This is owing to the fact of our having in stock

A MAGNIFICENT VARIETY

OF NEW MACHINES OF 1909

MODELS,

which are being offered at slaughtering prices in order to effect a clearance.

This will be done on the "root and branch" principle, and without reserve. Every machine has got to go; and, further, they will carry both value and satisfaction along with them.

WAUCHOPE'S have also some wonderful lines in Second-hand Machines, well worthy attention on the part of all good judges.

We very cordially invite you to call upon, or write us, regarding these lots, as there is here presented

A PEERLESS OPPORTUNITY

for the motorist securing a machine of the most satisfactory and reliable description.

WAUCHOPE'S have put their best efforts into this display, and every motorist knows that such a step spells advantage of a supreme character.

There is a valuable benefit to be obtained through our system of arranging exchanges **AT ONCE** and depositing the second-hand machine for 1910 model.

It is recognised, and admitted all round, that **WAUCHOPE'S** terms are not to be excelled in point of

HONOURABLE FAIRNESS,

and it is extremely doubtful if they are equalled on the market to-day.

The great point is to

COME EARLY,

and secure your choice of these goods before the opportunity for doing so passes beyond your reach. You will find the **MAKE** magnificent, the **STYLE** superb, and the **CONDITION** capable, and will never have cause to rue your bargain. Correspondence is promptly and courteously treated from all quarters.

WAUCHOPE'S,
2, SHOE LANE, FLEET STREET,
LONDON, E.C.
(Off Ludgate Circus.)

MOTOR BICYCLES FOR SALE**SECTION V.**

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

8h.p. 1909 Twin Minerva, done 400 miles, perfect; new; offers.—Storey, Bridge St., Cambridge.

1909 Triumph in perfect condition, must have spares, tyres unscratched; £35.—Ellwood Buttery, Cambridge.

V.S., 1908, 5h.p. twin, T.T. model, magneto, B. carburetter, handle-bar control, Palmer spring forks; £23 offer.—Riddelsdell, Hadleigh.

31h.p. Twin Peugeot, Chater-Lea, Palmers, Barlow handle-bar control, spring forks, tank, stand-carrier, very powerful, perfect condition.—Cox, 43, Ettisley Av., Newnham, Cambridge.

ELEVEN months old, little used. 4h.p., twin, Roc, Bosch magneto, Palmer cord, Whittle headlight, generator, 1909 B. and B., all new, good engine gears as new; nearest £32.—Aubrey Ellis, Lowestoft.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1h.p. Motor Cycle, lightweight, good working order; £6 10s. to clear.—Ranford, Garage, Gt. M.

31h.p. Twin Peugeot, magneto, Truffault fork, good condition; £20.—Mason, 1, Mundy Cardiff.

31h.p. Centaur, chain drive, two accumulator fast, perfect condition; accept £12.—Powell, Guildford St., Cardiff.

TRIUMPH, 3h.p., 1907, magneto, good condition, bargain, £23.—Billingsley, 10, St. George's Place, King's Rd., Evesham.

SECTION VII.

Gloucester, Oxford, Buckingham, Wilts, and Hants, and Channel Islands.

F.N., 4-cyl., 5h.p., perfect condition, 1909 model; £35.—Dell, Wallingford.

ZEDEL, 2h.p., new belt and accumulator, good long handle-bar; £8 10s.—Colliss, Andover.

TRIUMPH, 1909, as new, accessories and spares; £35.—Derrett, Byron Villa, Ebley, near Glos.

2h.p. Rex Lightweight, magneto, new condition, studded back (new); 15 guineas.—F. Tolley, water.

2h.p. Werner, F.N. carburetter; bargain, £5 10s. push bike in part exchange.—65, Bedford Reading.

4h.p. Antoine, spring forks, £10; 2h.p. Ormond, both excellent running order.—Barrow, Albe Windsor.

1h.p. Lightweight, good condition throughout, cheque £5 secures bargain.—West, High St., Oxon.

TRIUMPH, 3h.p., 1907, magneto, searchlight condition; £26, or near offer.—Glasier, 5, Cl Rd., Southsea.

2h.p. Kerry, vertical, spray, new Dermatine, handsome; £10; best offer.—72, Tottenham High Wycombe.

TRIUMPH, 3h.p., Palmer cords, H.B. control, adjustable pulley, several spare parts; £25.—Edney, Fareham.

1908 Triumph, Cowey speedometer, new R.O.M. new Stanley belt, watch, horn, lamp, and spares; £34.—Bishop, Morris Garage, Oxford.

5h.p. Peugeot, nearly new, Bosch magneto, racing sign, very low, 24 by 2h.p. Palmers; cost £70, £28.—H. Ward, Sunninghill Park Farm, Ascot.

CASH Offers wanted for brand new 1909 standard model A. Wolf motor cycle, never used; or cost 19 guineas net.—Wilton, Cycle Works, Lock Romsey, Hants.

31h.p. Quadrant, very powerful, in splendid condition; 2h.p. Palmer cords, spring forks, accessories; or exchange magneto lightweight.—May, 9, Wat Rd., Southampton.

31h.p. Two-speed Rex, Longuemare, Palmers, Riche's tubes, adjustable tube, spare valves, pulley, etc., model, good running order; sacrifice £10 cash.—W. Jeweller, Bournemouth.

LIGHTWEIGHT N.S.U., magneto, spring forks, handle-bar control, studded tyres, stand, carrier, etc., perfect condition; bargain; push bike part.—Parsons, 61, Corn Rd., Bishopston, Bristol.

LINCOLN Elk, 3h.p., magneto, B. and B. carburetter, etc.; cost £27; bought last month, not been run; miles, guaranteed; what offers?—W.R.B., 4, Well Villas, Wellington St., Slough.

In answering these advertisements it is desirable to mention "The Motor Cycle."

FOR BICYCLES FOR SALE.

SECTION VIII.

1, Essex, Middlesex, Surrey, Kent, Sussex.

—3½h.p. 1908 standard Rex; £26 10s.

—3½h.p. 1907 Triumph, magneto; £27.

—1909 5-6h.p. F.N., as new; £37 10s.

—3½h.p. 1907 Rex, excellent condition; £12 10s.

—1907 9h.p. Singer tricar, fine condition; £55

the place to sell your machine.—Tel.: 6299
born. 69, Leather Lane, Holborn, London.

lyde, Simms magneto, spring forks, in good
r; £6 10s.—Eagles and Co., High St., Acton.

4h.p., 1909 model de luxe, new; £30.—Motor-
369, Edgware Rd., W.

PH, Model 1909, practically new; £38 10s.—
inson, 10, Crieff Rd., Wandsworth.

ex, good condition, low; £7 for quick sale.—
D, The Motor Cycle Offices, Coventry.

inerva, Chater Lea, Longuemare, low, spares;
10s.—46a, Evelina Rd., Nunhead, S.E.

M, 1909, June, and Mills-Fulford sidecar, both
set; £46.—76, Bedford Hill, Balham, S.W.

A.P., Chater No. 6, Palmer cords, and sidecar,
y new; £31 10s.—129, High St., Croydon.

é, two-speed magneto, new condition; exchange
l car, sell! £25.—Norman, Hadleigh, Essex.

PH, 3½h.p., magneto, spring forks, thorough
; £23 10s. cash.—178, Brockley Rd., S.E.

Brown, running order, good condition; what
ers; after 6.—69, Park Crescent, Clapham, S.W.

3½h.p., magneto, footrests, spring forks: £19
—Seen, Clements, 106a, Fenchurch St., London.

Triumph, Mabon clutch, as new, ridden under
O, perfect condition; £40.—3, Newman St., W.

O New Royal Wolf lightweight, in crate; list
5s.; clear nearest. £18.—10, Old Town, Clap-

PH, 1909, latest model, new in crate; offers
ed.—Box 3,415, The Motor Cycle Offices, Coy-

3½h.p., brand new engine, unpunctured, per-
£12.—Monk, 291, Portobello Rd., Notting

N.S.U., magneto, 26in. wheels, 1908 specifica-
tion, new in June last; £20.—Eagles and Co.,

toine, Chater-Lea, No. 6, Whitley carburetter;
—Yeoman, Pearson Terrace, Paddock Wood,

PH, 3½h.p., 1909, new June, perfect condition,
ely soiled; £37.—C. Brown, 14, Montagu

09 Moto-Reve, don 700 miles, new at end
uly; £33, or offer.—Adam, 31, Torrington Sq.,

REVE, adjustable pulley, Watawata, stand,
rier, perfect order; £20.—1, Powis Grove,

Rex, spring forks, H.B. control, accessories,
lendid condition; offers.—99, Delaware Man-

p. Liberty motor cycle, low, fast, and power-
l. perfect.—Brown, 2a, Seagrave Rd., West

09, latest model, brand new, handle-bar con-
footrests; special reduction.—5, Heath St.,

ANT, 3h.p., recently overhauled, spring forks,
did value; £10.—Pond, 349, West End Lane,

tex, spray, perfect, £7 15s.; 1½h.p. Minerva,
fect, £4 10s.—Lancaster House, Crieff Rd.,

—cyl., 4h.p., magneto, just overhauled; what
ers? going cheap.—Moore, 3, Avonmore Rd.,

e Luxe, twin, 1908, Roc clutch, magneto, M.
F. sidecar, genuine; £30.—41, Ashford Rd.,

PH, 3½h.p., sidecar, Mabon clutch, Palmer
s; £37 10s.; trial.—Wiles, 40, Carlton Rd.,

h.p., in excellent condition, overhauled and re-
ed; real bargain, £10.—W., 50, Sidney Rd.,

ER, 2½h.p., excellent order, good tyres, low
ild; £7 10s.—Fielder, 31, Wiseton Rd., Upper

Minerva, spring forks, H.B. control, new Dun-
p back, accessories; bargain, £10.—51, East

, S.W.

PH, 3½h.p., sidecar, Mabon clutch, Palmer
s; £37 10s.; trial.—Wiles, 40, Carlton Rd.,

h.p., in excellent condition, overhauled and re-
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Minerva, spring forks, H.B. control, new Dun-
p back, accessories; bargain, £10.—51, East

, S.W.

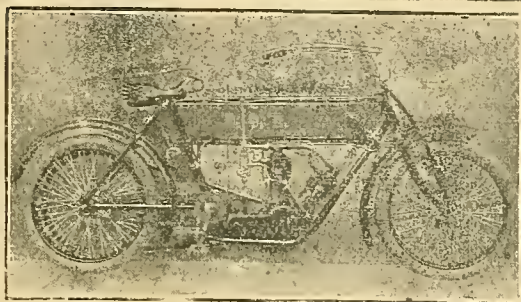
LOOK OUT

for an
important notice during

SHOW WEEK

We guarantee to save
you money

Until then, So Long.



SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.
WHEELS—24in. and 26in.
TYRES—Peter Union 2½in. section to singles, and 2½in. to twins.
CARB.—N.S.U. float-feed type.
BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.
EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.
GENERAL—We guarantee fully every machine sold.
PRICES:

	Maker's price.	Our price.	Deferred payments.
3 h.p.	£37	£25	.....
3½ h.p.	£40	£31	£33
3¾ h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5½ h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

BOOK YOUR ORDERS FOR 1910

P. & M.s.

Lightweight model	£47
Heavyweight „	£55

BEST EXCHANGE ALLOWANCES.

SECOND-HAND MACHINES (all fully guaranteed by us).
ANTOINE, 4 h.p., very low, free engine £16
KERRY, 5 h.p. Twin, 26in. wheels. £16
MINERVA, 3½ h.p., spring forks, 1907 model £15
REX, 3½ h.p., 1908, two speed, perfect £30
BROWN, 2½ h.p., Bosch magneto, low, perfect. £16
REX, 5 h.p., Twin, low, spring forks £17
ZENITH Bicar, 3½ h.p., two speeds £17
QUADRANT, 3½ h.p., spring forks, very low £16
ARIEL, 3 h.p., low, sprav, M.O.V. £16
MINERVA, 3½ h.p., vertical, free engine £16
WHITE & POPPE, 3½ h.p., Mabon clutch £14
SINGER, 3 h.p., Bosch magneto, new tyres £16
PEUGEOT, 4½ h.p., twin-cylinder, low built. £15
FAIRY, 2 h.p., Twin, low built £11
REX, 1909, 3½ h.p. model £26
MINERVA, 1908, 8 h.p. £23

£3 DOWN SECURES:

F.N., 2 h.p.	£10	MINERVA, 2 h.p. ..	£8
HUMBER, 2 h.p.	£8	HUMBER, 2½ h.p. ..	£10
QUADRANT, 3 h.p.	£10	SINGER, 2 h.p.	£6
WERNER, 2 h.p.	£8	BROWN, 2 b.p.	£7

SPECIAL BARGAINS.

Brand New FAIRY Sets. To convert your cycle to a motor cycle. All brand new and perfectly complete, 2½ h.p., twin cylinder, £10 only nett £10

MAUDES' MOTOR MART,

136, GREAT PORTLAND STREET (off Oxford Circus),

LONDON, W. Also at POWELL STREET, HALIFAX.

Telephone: 552 Mayfair.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Sale, enormous reduction on all machines, call and obtain great bargain.—Rey, 5, Heath St.

HAMPSTEAD (£16).—Singer, latest model, magneto, Druid spring forks, 26 wheels, all accessories, magnificent condition, low.

HAMPSTEAD (£13).—N.S.U., 3h.p., all accessories, splendid condition; Whitley, 3h.p., £5 10s., bargain.

HAMPSTEAD (£14).—Riley, 3½h.p., M.O.V., all accessories, splendid condition; Humber, £4 10s., great bargain.

HAMPSTEAD (£24 10s.).—Triumph, 3½h.p., 1907, cylinder, piston, and carburetter, 1908 handle-bar control, all accessories.

HAMPSTEAD (£23).—4-cyl. F.N., 4½h.p., 1908 model, magneto, spring forks, with all accessories.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½h.p., splendid condition, with all accessories, late model.

HAMPSTEAD (£27).—F.N., new condition, 4-cyl., 1908 model, 4½h.p., magneto, spring forks, all accessories.

HAMPSTEAD (£21).—Minerva, 3½h.p., 1909 model, new condition, handle-bar control, all accessories; bargain.

HAMPSTEAD.—1909 New Triumphs in stock, Moto-Reves and F.N.'s at special reduction, latest models.

HAMPSTEAD.—Sole London and district agents for Lincoln Elks, all models in stock; special price trade.

HAMPSTEAD (£12).—Singer, 3h.p. magneto, new non-skid on back, in splendid order, with accessories.

HAMPSTEAD (£18).—F.N. 1½h.p. Lightweight, magneto and spring forks, with all new accessories; bargain.

HAMPSTEAD (£28).—V.S., two-speed gear, 5h.p., magneto and spring forks, all accessories; grand bargain.

HAMPSTEAD (£13).—Motosacoche lightweight, late model, with all accessories, guaranteed a bargain. Tel.: 2678 P.O.

HAMPSTEAD (£14).—Lincoln Elk, 3h.p., 1909 model, new condition, with accessories, all bargains, guaranteed.

HAMPSTEAD (£23).—Lightweight 1909 Latest model Wolf, not run 100 miles, and guaranteed perfect.—Below.

HAMPSTEAD (£44).—Triumph, 1909, free engine, latest model, as new, with all accessories; great bargain.

HAMPSTEAD (£16).—Triumph, 3h.p., accessories; bargain house.—Only address, 5, Heath St. Tel.: 2678 P.O.

3½h.p. Minerva Palmer cord, Millford flexible sidecar; £16, separate £11 10s., £5.—A. Harden, Hamstreet, Kent.

WHITTLES.—1909 F.N., 1½h.p., lightweight, magneto, spring forks, absolutely as new and perfect; sacrifice, £22 0s.

WHITTLES.—1908 F.N., 4½h.p., 4-cyl., magneto, spring forks, suitable sidecar, powerful, like new; cheap, £26.

WHITTLES.—Clyde, 3h.p., m.o.v., magneto, splendid order; £11 10s.—Whittles, Motor Exchange, Earlsfield. Tel.: 711 P.O., Wimbledon.

3½h.p. Excelsior Bike and Mills and Fulford sidecar, 34 spares, guaranteed; cash wanted, £14.—25, Langthorne St., Fulham.

4-CYL. F.N., guaranteed perfect, Continentals, lamp, spares, new magneto; £28, or offer.—Alderton, 327, High Holborn.

2½h.p. Minerva, Royal Enfield frame, everything in perfect order; trial; price £10.—Page, 74, East Hill, Dartford, Kent.

F.N. 1½h.p. Lightweight, magneto ignition, spring forks, perfect order; £18.—H.W.A., Clevedon, Carlton Rd., S. Croydon.

MOTOR Cycle, 3½h.p. M.M.C. engine, low frame, new tyres, speedy and reliable; £15.—Soanes, 62, Belmore Rd., Eastbourne.

MOTOR Cycle 3½h.p. Rushworth, in perfect condition, headlight and generator; £8 10s.—Harris, 9, Culford Grove, Fingsland.

DOUGLAS Lightweight, 1909, spring forks, spares, perfect condition; price £29.—Gillman, 6, Upper Bridge St., Canterbury.

£32.—5h.p. Peugeot, Chater-Lea, handle-bar control, R.O.M., Watawata, good condition.—Grogan, Witham Lodge, Stratford.

3½h.p. Minerva, magneto, standard, Amac carburetter, low frame; £16 10s., bargain.—Thorburn, 25, Upper Clapton Rd., N.E.

2½h.p. Triumph, J.A.P. engine, Clincher covers, 22 Riches detachable tubes, condition new; £10 10s.—Hadlow, Teynham, Kent.

2½h.p. Phoenix-Minerva, long, light, and low, in splendid condition; £7, remarkable value.—Pond, 349, West End Lane, Hampstead.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet St., E.C. (just off Ludgate Circus).

FOR Sale, 1909 standard Triumph, usual spares, perfect condition, run only 1,000 miles; £38, or near offer.—F. Cobb, 22, High St., Oxford.

1909 Triumph, delivered three weeks, done 50 miles, spares, lamp, horn, overalls, goggles; £45.—Lawn and Alder, 1, Brackley St., London, E.C.

5 1/2 h.p. N.S.U., twin, Bosch magneto, spring forks, two speed gear and free engine, with Millford sidecar; £34; any trial.—Eagles and Co., Acton.

4 1/2 h.p. Twin Minerva, B. and B. carburetter, handle-bar control adjustable pulley, spring forks, Whittle belt, splendid condition; £23.—Below.

3 1/2 h.p. Minerva, handle-bar control, clutch pulley, spring forks, hand brake, perfect; £15.—Below.

3 1/2 h.p. Excelsior, spring seat, splendid condition; £9.—60a, Trinity Rd., Upper Tooting.

£3 19s. 6d.—Number of cheap motor cycles to clear, all warranted in sound running condition, and good tyres; come and see them.—Bunting, Harrow.

TWIN Vindec, 5h.p., magneto, splendid running order, £25; 2 1/2 h.p. Brown, £9; 2 1/2 h.p. De Dion, Chater Lea, £12.—65a, Rosendale Rd., West Dulwich.

MAGNETO Lightweight, Rex, enamelling and plating excellent, £13; 1 1/2 h.p. F.N., new tyre on back, £7.—Frank Whitaker, Green Street Green, Orpington.

OFFERS Wanted, all guaranteed running order, J.A.P., 6h.p.; Triumph, 3 1/2 h.p.; Auto, 4h.p.; Dux, 3 1/2 h.p.—Henry, 2a, Blackboy Lane, West Green, N.

£14; must be sold.—6h.p. twin Laurin-Klement, Mabon clutch, low build; expert examination any time.—39, Frith St., Shaftesbury Av., Piccadilly Circus.

3 h.p. Excelsior motor cycle, powerful, machine all complete, good running order; £7 10s., bargain.—Reliance, Dulas St., Tollington Park, London, N.

3 h.p. Clarendon, little used, been in storage, recently overhauled, appearance nearly as new; must sell; first cheque £9 10s.—Ryland, Park Rd., Farnham.

1909 3 1/2 h.p. Rex, new August, an exceedingly fast machine and grand hill-climber, with all riding accessories; £29.—Webb, 23, Airlie Gardens, Ilford.

2 1/2 h.p. Minerva, long handles, low seat, handle-bar control, Longuemare carburetter, good running order; £7.—3, 416, The Motor Cycle Offices, Coventry.

8 h.p. Matchless, J.A.P. engine, Bosch magneto, Nala two-speed gear, free engine, with rigid sidecar, new April, splendid condition.—S., 5, Laitwood Rd., Balham.

£3 17s. 6d., 2h.p. Minerva, m.o.i.v., low machine, tyres good; also 2h.p. Cunard, £2 17s. 6d., no belt or silencer, running order.—178a, Liverpool Rd., N.

MINERVA G. and A. carburetter, new, 10s.; Longuemare H carburetter, 7s. 6d.; also several others cheap.—Williams, 2a, Mount Pleasant Rd., Lewisham.

1909 Triumph, new, used once, both rubber skids, lamp, horn, etc., complete; honestly worth £46, take 40 guineas, bargain.—1a, Lyall Mews, Eaton Sq.

4-CYL. F.N., Magneto, perfect spring forks, foot-rests, stand carrier; cash £23, bargain, exchange Triumph, value £30 by exchange.—1a, Lyall Mews, Eaton Sq.

3 h.p. Werner motor bike for sale, good running order, Whittle belt, £7, or near offer, bargain; also sidecar, left hand, 35s.—M., 109, Broadway, Cricklewood, N.W.

HUMBER, 3h.p., chain drive, free engine clutch, starts with handle, almost new tyres, good condition; £12.—H.W.A., Clevedon, Carlton Rd., South Croydon.

TRIUMPH, 3 1/2 h.p., 1909, excellent condition, Dunlop tyres, new piston, spares; £37; by appointment. Tel.: 573 Hornsey.—Jessop, 7, Coleridge Rd., Crouch End.

1909 Rex, 5h.p., special twin Tourist, T.T. engine, gold medal machine, perfect condition, as new; sacrifice £32 10s.; come and inspect.—16, Haverstock Hill.

4 1/2 h.p. Stevens, very low built, Palmer cord tyres, Bradbury spring forks, new, variable pulley, and footboards; £18.—H. Sweetland, 13, Angus St., New Cross.

GENUINE 2 1/2 h.p. De Dion, Chater Lea No. 6 build, footboards long, low and powerful, perfect condition; bargain, £9 10s.—35, St. Stephen's Rd., Bow, London.

STOP—1908 twin Peugeot, 5h.p., and sidecar, Chater Lea throughout, Longuemare, spring forks, condition new; £25, near offer.—26, Landseer Rd., Holloway, London, N.

2 1/2 h.p. Brown, long bars, low, tyres as new, good 4 climber, new accumulator, perfect; £8 10s., offer, bargain; any trial.—Goldwasser, 25, Southampton St., Pentonville.

VINDEC Special, 3 1/2 h.p., spring forks, spares, etc., splendid condition, with nicely upholstered sidecar, nearly new; £19, or offers.—O. Syanton, Chertsey Rd., Woking.

2 1/2 h.p. 1907 Minerva, speedometer, quite a bargain, £15; 2 1/2 h.p. Kerry de Luxe, £9; 1909 Triumphs; good allowances for old bikes.—Godfree, 124, Romford Rd., Stratford.

1909 REXES. 1909.

All models in stock. Liberal exchanges.
OFFERS CONSIDERED.

SIDECAR MACHINES.

1909 7-9 h.p. PEUGEOT, magneto as new	£38 10
1909 5 h.p. REX DE LUXE, 100 miles only	Offers.
1908 Twin Tourist REX, magneto	£20 10
1908 Twin REX DE LUXE, Palmer Cords	£32 10
1908 4 h.p. N.S.U., magneto, spring forks	£21 0
5 1/2 h.p. Two-speed REX DE LUXE	£29 10
7-8 h.p. Twin MINERVA and N.S.U. sidecar: very smart lot	£29 0
Twin WERNER Lightweight, spring forks	£12 10
5 1/2 h.p. REX DE LUXE, Roc clutch	£25 10
6 h.p. Twin ANTOINE and Sidecar	£18 10
5 h.p. Twin ZENITH, spring frame	£13 10
6 h.p. Twin REX & new DE LUXE Sidecar	£21 0
4 1/2 h.p. Four-cylinder F.N., magneto	£23 10

Five 5 1/2 h.p. Twin Rexes, spring f.o.ks, long bars, low frames, aluminium finish, blue lines, 26in. wheels. £17 17s.

Grand Sidecar machines. EXCHANGES.

EASY PAYMENTS.

£3 DOWN secures any of these.
Balance 5/- per week.

2 1/2 h.p. Antoine	£6 10	3 h.p. Rover	£10 10
2 1/2 h.p. Bradbury	£6 10	2 h.p. Sarolea	£6 0
3 h.p. Clyde	£15 0	2 1/2 h.p. Kerry	£9 10
4 h.p. Antoine	£16 10	4 h.p. Coronet	£15 0
3 h.p. Humber	£10 0	2 1/2 h.p. Werner	£8 10
3 1/2 h.p. Rez	£10 10	3 1/2 h.p. Werner	£13 10
2 1/2 h.p. Lloyd's	£7 10	2 n.p. Thomas	£8 0
4 h.p. Atelier	£13 10	2 h.p. Humber	£8 10
4 h.p. Stevens	£13 10	3 h.p. Bradbury	£10 10
		3 1/2 h.p. Brown	£14 10

Push Cycles taken in Exchange.

5 1/2 h.p. REX DE LUXE, fitted with new Sidecar, magneto, Roc clutch, handle-starting £27 10

"POPULARS."

1909 3 1/2 h.p. magneto REX, shop soiled	Offers
1909 3 1/2 h.p. TRIUMPH, two speed	£42 10
1909 3 1/2 h.p. REX Tourist, done 50 miles	Offers.
1908 3 1/2 h.p. Magneto REX, spring forks	£24 10
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1907 3 1/2 h.p. magneto REX	£21 0
3 1/2 h.p. Magneto N.S.U., spring forks	£18 10
4 h.p. ANTOINE, high tension magneto	£18 18
1908 3 1/2 h.p. Magneto MINERVA, spg. fks	£22 10
1907 3 1/2 h.p. REX, spring forks	£17 0
1907 3 1/2 h.p. QUADRANT, spring forks	£17 10
1907 3 1/2 h.p. BRADBURY, 26in. wheels	£13 10

SPECIAL BARGAIN—3 1/2 h.p. REX, good order, ready for road £5 15
 3 h.p. HUMBER, spray, free engine £10 10
 3 h.p. BRADBURY, low, 26in. wheels £13 10
 1906 3 1/2 h.p. REX, spring forks, M.O.V. £15 10
 3 h.p. SINGER, belt drive, H.T. magneto £19 10
 4 h.p. STEVENS, H.B. control £13 10
 3 h.p. CLYDE, magneto, long bars £15 0
 2 1/2 h.p. KERRY, light and low, 26in. wheels £9 10
 3 h.p. ROVER, M.O.V., Longuemare £10 0
 3 1/2 h.p. REX, handle-bar control, Amac. £7 10
 3 h.p. HUMBER, spray, splendid climber .. £9 10
 2 1/2 h.p. WERNER, spray, light, low £8 0
 3 h.p. Light ARIEL, low build £8 15
 2 1/2 h.p. LLOYDS, vertical, spray £6 0
 Monster List on Application. Cash offers considered

WE HAVE IN STOCK OVER TWO TONS of Brand New Perfect Motor Cycle Covers. Best makes. All sizes. 17/6 each. New Clincher A Won Covers 17/6, Tubes 4/11. Bargain list on application. Approval against cash.

200 AMAC and BROWN & BARLOW Carburetters from 25/-. Liberal exchange. Allowances.

DE LUXE SIDECARS, 2 1/2 in. tyres, everything of the best, built by experts, 3-holt attachment, 26 x 2 1/2 Clincher A Won tyres £6 0
 See our £4 17s. 6d. Sidecar before purchasing cheap sidecars.

TRICANS—to clear.

3 n.p. HUMBER, spray, chain drive	£12 10
5 1/2 h.p. REXETTE, two-speed, w.c.	£29 10
4 1/2 h.p. BRADBURY, two-speed, w.c.	£27 10
5 h.p. HUMBER, two-speed, w.c.	£29 10

The **Halifax Motor Exchange**,
 "LARGEST REX DEALERS"
 766
 16, Westgate, Halifax.

MOTOR BICYCLES FOR SALE.

TRIUMPHS—Three 1909 models, second-hand in perfect condition and guaranteed, complete with first-class accessories and full kit of price £38.—Below.

1908 Triumph, quite like new, Brooks saddle written guarantee given; £30.—Below.

1909 3 1/2 h.p. Rexes (two), less than three months and equal to new, condition guaranteed Below.

OFFERS invited, cash or exchange, for 1909 5h.p. twin Rex de luxe and one n. 3 1/2 h.p. tourist Rex, with J.A.P. lubricator.—B.

THE Eastern Garage Company have in addition the above a large selection of second-hand at prices ranging from £6 to £30; trial runs had at any time.—Address, 418, etc., Romford Rd. Gate, E. Tel.: Stratford 10. T.A.: Egaraco.

1909 Triumph, nearly new, Palmers, every perfect condition, experts invited; bargain or offer.—Fenn and Co., Mortimer Market, To Court Rd., W.

1909 7-9h.p. Peugeot complete with Bosch Amac handle-bar carburetter, inlet and pipes, and silencers, used only 50 miles; £17. Ingale, Crawley.

PHELON and Moore.—We have in stock at our depot several 1908 and 1909 machines, in condition, for disposal.—Apply, 12, Mortimer Portland St., W.

3 1/2 h.p. Premier, 1909, practically new, R.O.M. all spares, accessories, perfect order, hill-climber; £33, a bargain; seen any time.—Emoire, Holloway.

3 h.p. Hobart, Longuemare, Prested accumulator and plugs, Palmer, carrier-stand, horn, £100 splendid condition; nearest £10; must sell.—Foxley Lane, Purley.

3 1/2 h.p. Genuine Minerva throughout, Amac. H. control, accessories, tools, spares, guaranteed; bargain, £18; any trial by appointment.—2 bar Rd., Wood Green.

2 1/2 h.p. J.A.P., Chater Lea, new tyres, handle-bar control, Amac adjustable pulley, in splendid condition; £11, offers.—H. Beadman, jun., Ordard race, Enfield Highway.

2 1/2 h.p. Rex Lightweight, very powerful, fast, tyres, Watawata, Longuemare carburetter, did condition, everything best, very low; trial; £7 10s.—17, Ford Sq., E.

PHELON and Moore, with sidecar, a real bargain chased late 1908, little used, pass for new did equipment; 42 guineas, worth 100 miles to secure.—Bunting, Wealdstone.

3 1/2 h.p. Fafnir, Phoenix two-speed, free engine cooled, coach-built, new accumulators, tyre new back, three-note horn, lamps; £15, or c. Picken, 21, High St., East Ham.

2 1/2 h.p. Minerva, M.O. valves, Palmers, Ch. 4 throughout, two Litanode accumulators, cyclometer, condition as new; only wants seeing 10s.—5, Courtenay Rd., Leytonstone.

3 h.p. Kerry-Fafnir, new Palmer and Continental spare belt and tube, new P. and H. lat accumulator, splendid condition; sacrifice £10.—1 Greenhill Villa, Station Rd., Harrow.

NYE'S—Colonial buyers should place their with us; immediate attention; enquiries welcome large experience. Bankers: London and West—69, Leather Lane, Holborn, London.

3 1/2 h.p. Rex, B. and B. carburetter, low frame 32 new tyres, good running order, splendid spare parts; £20, or accept offer: can be seen in—Sonnenthal, Woodlea, Wellingham.

5 h.p. Rex, 1908, J.A.P. carburetter, 24 by 24 magneto, four spare tubes, two spare cover valves, tools; price £20; if with Jones speedometer—Lt. Davis, R.N. Barracks, Chatham.

5 h.p. Twin, Givaudan engine, Chater Lea throughout Continental tyres, long, low, footboards, condition; £20, or lower power and cash; seen at 2, Wincot St., Kennington Rd., London.

7 h.p. Bat-J.A.P. and Bat sidecar, Bosch variable pulley, new belt, spring frame mirror, and all accessories; cost over £78, £45.—Wilson, c/o 85, Church Rd., Willesden, N.W.

THE New 1910 F.N. lightweight, two-speed free engine, shaft driven, an ideal touring machine with all the latest fittings, complete; £40.—M. St. John's, South End Rd., Hampstead Heath.

ELEPHANT Motor Mart buy and sell every kind of motor goods. Motor cyclists catered for, and invited to inspect our stock of machines and accessories at knock-out prices.—Elephant Rd.

GRAND Bargain.—3 1/2 h.p. Fafnir-Triumph, 1909 n. ridden very little, complete for touring, all lamp, tools, horn, new R.O.M. non-skids, two Dunlop covers; the lot for £32 10s., or near Apply, W. H. Bashall, c/o H. O'Connell Jones lands, Horsham, Sussex.

MATCHLESS, 3 1/2 h.p., late 1908, magneto, handle control, latest J.A.P. engine, J.A.P. automa buretter, extra air lever fitted, Druid spring forks speed indicator, horn, F.E.S. lamp and generator, tyre, etc., everything up to date, guaranteed to m.p.h.; cost £60, selling £32.—76, Brixton Rd., S.

In answering these advertisements it is desirable to mention "The Motor Cycle."

FOR BICYCLES FOR SALE.

or exchange with 1908-9 Triumph, Bosch mag-
twin, sidecar, ridden since new 1,600 miles
sidecar; 2h.p. Minerva, H.B. control, etc.; cross
lumber cycle, Powell lamp, new.—209, Brixton

MPH, 3h.p., 1908, first-class condition, Sham-
studded tyres, usual spares, plating perfect,
many competitions; also two Shamrock belts,
each.—Marlow, 11, Borthwick Rd., Leyton-
E.

Humber, two-speed, Druid forks, very latest
model, including latest gear mechanism, only run
ideal touring machine; good reason for selling;
£39.—Box L341, The Motor Cycle Offices, 20,
E.C.

Chase, Chater Lea throughout, chain drive,
permann three-speed and clutch, enclosed fan,
starting, magneto, handle-bar control, coach-
Palmer tyres; £20.—The Dormers, Derby Rd.,
Goodford.

afnir, 1908, Chater-Lea, very low, spring seat-
ur, spring forks, new Dunlop, 26in. by 2in.,
ew Shamrock belt, everything perfect; ex-
amination; only £19.—G., Wixoe, Arthur Rd.,
on Park.

ECEDENTED Bargain.—7h.p. twin Lurquin,
easy detachable sidecar, R.O.M. ignition, 1in.
tyres, H.B. control, very low, exceptional con-
16; any trial or examination.—Thorne, High-
Leatherhead.

PH Motor Cycle, almost new, with Druid spring
rks, dual ignition, Cowey speedometer, Ideal
t, and other extras; cost altogether £100, price
machine £33, and extras sold separately.—Seen
illie Rd., S.W.

EA, 5h.p. twin, No. 6 Chater Lea, H.T. dis-
ter, Fuller coil, B. and B. handle-bar control,
al tyres, Shamrock belt, footboards, finished
solutely new and in perfect order; £30.—Motor,
e Rd., Croydon.

. Rex, 1907, free engine, new tyres and tubes,
ttle belt, new accumulator, also nearly new
ear, with new tyres, lot of spares, including new
elt; first decent offer gets the lot.—740, Seven
d. S. Tottenham.

asonable offer refused for second-hand 2h.p.
s motor cycle; 2h.p. chain drive Humber; 3
a drive two-speed Raleigh; 3h.p. Bat; 6h.p.
chless; one good sidecar.—H. Collier and Sons,
bert Rd., Plumstead.

OTIONAL Bargain, owner purchased car.—1909
mph, new 20th September, Palmer cord and
back, studded Clincher front, run 400 miles,
expert inspection invited; 40 guineas.—Cele-
ton Rd., Camberley.

U.S.U., 6h.p., 26in. wheels, magneto, two-speed,
ew Gloria back, new 1in. rubber belt, spring
g handle-bars, Brooks 105 padded saddle, with
lls-Fulford sidecar, running splendidly; £37
in, 63, Uxbridge Rd., Ealing.

Twin Peugeot, No. 6 Chater-Lea frame, two
edo tanks, spring pan seat and footboards,
new tyres, one 2 1/2 Palmer cord; with sidecar,
out £25; exchange 3h.p. Triumph, cash ad-
—178, Samuel St., Woolwich.

ON-MOORE, November, 1908, very little used,
s's switch, unscratched, new R.O.M. studded
wey indicator, lamp, horn, tools, bags, spares,
ford castor wheel car, all perfect, any trial;
ring, 16, Priory Rd., Turnham Green, W.

ER Lightweights. — Motosacoche, low frame,
s scarcely scratched, £18; 1h.p. F.N., with
control, spring forks, all accessories and spares,
h machines have had very little wear, and are
condition.—24, Woodford Rd., Forest Gate, Lon-

BURYS, shop soiled, 1909 models, £36; other-
absolutely brand new, carrying maker's guar-
anties from stock, only few left; secure one
and save £10; to-morrow may be too late.—
sole Bradbury agent, 619, Lea Bridge Rd.,
London.

F.N., 4h.p., magneto, absolutely perfect;
—Stanton, 619, Lea Bridge Rd., Leyton, Lon-

Rex, handle-bar control, 26in. wheels, Davison's
k and gauges, low frame, splendid condition;
10s., real value.—Stanton, above.

ad Sidecar. 6h.p. twin J.A.P. engine, magneto,
speeds, handle starting; £33 10s.—Stanton,

F.N., 4h.p., and sidecar, Chater Lea, almost
splendid puller, handsome, reliable combina-
—Stanton, 619, Lea Bridge Rd., Leyton,

ER Prices.—3h.p. Minerva, with new sidecar,
libion free engine, excellent condition, £15 10s.;
t, spring frame, £14; 2h.p. J.A.P., vertical,
t, £10 10s.; 3h.p. Peugeot twin, magneto,
ks, Palmer tyres, £20; 2h.p. Phoenix, magneto,
ts, grand machine, £15; 2h.p. Brown, vertical
xcellent condition, £10 10s.; 3h.p. Excelsior,
engine, excellent condition, £9 10s.; 2h.p.
9 15s.; several machines, in perfect order, £5.
exchanges.—128, High Rd., South Tottenham.

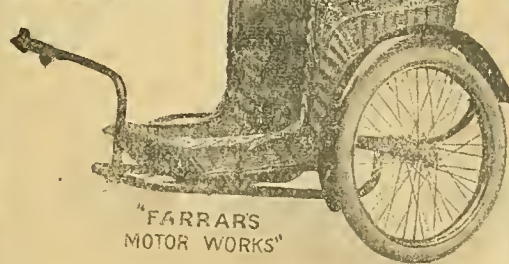
AUTOMATIC MACHINERY

and our Tremendous Output place

FARRAR'S

HALIFAX

SIDECARS



in a position to DEFY COMPETITION.

BETTER THAN THE BEST, and HALF THE COST.
£4 17 6 Each. Complete with best tyres.

An IDEAL WINTER ATTACHMENT. Quite Rigid.
No sideslip. Can be ridden without passenger.
Guaranteed twelve months. Full particulars on re-
quest. Get one on approval. You will be delighted

CASH, EXCHANGE, or EASY PAYMENTS.	
5-6 h.p. 1908 Magneto REX, a beauty	£25
3 1/2 h.p. 1908 TRIUMPH, very good	£29
4-5 h.p. Twin N.S.U., magneto, spring forks..	£21
3 1/2 h.p. REX, magneto, two-speed gear	£19
1908 F.N. Lightweight, Bosch magneto....	£18 0
3 1/2 h.p. Magneto REX, H.B. control	£17 0
3 1/2 h.p. GRITZNER, 1908, magneto ignition	£17 0
1908 N.S.U. Lightweight, magneto.....	£22 0
1908 Magneto REX, single cylinder	£18 0
3 1/2 h.p. 1906 REX, M.O.V., spring forks ..	£13 10
REX DE LUXE, magneto, clutch	£26 10
5 1/2 h.p. TWIN REX a beauty.....	£15 10
3 1/2 h.p. REX, M.O.V., spray.....	£10 10
6 h.p. TWIN REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
3 1/2 h.p. BROWN, vertical, M.O.V.	£12 0
3 h.p. MINERVA, champion condition....	£11 0
3 1/2 h.p. 1907 REX, lovely goer	£15 15
4 h.p. ANTOINE, M.O.V., fine goer	£11 0

TRICARS.	
5 1/2 h.p. REXETTE, fine machine.....	£24 0
5-6 h.p. ROVER, newly enamelled	£17 0
4 1/2 h.p. PHOENIX, two-speed	£14 0

1908 Magneto REXES.
Single-cylinder, 3.6 h.p. (R.A.C. rating), black and
gold finish, Bosch magneto, £17 10s., or exchange.

SPECIAL PURCHASE.
1909 AMAC carburetters, handle-bar control
19/8 each.
BROWN & BARLOW latest 1910 pattern 28/-

£3 DOWN secures any of these.
Balance 5/- per week.

2 1/2 h.p. Singer, mag.	£6 1	2 1/2 h.p. Stevens	£5
3 1/2 h.p. Rex	£9 1	2 1/2 h.p. R. and P.	£7
3 1/2 h.p. Dux	£9 1	2 1/2 h.p. Humber	£5
3 h.p. Fafnir	£9 1	2 1/2 h.p. King	£8
4 1/2 h.p. Humber, 26" wheels	£29		

1909 "PREMIER" Magnetos.
Absolutely the finest magneto. £3 15s. each.
DELIVERY FROM STOCK.

"FARRAR'S SPECIAL" BELTING.
Absolutely the finest rubber belt on the market.
33% cheaper than any other high-class belt.
3in., 9d. 3in., 1/1. 3in., 1/3. 3in., 1/6 per foot.

SPECIAL BARGAINS.	
Montgomery Flexible Sidecar	£4 4
"Fit-All" two-speed gear, h.b. control....	£3 5
2 1/2 h.p. Humber engine	30/-
Tricar frame, for wheel-steering	50/-
Low motor cycle frame, vertical.....	30/-
Very good sidecar, rigid	£3 5
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6
Send for Price List of Accessories—Pounds Saved.	

Clincher A Won Covers, all sizes, 17/6 each.
Clincher Rubber Studded Covers, £5/- each.
Tubes with valve, all sizes. 4/11.

High-class Machines Wanted. Cash Waiting.

E. FARRAR,

Albion Works, Square Rd., HALIFAX.

MOTOR BICYCLES FOR SALE.

1907 Vindec Special, two-speed gear, 3h.p., 1908
handle-bars and control, perfectly new Peter-
Union tyres, perfectly new 3in. Shamrock-Gloria, new
silencer, N.A.B. seat pillar, overhauled by makers in
August, little used, excellent condition, any trial;
sacrifice £26 10s.; would exchange with cash for recent
two-speed powerful twin.—Lynton, Dormers Wells Rd.,
Southall, Middlesex.

6h.p. Antoine and sidecar, just re-bushed, and new
rings, 6 Chater throughout, Druid spring forks,
tyres and butt ended tubes as new, sidecar, green
leather, and apron, new inch Whittle, and new pulley,
very low, lamp, horn, and lots of spares; Brighton to Lon-
don half gallon petrol, two up, can fly; no time to ride;
lot £22.—Chaufeur, 6, Gloucester Mews, Gloucester Ter-
race, Hyde Park, W.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

3 1/2 h.p. Quadrant, late 1907, magneto, new front, non-
skid skid back tyres; £20.—Dispensary, Catherine
St., Plymouth.

1908 3h.p. Minerva, as new, not run 800 miles, tyres
unpunctured; selling through no fault.—Prideaux,
Bear St., Barnstaple.

£6.—2h.p. J.A.P. in B.S.A. frame, very fast, and
splendid climber, in good condition throughout;
no offers; approval, deposit.—Reynolds, Broadway, Dor-
set.

F.N., 4-cyl., 5-6h.p., September, 1908, H.B. control,
footboards, pedals, R.O.M. tyre (unpunctured),
spare, Premier absorber, tools, and spares; 30 guineas;
buying tricar.—Turner, Newtown, Sidmouth.

SECTION X.

Scotland.

2 1/2 h.p. Bradbury, long bars, low saddle, Longuemare;
£25 10s.—Chaufeur, Troehraque, near Girvan, Ayr-
shire.

1909 Triumph, perfect condition, like new, Clincher
front, Palmer cord back; £36.—Mitchell, Main
St., Lochgelly.

HUMBER, 3h.p., chain drive, free engine, Palmer
cord, splendid condition; £12, or offer.—MacKer-
vail, Cumnock, N.B.

P. and M., 3h.p., 1908, splendid order, Palmer cords,
Smith's butted tubes, handle-bar control, spare tube,
parts, and extras; £38; details with pleasure.—Syme,
Muirtonbank, Perth.

1909 Triumph, Mabon clutch, studded Clinchers,
Miller shields, Cowey speedometer, lamp, horn,
watch, valise, etc., cost £60, guaranteed faultless; accept
highest offer.—Firemaster, Arbroath.

THE Largest Stock and largest variety.—Rex, V.S.,
Moto-Reve, Excelsior, Douglas, Roc, Minerva, Grif-
fon, Zenith, Indian, Norton. We can supply any other
make.—Alexander's Motor Exchange, Lothian Rd., Edin-
burgh.

TRICARS FOR SALE.

ECLIPSE.—8-10h.p. Rexette, three seats, twin-wheel,
splendid order; £32.

ECLIPSE.—Raleighette, 3h.p., two speeds, water-
cooled; bargain, £21.

ECLIPSE.—6h.p. Triette, 2-cyl., splendid condition;
£20.—Eclipse Eng. and Motor Co., 255, Earlsfield
Rd., Wandsworth.

4 1/2 h.p. Riley Tricar; £22, or part exchange.—Partic-
lars, 18, Wollaton St., Nottingham.

4 h.p. M.M.C. Tricar, free, two speeds, good condition;
price £16.—Fallick, Aldingbourne, Olchester.

TWO Tricars, 5-6h.p. Peugeot engines, magneto, fliers;
trial; £35 each.—85, Chesterton Rd., Plaistow.

PHOENIX, 5-6h.p., water cooled, perfect order, all
tyres unpunctured; £30.—1, Powis Grove, Brighton.

3 h.p. Humber Tricar, Trimo front, two speeds, chain
drive, good order; £17.—4, Frances St., Woolwich.

4 1/2 h.p. Humber, water-cooled, handle, two speeds, grand
condition; offers or exchange.—39, Coldharbour
Lane.

6 h.p. Smart Rexette Tricar, thoroughly overhauled,
practically new, all lamps; £35.—20, Potternorton
Lane, Leeds.

5 h.p. Kerry Tricar, two speeds, new August, faultless;
£35; would consider lightweight magneto and cash
to value of £40.—Camery, Doynton, Bristol.

TRICAR, 4h.p. Riley, two speeds, water-cooled, H.B.
control, Longuemare, A1 condition, non-skid; £22,
or offer.—Lambert, 23, Market St., Paddington, W.

TRICAR, Lagonda, 10h.p., water-cooled, three speeds,
in good condition, and spares, lamps; £55; tyres
nearly new, all non-skid.—Woodcote, Ashford, Middlesex.

HALIFAX.—Bradbury, 4h.p., water cooled, open
frame, wheel steering, two speeds; £27 10s.; fine
order and condition.—Motor Exchange, Westgate, Hal-
ifax.

4 h.p. Antoine, Phoenix forecar, spare front wheel, com-
plete, perfect condition; £25, or offer;—seen by ap-
pointment.—Cole, Tynwald Villa, Bath Rd., Langley,
Bucks.

In answering these advertisements it is desirable to mention "The Motor Cycle."

TRICARS FOR SALE.

OVER 4½ h.p. Tricar, two speeds, free engine, water-cooled, Brooks bucket seat, good condition, very reliable; price £22 10s.—Mannheim, 34, Hungate, Pickering, Yorks.

1 h.p. Humber, two speeds and neutral, fan attachment; trial given; thorough going order; £15. offer.—Plumb, Annandale, Bensham Manor Rd., Thornton Heath.

1 h.p. Phoenix Trimco, two-speed, coach-built seat, run about attachment, excellent condition, run 7,000 miles, new tyres; trial; £20.—Tweedie, Wallacrag, Baldry Gardens, Acton.

PERFECT Order, 5 h.p. water-cooled Garrard, three speeds, handle-bar control, new tyres, well sprung, searchlight, electric tail light, spares; £38, lowest.—Bowler, Bowerham, Lancaster.

TRICAR, 5½ h.p., two ignitions, three lamps, all new Palmer cord tyres, engine in splendid order, fan-cooled, two-speed gear; given away at £35, cost £125. Lumsden, 9, Otto Terrace, Sunderland.

WATER-LEA Open Frame Tricar, 6 h.p. twin Stevens engine, water-cooled, wheel steering, coach-built, upholstered forecarriage, in splendid condition; £25; just sell.—Pond, 349, West End Lane, Hampstead.

BARGAIN.—Open frame tricar, 7 h.p., twin-cyl., water-cooled, two-speed gear, Dunlop grooved tyres, 10 by 75, everything first-class condition; examination and trial; price £40.—Eborn, 1, Walton Place, Aylesbury.

RALEIGHETTE, 3½ h.p., registered 1907, B. and B. 1909, average 20, and 70 to gallon, water-cooled, two-speed, spares, good condition, pretty, open frame machine; trial; photo; £30.—14, Cecil Mount, Armley, Leeds.

1 h.p. Humber, coach-built, two-speed gear and free engine, kept in excellent order and condition, set of lamps, horn, various spares, thorough trial allowed; price £25.—Easter Garage, 418, Romford Rd., Forest Gate, E.

1 h.p. Simms Engine, magneto, and carburetter, water-cooled, large clutch, three speeds, Palmer cords, front, Kempshall back, controlled like car, perfect; trial and examination; price £33.—Page, 74, East Hill, Dartford, Kent.

WHITE and Poppe 4½ h.p. Tricar, coach-built, two speeds, free engine, wheel steering, foot clutch, Renolds chains, Palmer cord tyres, acetylene lamps, tools, spares, extra studded cover; £30.—Aylwin, 1, Claygate Rd., West Ealing.

FOR Sale, 6 h.p. Rexette Tricar, cost £105, nearly equal new, spring chassis, wheel steering, two speeds, two Powell and Hammer headlights, luxuriously fitted; what offers? must sell.—F. Varty, Newcastle House, Royston, Herts.

10 h.p. 2-seater Singer tricar, coach-built, twin-cyl., water cooled, three speeds and reverse, free engine, wheel steering, Renolds chain, car tyres, in perfect condition, recently overhauled; trial; £30.—Major Nicholson, Willesborough, Kent.

1 h.p. Riley Tricar, twin cyls., water-cooled, three speeds and reverse, wheel steering, recently repainted, green, varnished, and upholstered in red, engine just overhauled by makers, acetylene side lamps, electric horn; trial and examination.—Partridge, 21, South St., Woking.

PRUNG Tricar, unfinished, painted grey, fittings newly plated, new 28 in. wheels, beaded, complete wheel steering, bucket seat, newly leathered, place for engine in front of dashboard, wings, brass tank at back of seat, 7 in. bronze clutch, 8 ft. of 3 in. Coventry chain, new clutch pedals, 5 h.p. engine, in good order, built for racing, air-cooled; motor cycle frame, with tank, 26 in. wheels, beaded; offers for the lot, or parts. Phillpott, 7, Redgrove Cottage, near Arle Court, Cheltenham.

SIDECARS AND FORECARS.

RIGID Sidecar; £3.—Chivers, 2, Lyte St., Cambridge Heath, N.E.

TILFORD Rigid Sidecar, upholstered, as new, 26 in. wheel; £6 10s.—Eagles and Co., High St., Acton.

IDECAR, 26 in., left, good condition; lowest £3 15s.—Markham, 91, James Rd., Liverpool Rd., London, N.

RIGID Sidecar, 26 wheel, wicker seat, fit any machine; £2 10s.—Brown, 2a, Seagrave Rd., West Edmonton.

FARRAR'S Halifax Sidecars are sent on approval; guaranteed 12 months; immediate delivery; to fit any motor cycle.

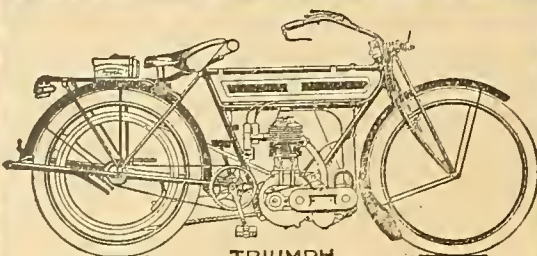
HALIFAX Sidecars are superb value; £4 17s 6d each; equalling others costing double.—Farrar's Motories, Square Rd., Halifax.

IDECARS.—Best value in England, £4 15s. and £5 10s.: second-hands from £3 15s.—C. A. Edgar, 123, Holloway Rd., London.

TILLS-FULFORD Forecar, fit any machine, cane body, upholstered green, new; £6.—Pilkington, Marble Place, Southport.

FORECARRIAGE and Bike Frame, for vertical engine, spare wheel; £4 10s.; would separate.—8, Lombard St., Portsmouth.

WHOLESALE and Retail manufacturers.—Baskets, springs, fittings.—Middleton and Co., Watson St., Bowling Green, London, N.



TRIUMPH
1909 TRIUMPHS
IN STOCK.
£48 or exchange.

3½ h.p. 1908 N.S.U., brand new	£31 0
3½ h.p. MINERVA, spring forks	£15 0
4 h.p. HAMILTON, will climb anything ..	£14 0
3½ h.p. N.S.U., Roc two-speed gear and free engine, splendid condition	£22 0
3 h.p. TRIUMPH, magneto, practically new tyres, handle-bar control, guaranteed to climb Sutton Bank; a beauty	£20 0
2 h.p. MOTO-REVE, magneto ignition, spring forks	£20 0
3½ h.p. CENTAUR, in good condition	£9 0
3½ h.p. DOWSON, M.O.V.; a bargain	£9 0
2½ h.p. BARTER, Brooks saddle, 26 in. wheels	£8 0
5 h.p. Twin REX, 1906, first cheque secures ..	£15 0
2 h.p. BRADBURY, three-speed pulley and free engine	£10 0
2 h.p. MINERVA, new enamelled, in good condition	£8 0

All machines guaranteed in running order.

50/- DOWN and 5/- weekly secures the following:

QUADRANT, 2 h.p., spray	£8 0
SINGER, 2 h.p., magneto	£6 0
MINERVA, 1½ h.p., coil and accumulator ..	£5 0
REX, 3½ h.p., aluminium finish	£9 0
DOWSON, 3½ h.p., long wheelbase	£10 0

TRICARS.

3½ h.p. HUMBER, cane chair, upholstered in red, splendid condition throughout, and fitted with good tyres, etc.	£15 0
PHENIX Trimco, two-speed gear, foot brake, coach-built, good tyres to wheels ..	£15 0

TRICYCLE.

DE DION, fitted with genuine De Dion engine, perfect order, enamelling and plating in splendid condition	£7 10
--	-------

CAR.

DARRACQ, 18 h.p., four-cylinder, live axle, three speeds and reverse, four-seater, tyres 880 x 120 mm. back, 870 x 90 mm. front, all practically new, £79 or exchange £79 0

Beautiful Forecar Attachment, 26 in. wheels, Dunlop tyres £4 0 |

Screw-cutting Lathe, 6 in. centres, 6 ft. bed, back geared, compound rest, 22 change wheels, overhead reverse motion £15 0 |

You will receive best attention at our hands.

All orders promptly executed.

All machines guaranteed in good running order.

MISCELLANEOUS.

AMAC Carburettors, handle-bar control, all guaranteed. Our price 20/- each complete.	
Several bargains in CLINCHER Dreadnought Covers, studded, 26 x 2 in. and 26 x 2½ in.	
Genuine 26 x 2½ in. CLINCHER Rubber-studded Tyres. List price 31/6. Our price ..	25/-
CLINCHER 26 x 2½ in. Tubes. Post paid ..	5/6
F.R.S. Lamp, brand new. A bargain	19/6
HELLA Searchlight, best plated, divided glasses, complete with generator	14/11
Trinote Horns. "What a noise!"	7/3
Treble-twist Horns. Will shift a tram	6/6
Double-twist Horns, heavily plated	4/6
Variable Pulleys, heavily plated	12/6
Mudguards, well finished, 3 in.	2/11
Mudguards, 4 in.	3/6
ROM contact breaker, as new	20/-
4 h.p. BUCKBOARD engine, with two-speed gear, clutch, and carburetter	£9 0
FULLER Plain Midget Coils, 10/6; Tremblers, 17/6.	
Liberal allowance on old coils. FULLER'S Accumulators, 20 amp., 17/-; REX, 16/-; MINERVA, 16/-; Midget, 16/-; 5/6 allowed for old accumulators in part payment. All 1909 models. Long Handle-bars, slightly upturned, dropped ends, 6/6; straight, 5/6. Swan-neck Seat-pillars, 4/6. Tubular Carriers, 4/11.	

NOTE THE ADDRESS—

MAUDES' MOTOR MART,
POWELL STREET, HALIFAX.

Telephone—433 Day, 904 Night.

Telegrams—"Petrol, Halifax."

Also at 136, Great Portland Street, LONDON, W.

SIDECARS AND FORECARS.

STAMFORD HILL. — Our famous sidecars 17s. 6d. are giving great satisfaction.—128 Rd., Tottenham. Deliveries from stock.

MONTGOMERY Flexible Sidecar, complete, side, splendid condition, 26 in. unpunctured £5.—Wetherall, Severus Mount, Worcester.

12 Guinea Sidecar, brand new, and made thorough with genuine Chater-Lea fittings, 26 by 2 inch tyre; £6 8s.—H. Bert, 9, Gaskell St., Clapham.

DON'T Read this unless you want the original leigh sidecar that is guaranteed against side price £5; we can now deliver in three days.—Oa Motors, Ltd., 65a, Rosendale Rd., West Dulwich.

HALIFAX.—Rigid de Luxe Sidecars, enamelled, plated, luxuriously sprung, everything of the fit any machine, 26 by 2½ tyres, £6; art cane bodies extra; cheaper quality, as advertised, £4 17s.; all hand sidecars taken in exchange.—Halifax Motor change, Westgate, Halifax.

MOTOR TRICYCLES.

ARIEL Tricycle, 3½ h.p., guaranteed perfect, driven, two speeds, H.B. control, Longue superb machine, reliable, safe; £12.—Macnab, 62, son Rd., Seacroft, Liverpool.

TRAILERS.

MOTOR Trailer, fair condition, good make, holstered, strong; 15s.—Berwood, 39, Denn Park Rd., West Hamstead.

QUADCARS.

PHENIX Quadcar, 8 h.p., twin, water-cooled, speeds, excellent condition, £35.—128, High Tottenham. Great bargain.

PHENIX Quadcar, 7-8 h.p., twin Fainir, ex order, lamps, tools, spares; £40, offers.—Mok Engineering Works, Huddersfield.

8 h.p. Phoenix Quad, 2-cyl., good order, and very two-speed and reverse; £35, or consider good moto motor cycle part if cheap.—Box No. 3,412 Motor Cycle Offices, Coventry.

CARS FOR SALE.

PALMER.—15 h.p. Darracq, 1906, 4-cyl., hood, dual ignition, fully equipped, fast car; £12

PALMER.—8 h.p. Regal, tonneau, single-cyl., wheels, light, reliable little car; £40.

PALMER.—12 h.p. M.M.C., tonneau, seats five, 810 by 90 tyres, wonderful condition at price

PALMER.—8 h.p. De Dion, genuine, seats five, under bounet, solid tyres; £35.

PALMER.—6-8 h.p. Daimler delivery van, 2-cyl., tyres, suitable any light delivery, perfect £35.

PALMER.—16-22 h.p. Gladiator, side entrance, five lamps; great bargain, £125.

PALMER.—16-20 h.p. De Dietrich, 4-cyl., side trance, magneto, hood, screen; bargain, £10

PALMER.—12-14 h.p. Humber, tonneau, 4-cyl., new Moseley tyres, raked steering; £85.

PALMER.—18-24 h.p. Prunel landaulet, side entrance, 4-cyl., M.O.V., grand hire car; great value,

PALMER.—17-21 h.p. Mors limousine, 4-cyl., side entrance, pressed steel frame, silent, carriage; £150.

PALMER.—40-50 h.p. Lorraine-Dietrich, 1907, magnificent vehicle; cost over £1,000, sacrifice £325.

PALMER.—16-24 h.p. F.I.A.T., side entrance, type, splendid touring car, fully equipped;

PALMER.—15 h.p. Darracq, 5-seater, 4-cyl., screen, direct top drive, fast, silent; £95.

PALMER.—24-40 h.p. F.I.A.T., 5-seater, Roi des F body, gate change, hood, screen; £175.

PALMER.—L. N. Palmer, 190, Mellison Rd. ing. Phone, 208, Streatham. Garage one m Merton Rd. tram terminus, Tooting. Cars seen any day, Sundays before 2. Photos, details per easy terms arranged; exchanges.

6 h.p. Vauxhall, 2-seater; exchange good motor b 43, Wimbledon Rd., Tooting.

6 h.p. Swift, 2-seater, hood, splendid doctor's car; gain, £38.—741, Garratt Lane, Tooting.

8-10 h.p. Car, 4-seater, four speeds, reverse; quick £15.—Lambert, 9, Belvoir Rd., Coalville.

8 h.p. M.M.C. car to seat four, just overhauled, back tyres; £55.—Stamford Garage, Stamford.

12 h.p. 2-cyl. Aster Engine Car, two bucket seats, condition; £45.—Quick, Brighton Rd., Hors

10-12 h.p. Gladiator, 2 cyls., Stepnay wheel, screen, seats five; trial; £70.—Colliss, And

POWERFUL 6½ h.p. Water-cooled Aster, three sp exceptional condition; £25.—Pricry, Hardway, port.

REGAL, 6 h.p., genuine De Dion engine, smar seater, live axle; £38.—406, Garratt Lane, W worth.

9 h.p. Darracq, two seats, hood, screen, smart, po for; £49 10s.; part exchange anything.—13, P ham Rd.

In answering these advertisements it is desirable to mention "The Motor Cycle."



THE MOTOR CYCLE



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Agents for Australasia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency Ltd.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

The Revival of the Two-stroke Engine.

THE close proximity of the Stanley Show causes one to cogitate as to what will be the most interesting features of the annual display of motor cycle novelties. We do not think we are over-estimating their importance when we say that one of the attractions will be the two-stroke motors which will be found on more than one make of machine in the exhibition. The two-stroke engine as applied to motor cycles is in reality no novelty; it was exploited some years ago, but not exactly in the same form as it has been revived of late. It died and we heard no more of it, in this country at least, although our American cousins have never relinquished it, and one motor journal in the States regularly devotes a special section to this most interesting and simple of petrol engines.

The fascination of a two-stroke engine is its wonderful simplicity. There are no valves to give trouble or require attention by burning or breaking, no timing gear, cams, springs, or valve caps; in fact, given a well made piston and rings, that will-o'-the-wisp, compression, cannot very well be lost. The steady pull of the two-stroke is superior to the four-cycle type when revolving at medium or high speeds, but at very slow speeds it is not so controllable, and certainly not the equal of a four-stroke engine in this respect.

Lubrication apparently presents no difficulties—in fact, the bogey of mixing petrol gas with the lubricating oil has been absolutely laid by the introduction of special devices on four-stroke engines, to convey a portion of the lubricating oil from the crank case to the top of the cylinder. If the two-stroke becomes

general the cost of manufacture of motor cycle engines will naturally be considerably reduced on account of the fewer number of parts, and once the correct positions and sizes of the openings for the inlet and exhaust gases have been found, there will be no necessity for careful timing, accurately cut gearing, etc. The petrol consumption is greater; that is an inherent accompaniment of the two-stroke type of engine, but in the case of motor cycle engines of moderate power we do not think it is vastly important, and hardly sufficient to retard the progress of the two stroke.

When the crank case of the engine is used as a compressor there is always a liability for leakage to take place at the bearings, and this is where the two-stroke may give trouble, but, with proper provision, bearings of the ball type fitted with air-retaining washers should last a year's usage without attention.

On some machines we have ridden carburation appears to present some slight difficulty, but doubtless experience will overcome this, as we are not quite sure that it is carburation that prevents a two-stroke engine from revolving as slowly as the four-stroke without missing fire or stopping altogether. The great simplicity in the construction of a two-stroke engine should cause it to appeal to everyone interested in motor cycle manufacture, but we do not wish these few lines to imply that there is anything approaching a revolution in design about to occur. However, the two-stroke type has only to be the equal of the four-stroke in power and reliability to cause it to become popular in course of time, solely on account of its greater simplicity and consequent immunity from troublesome adjustments. This phase of the movement is one that will excite the greatest interest, and we shall be surprised if it does not develop largely.

PASSENGER PROSPECTS FOR 1910.

By B. H. DAVIES.

I DO not know whether the same thought has occurred to many other motor cyclists, but it seems to me that there is an undoubted improvement in the passenger prospects for next year. I began my passenger motor cycling with an air-cooled

single-cylinder belt-driven tricar of only $2\frac{3}{4}$ h.p. I progressed by easy stages up to a 12 h.p. two-cylinder, chain-driven, three-speeded machine. The first named was a dead failure, though an athletic and sporting driver could have some fun with it, even as many riders to day quite enjoy passenger work with a rather similar outfit and a $3\frac{1}{2}$ h.p. engine. The last named was on the whole the equal of a second rate 16-20 h.p. car, but suffered from many weaknesses of design and construction, which made their presence extremely apparent when such a machine fell into the hands of an average amateur. It would have held its own, and gradually have parted with its sundry weaknesses, had it not been robbed of all chance to reform by the competition of extremely cheap four-wheeled cars. The A.C. tricar, at any rate, is a healthy bantling of a new type. The sidecar has endeavoured to win a place in our affections; but the sidecar has had to struggle with the handicap of unsuitable motor bicycles to which it has generally been attached. I personally dislike sidecars extremely, but that is evidently one of my fads, since hundreds of riders are sincerely devoted to them after experiences which transcend my own both in duration and variety. And just now the sidecar has a splendid chance to win the affection of motor cyclists generally, because there are quite a number of motor bicycles on the market which seem to have been designed for the express purpose of hauling a sidecar.

The Method of Transmission.

I personally find extreme difficulty in believing that a belt drive can ever be deemed ideal for passenger work. After all these years I have quite as much trouble and expense with belts on light solo machines as I care for, and for an all-weather drive on a combination scaling three or four hundredweights unladen a belt is the last transmission I should dream of employing. I say this in the full consciousness that sidecar records have been made by belt-driven machines in every instance. But had the weather been uniformly bad on these famous End-to-end

runs, had the pulleys been worn, or the belts old, 'serious delay and trouble would have made the final figures look remarkably idiotic when mentioned in connection with record breaking. But we are no longer limited to the belt drive. For steady-going, jog-trot work in easy country we have the staunch and well-tried Phelon and Moore, two-speeded, proof against heating, and chain-driven, albeit under-powered for passenger work in severe districts. We have a variety of specifications offered by the world-famous house of Chater-Lea, ranging upwards to a 9in. clutch, three speeds, and a broad chain of ample strength, with any horse-power you like to name—6 h.p. would be more than enough with three speeds. We have the F.N. four-cylinder shaft-driven at last provided with a two speed gear box to order. And in the new T.A.C., 7 h.p. shaft-driven, with three forward speeds, we have a machine which just about represents the sidecar enthusiast's ideal on paper; indeed, it must have been designed with a view to passenger attachments, for only the heaviest of the heavy brigade would dream of using such a heavy and replete specification for solo work. There are other



Quarterly Trials. An A.C. tricar climbing Rectory Hill, Amersham, on the return journey to Uxbridge.

Passenger Prospects for 1910.—

machines that are obviously specially adapted to passenger work, and altogether the sidecar enthusiast will have a bigish choice of intensely suitable cycles



A double seated sidecar fitted to a $3\frac{1}{2}$ h.p. two-speed Phenomen motor bicycle. As will be observed the driver controls the machine from the sidecar seat, and there is no saddle. The advantages claimed for this arrangement are: increased comfort, sociability, and stability. The machine is owned by J. Cross, but was driven in the last Quarterly Trials by J. Davis (the passenger in the illustration).

for 1910, all of which will be "possible" for occasional solo work, though carrying rather a lot of top hammer which is not essential for that sort of riding.

Where the Springing ought to be.

It further occurs to me that any of these machines which lend themselves so admirably to sidecar work could also make very fine tricars if the compression of their engines were reduced a trifle, so as to reduce the chance of overheating with a forecar intercepting half the breeze. The results of my own tricar work have led me to certain conclusions, viz., that a tricar does not need a sprung rear frame—in fact, is perhaps steadier without it, and that a sprung seat is an efficient substitute. My last tricar never swayed or swung, and was the most comfortable I have ever driven; it had a rigid rear frame with sprung seat carrier; *ergo*, any of these bicycles would make a good hinder part for a tricar; that a tricar does need a sprung foreframe, *i.e.*, springs between axle and car, as well as Cee springs above the axle; and, lastly, that with a weatherproof transmission and three speeds a 6 h.p. engine is ample. That a delicious little forecar combination could be obtained by fitting a well-sprung seat carrier and a sidecar attachment, subsprung in front, to one of the light-driven four-cylinder variably geared motor bicycles of to-day, provided the makers can guarantee their engines not to heat up when screened by a chair!

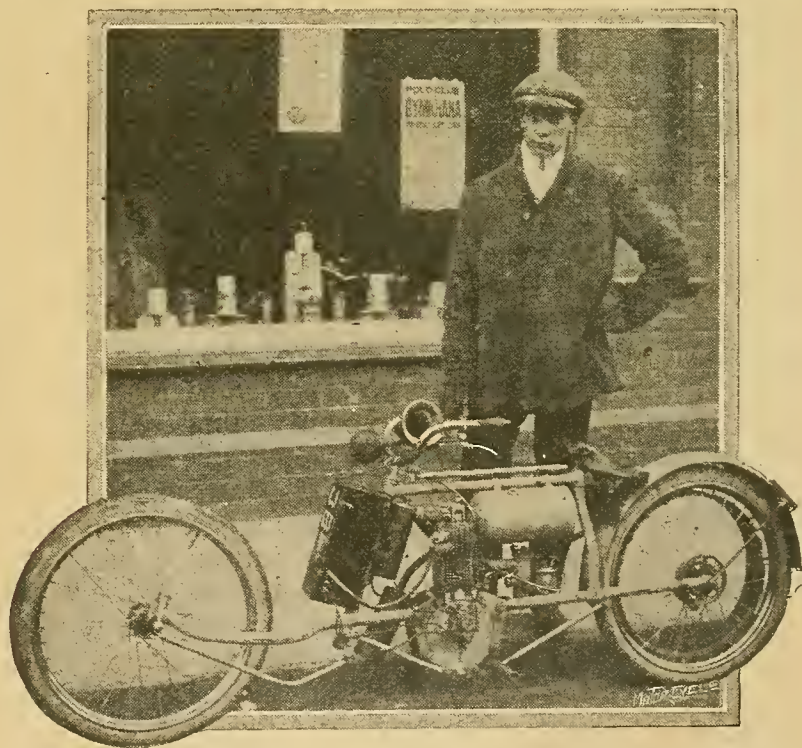
Passenger Machines in 1911.

I think there is no doubt that by the aid of the A.C. sidecar and the fitting of passenger attachments to several of the high-powered and variably geared motor bicycles of to-day, the passenger question will be re-

opened during 1910, and that passenger motor cycles will be far commoner objects on the roads than they have been of late. In 1911 there may, therefore, be a recrudescence of the old passenger vitality, and we may conceivably again see competitions with well-filled passenger classes, and even competitions entirely restricted to passenger machines. Manufacturers told us some while ago that an efficient £70 passenger combination was an impossibility; and they have perjured themselves by offering us several at the price, which at any rate look attractive. We shall see.

A NOVEL MOTOR BICYCLE.

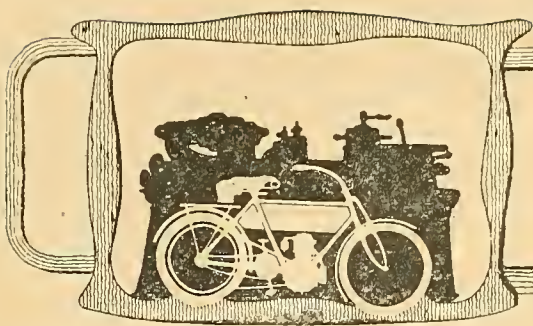
THE novel, if freakish looking, motor bicycle illustrated below was built almost entirely in the shop of James Fryer, Borough Motor Works, Leominster. The object of the designer, H. G. Munro, was to have a motor cycle entirely on car lines, and without forks. The front wheel hub is carried on centres, and coupled up to the steering column by a rod with ball jointed ends. The wheelbase is 63in., and the wheels 26in. \times 2 $\frac{1}{4}$ in. The engine was taken from an old tricycle, and is a 2 $\frac{3}{4}$ h.p. De Dion-Bouton. The carburetter is a Longuemare. The drive to rear wheel is by 2in. Balata flat belt. Ignition is by Hellesen dry cell and a special coil, which only consumes one-fifth of an ampere current with a make and break contact breaker. The saddle is extremely low, being only 26 $\frac{1}{2}$ in. from the ground, which ensures great safety on greasy roads. The long wheelbase, we are told, renders the machine very comfortable to ride. Stout footrests are fitted low down



A novel motor bicycle minus any forks. See accompanying description.

to protect the working parts in case of a fall. All control is entirely from the handle-bars by means of Bowden wires, Autoloc levers, and Chater-Lea thumb slides. Despite its odd appearance, we understand the machine has proved reliable, and is in daily use.

An influential chief in Uganda has ordered a 3 $\frac{1}{2}$ h.p. Phelon and Moore motor bicycle. Should the machine be a success (and P. and M.'s usually are) other prominent natives, so our informant tells us, are bound to follow his example.



SOME 1910 MODELS.

The 3½ h.p. Brown.

BROWN BROS., LTD., Great Eastern Street, E.C., one of the oldest supporters of the motor cycle movement, have, in their 1910 model, produced a machine which cannot fail to appeal to the motor cycling connoisseur. The engine develops well over 3½ h.p., and has a bore and stroke of 85×85

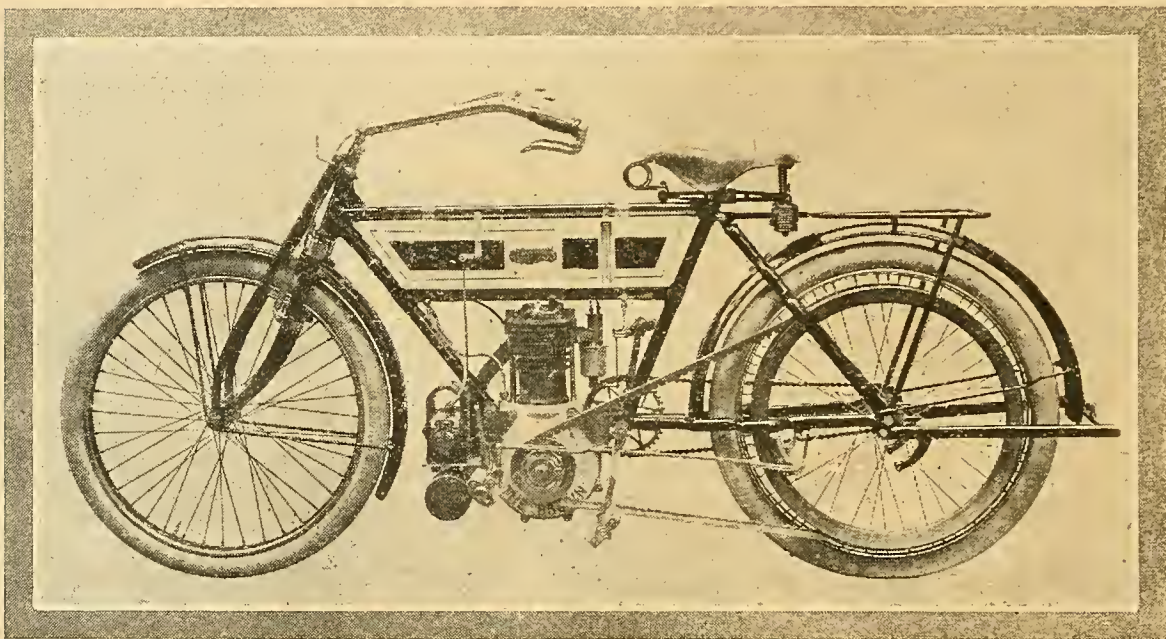
the tap to be thrown open so that a little petrol may be had for cleaning purposes. The Bowden wires to the exhaust lifter and to the latest type of Brown and Barlow carburetter are carefully hidden. The whole machine is extremely rigid throughout, the mudguard being carefully attached, and a good, strong, sensible luggage-carrier being fitted. One of the best points

about the new Brown machine is that a purchaser will have to buy very few extras, since among the important fittings supplied with the machine are the carrier above referred to and an adjustable pulley. The new engine is by no means untried, as R. M. Brice, the company's well-known exponent of their motor bicycles, rode a Brown with success in the London to Edinburgh run and other important competitions of 1909.

The New Model 3½ h.p. Ariel

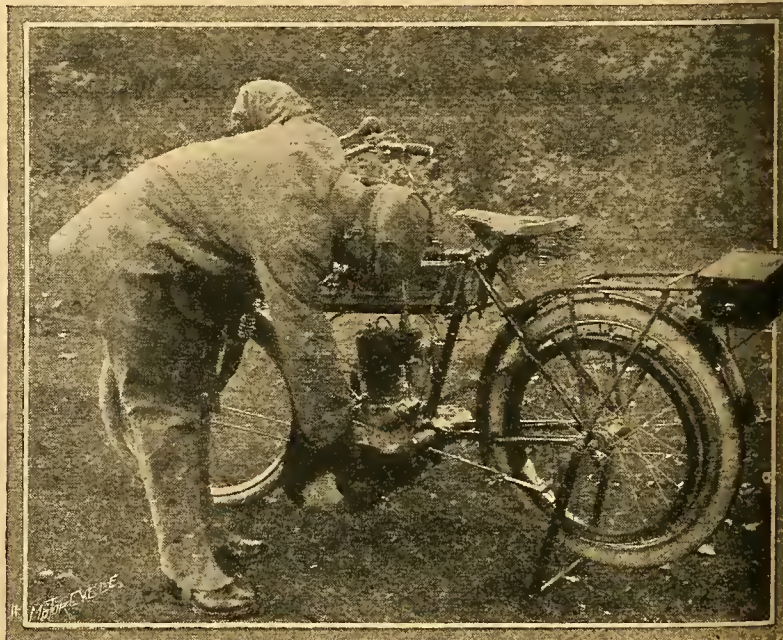
All readers will welcome the 1910 model Ariel motor bicycle to the list of up-to-date machines. Many will remember the kick and vim of the 2½ h.p. lightweight of the days of yore, but naturally the latest model is streets ahead of any of its predecessors. We have had

the good fortune to give one of the new 3½ h.p.'s a trial on the road, and what we were more pleased with than anything else was its comfort. Druid spring forks



The 1910 pattern 3½ h.p. Brown, which has been entirely re-designed. Its special features are: handle-bar control, footrests, adjustable pulley, and petrol gauge.

mm. The valve tappets are adjustable, and the engine-shaft runs on ball bearings. The ignition is by Simms high-tension magneto, driven by means of a chain enclosed in a case forming part of the timing gear cover. The frame is exceptionally low, the height from the top rail to the ground being only 29 in. The frame is just as low as it is possible to make it without introducing curves into its construction, since the top tube and down tube are brought together to a point at the steering head. Great attention has been paid to details. The lamp-bracket, for instance, is made from a steel stamping, and is, in consequence, strong enough to support a heavy lamp. An excellent petrol gauge is fitted to the tank, while at the side the latter is recessed to allow free access to valves and sparking plug. A large silencer is fitted, so that it may be expected that the new Brown will be an exceedingly quiet-running machine. Though not shown in the accompanying illustration, the 1910 model will be fitted with excellently-designed spring forks, which, by the way, can be fitted to almost any make of motor bicycle at a very small cost. These forks are so made that the front wheel is totally devoid of any side play, and they admit of a front brake being fitted. The three-way petrol cock is quite an ingenious arrangement, allowing, as it does, the supply of petrol to the carburetter to be turned on or off and



Starting the new Ariel engine by means of a handle on the crankshaft.

effectually absorb the shocks to the front wheel, while a special form of springing for the seat renders

OCCASIONAL COMMENTS.

BY "IXION."

Electric Headlights.

Electric head lamps seem to be coming in for motor cycles, and a friend forwards me a tip which I hope is sound. He says that in theory the beauty of an electric head lamp is that when riding in the legal twilight becomes too risky one has only to lean down and touch a switch to get a light without dismounting. He used to do this and swagger considerably over it till he found the metal filament of his electric bulb often responded by collapsing almost immediately. When he attacked its makers in the hopes of free replacements they told him that the metal filaments are exceedingly brittle at the moment when the current is first switched on, and that he ought to stop the machine to let the filaments heat up before being subjected to vibration in the process. Since obeying these instructions he has broken no filaments, and is very enthusiastic about the cleanliness, convenience, and reliability of his headlight.

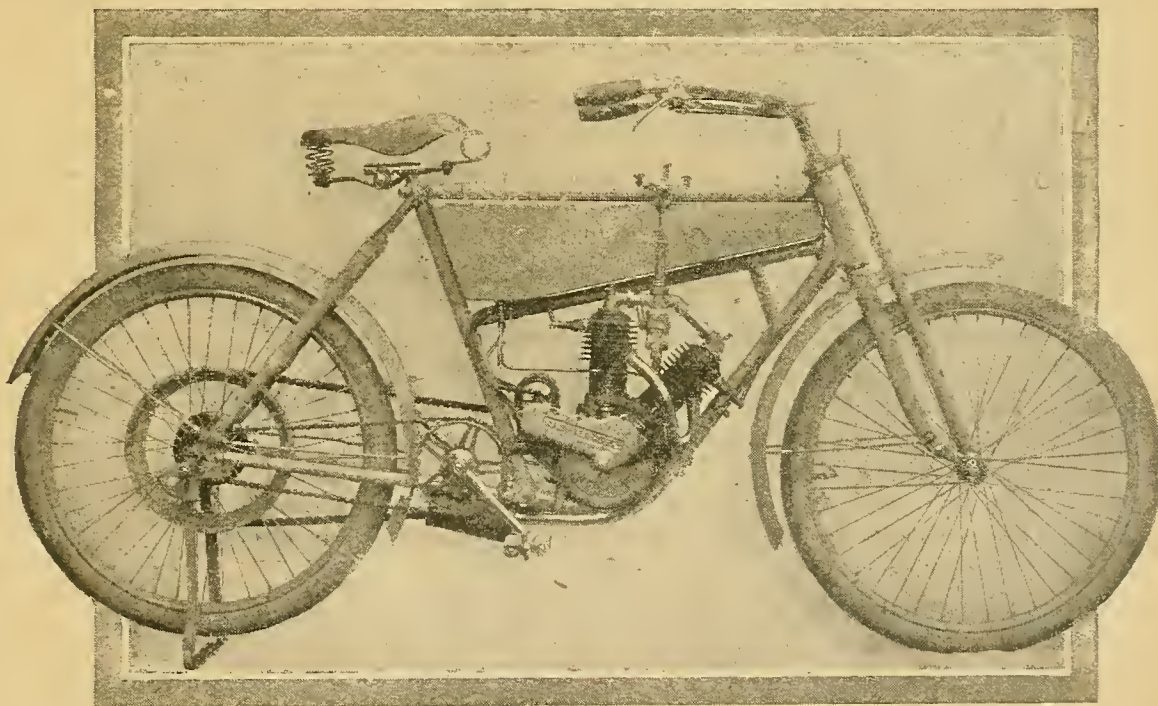
Spring Frames.

Quite a number of spring frames have made brief and fitful appearances on the market during the last year or two, and none of them has really caught on, although one still hears talk of vibration. Without doubt the weightiness of such devices has been their worst enemy. I have kept an eye on such devices through the past, and made many practical tests, and my verdict is that none that I have yet tried is appreciably superior to the combination of a first-class spring fork and a good spring saddle mounting, like the Rex cantilever for example. If mounting the front wheel and the driver's seat on good springing is as efficient as insulating the whole frame, it will certainly prove the solution required. The spring frame is less neat in aspect, less cheap to manufacture, and much heavier when made. If we get a perfect device of each sort in combination on one and the same machine, I do not think any rider will ask for anything better, even if he normally rides over the worst of roads. So let us hope the Stanley Show will contain a machine which tackles the problem on these lines. I do not assert that the average motor cyclist of to-day is seriously discontented with existing springing, but I do assert that a great many less hardy men are on the point of taking up motor cycling, and that they will certainly ask for increased comfort.

A Great Record.

I generally have a hateful suspicion at the back of my mind when I read of a new speed record hailing from the States. I hope these suspicions of mine are wholly unworthy, and reflect rather on my own can-

tanerous temperament than upon the *bonâ fides* of our Yankee brother sportsmen, but I must admit that a long association with many forms of sport has generated in me an instinctive suspicion of Yankee speed records, though Wells and Lee Evans have compelled me to adopt a more open-minded attitude of late. At any rate, I am the more pleased to congratulate American motor cyclists on their recent acquisition of a splendid twenty-four hours' motor bicycle record. I daresay Collier could smitheren it if only the powers that be would let him charter Brooklands for twenty-four hours. Two staunch Yankee riders, Spencer and Gustafsen (the latter a naturalised Swede), each riding a 5 h.p. roadster Indian, reeled off considerably more than a thousand miles apiece in one round of the clock, Spencer doing 1,089 miles 199 yards, and the Swede 1,043 miles. It is scarcely possible to impugn the genuineness of a distance record performed in public, and the more so when the same distance is theoretically easily within the compass of our own boys if only they could get a suitable track. What a day we should have if Collier and Lee Evans could fight out an international twenty-four hours at



A new motor bicycle for the British market—the twin-cylinder lightweight spring frame Wanderer—for which the Service Co., Ltd., are agents. (For description see previous page).

Weybridge. Such a prolonged ride makes the most tremendous demands both on man and machine. My American reports do not give many details, but apparently neither men experienced the slightest mechanical trouble except one or two broken chains, while, most wonderful of all, no tyres were either punctured or worn out, the rear tyres being changed as a matter of precaution after twelve hours. I notice Spencer covered fifty-nine miles in his fastest hour (the fourth), and fifty-three miles in the twenty-fourth hour, which speaks well for the endurance of the machine. In seventeen of the twenty-four hours he covered forty miles or more, which shows how gamely he stuck to the saddle, and in the poorest hour (the unlucky thirteenth) he covered twenty-five miles.

WHAT THE TOURIST TROPHY TAUGHT US.

By a T.T. Competitor.

WHAT the Tourist Trophy taught *some of us* would perhaps have been a more fitting title, as it is evident that when a man and his machine can do 160 miles "Tee Teeing" at nearly fifty miles an hour without trouble, he does not need much teaching. But others were not so fortunate. There is nothing like road racing for finding out the weak points in a machine. The broken valves which one make of machine suffered from are an excellent instance of this. The manufacturers had experimented with all sorts of two-piece exhaust valves (*i.e.*, cast-iron head with nickel and ordinary steel stem), and at last thought they had got a two-piece valve which they could not break. These valves survived the 1,000 miles trials, several races at Brooklands, and received a thorough grueling at the hands of the company's testers without showing a sign of premature old age. But whether it was that the Isle of Man air did not agree with them, or whether from some other cause, once those valves arrived on the T.T. course they began to develop all manner of faults. The heads came loose, broke, jammed the valve—things which their unfortunate owners had never before dreamt of happening. Perhaps next year a solid nickel steel exhaust valve may take the place of these two-piece affairs, which seem very unreliable, although they may take longer to pit and burn.

Footrest and Brake Connections.

Another point where improvement is needed, and this more especially in a race, is in the fitting of footrests and brake connections in one unit. Most of us have had spills at one time or another, and the almost invariable effect is the crumpling up of the footrests which take all the shock. When the brake is connected thereto it shares in the general disaster, and promptly goes out of action. This happened to several T.T. men, including the writer, who were mugs enough to part company with their machines, and although such an occurrence is generally of minor importance, yet in a race it is quite the reverse, as good brakes are an absolute necessity. The use of the front brake alone is too risky, as it is inclined to skid the front wheel, especially when hastily applied on a corner. One's boots when used as brakes become so uncomfortably hot, and wear out so quickly, that their use is to be strongly deprecated.

Rigid v. Spring Forks for Steering.

It was stated in a recent issue of *The Motor Cycle* that only two makes of spring forks were used in the race. This is wrong. Most of the Triumph riders used the ordinary type of spring forks. The rigid forks were also tried, but the machines were then so difficult to steer that springs were substituted, and a marked improvement in the steering was at once noticeable.

As far as I know, only a small number of the competitors had any difficulty with the lubrication of their engines, and I cannot understand the critics who make so much of efficient lubrication and talk about it being the determining factor of the race. Why not also correct carburation, ignition, compression, etc., etc., *ad infinitum*? I know several of the automatic devices

gave trouble, and that the only difficulty we force pump competitors had was in letting go of the handle-bars to work the pump. It was a case of oiling when you could, not when you ought to. Uphill was the best time, as the speed was lower and the steering safer.

Low v. High Compression.

Contrary to general belief, many of the singles were fitted with low compression engines, as after the high compression ones had been tried and found wanting they were easily converted by fitting new tappets and placing a plate between the cylinder and crank case. Only one ring was used on these converted engines, as the lower one might have fouled the base of the cylinder. The change on Creg Willey's and through Peel was most marked, as the engine would pick up from a standstill without a murmur. These converted engines required the ignition timed earlier and the carburetter adjusted slightly differently. They were very economical, as I did 116 miles on a gallon in England when fitted with Snaefell gear and jet, and drove 40 miles with a friend on the luggage carrier up the hill into Warwick, and right through crowded Coventry at midday without a stop.

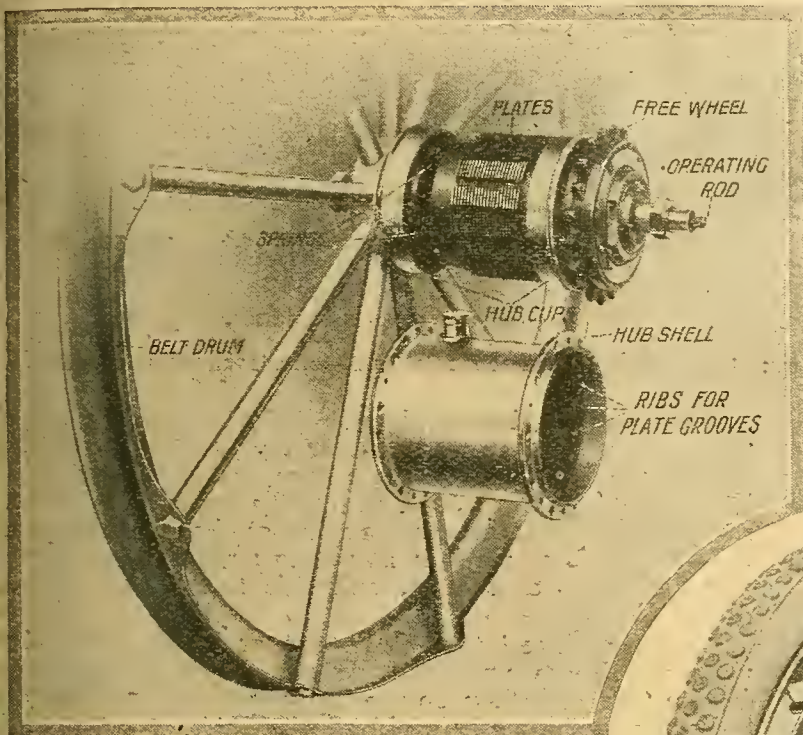
America's Performance Considered.

Although an enthusiastic supporter of English productions, I think a word of praise is due to the way Lee-Evans's Indian went through the race. Before the start I heard several spectators criticising this machine; they found fault with the nuts being split pinned and springs washered, they wondered if it was as flimsy as other Yankee work, and so on. The Red Indian ran through the race with flying colours. Not a nut came loose, not a stay broke, whilst British machines were reported with burst tanks, broken mudguards and stays, as well as valves, piston rings, and cylinder heads. The bad roads in the U.S.A. have taught the Yankee how to build a motor cycle to withstand the worst possible conditions. There are several points of interest in this machine which are worth calling attention to. I believe it was the only machine fitted with pressed steel pistons, which were extremely light and drilled with countless holes. For the race the friction clutch was tightened up to allow of no slip, and I believe the back tyre showed signs of this afterwards. A mechanical oil pump was fitted, and this, combined with the twist handle grip control, allowed the rider to go through the race without ever moving his hands from the rubber grips—a very good point when we remember how much difficulty some of the competitors had in controlling and steering their machines.

But, in spite of this, a British machine won, and so here's to the very good health of the winner!

A neat little booklet has just been issued by the Bosch Magneto Company, Limited, 23, Store Street, Tottenham Court Road, W., entitled "Bosch Ignition Supplies." The book is exceedingly well got up, and should be extremely useful to users of Bosch magnetos. The chief accessories sold by the firm are enumerated and described, while at the end of the book there is a list of all their agents in Great Britain.

THE TRIUMPH FREE-ENGINE CLUTCH.



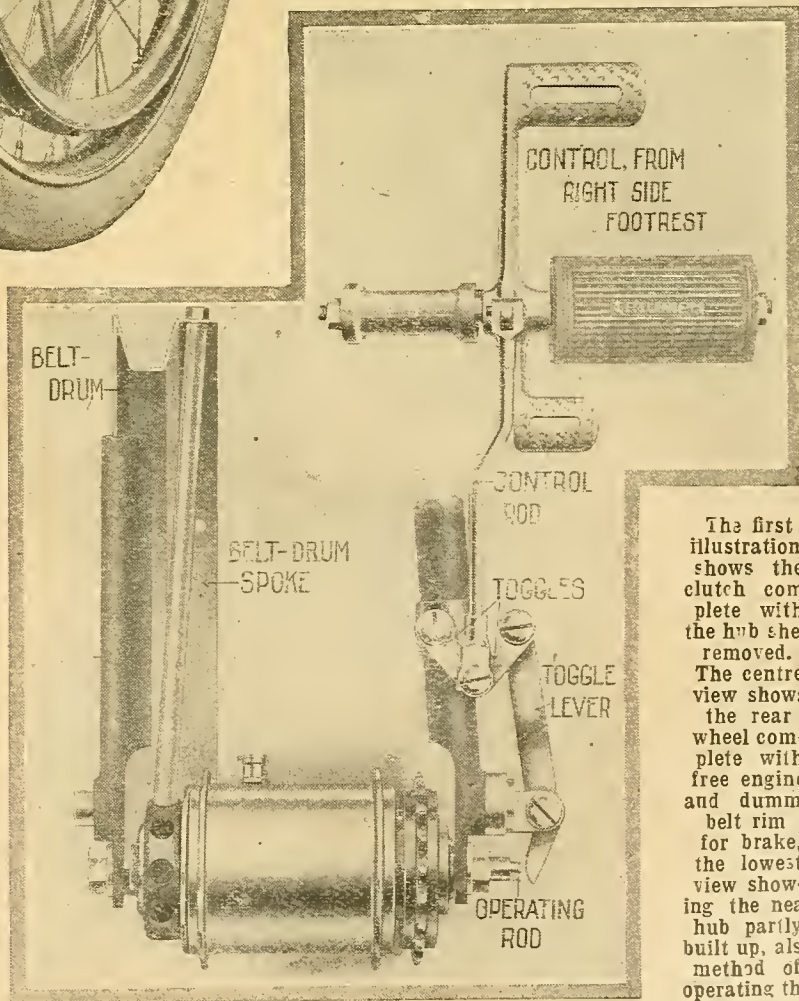
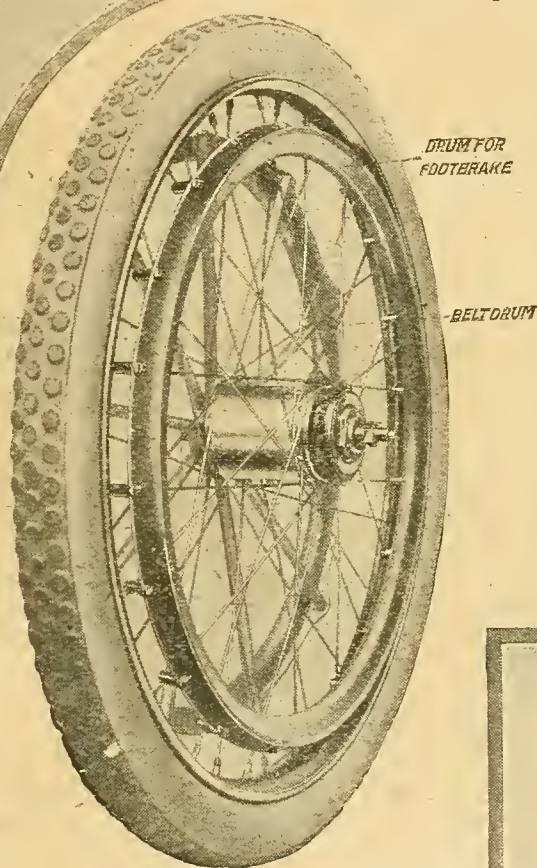
gagement of the clutch is smooth and gradual, provided that oil of the proper consistency, and sufficient of it, is used. The operating lever is fitted to the right-hand footrest, as shown in the lower illustration, a toe-and-heel pedal enabling a very gradual engagement—which it can be well imagined is necessary, owing to the machine possessing but a single gear, usually in the neighbourhood of $4\frac{3}{4}$ to 1. With the clutch in or out of action the load is supported on ball bearings, as in the ordinary hub. A dummy belt rim is fitted to the right-hand side of the wheel, so that the motor cyclists' favourite foot brake is retained.

One of *The Motor Cycle* staff purchased a clutch model Triumph some months ago, and has formed a very high opinion of the free engine. It is not only an advantage in starting, but renders a heavy motor bicycle much more mobile and convenient to handle. In traffic it is an untold blessing—no wondering whether the engine will stop and necessitate another run alongside—and on greasy roads it can be slipped to ease the jerk of the engine at slow speeds. Coasting down long hills silently and swiftly is also a fine experience, not to mention the saving of petrol and the cooling of the engine. The clutch adds 10 lbs. weight over and above that of a standard model.

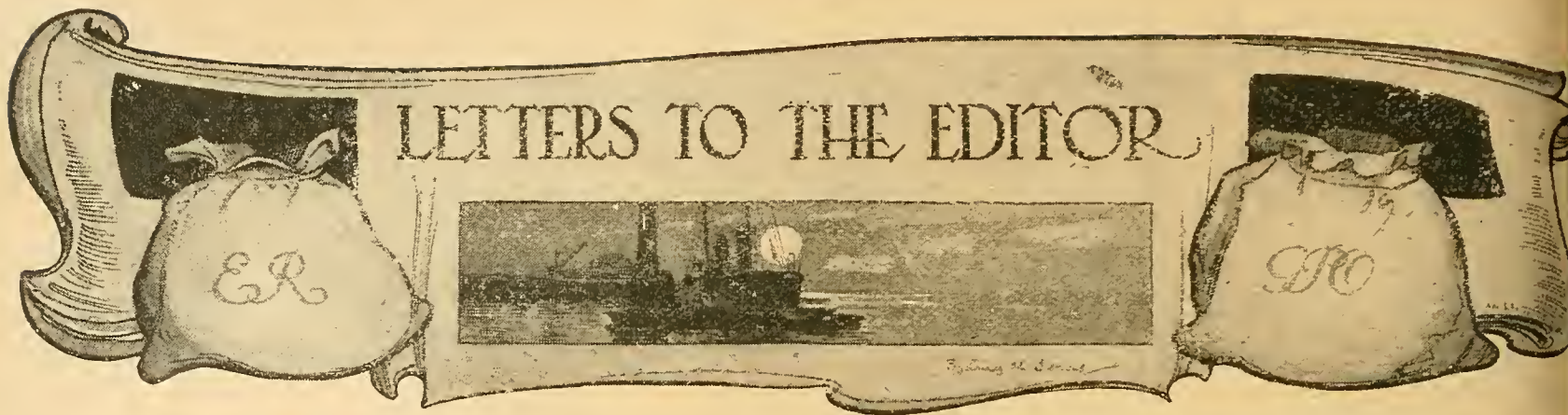
ALTHOUGH not generally known amongst motor cyclists, the Triumph Co. has during the present year supplied a certain number of motor cycles fitted with a multiple plate clutch. The reason the sale of this clutch model has been "pushed" up to the present is, because the various departments of the Triumph works have been far too pressed during 1909 to make more than a limited number of plate clutches, and those readers who have been able to obtain delivery of a clutch model Triumph may consider themselves lucky. The clutch was fitted to several successful machines in the Six Days' Liability Trials last July, and well spoken of in the judges' report. Its success is un doubted, and, as another large building has been added to the motor cycle section of the Triumph works, the output of clutches in 1910 is to be increased.

Advantages of a Hub Clutch.

The Triumph free engine clutch is fitted in the back wheel hub, which position has several advantages, the chief of which is that the engine can be started with a push of the pedal with the back wheel resting on ground. It is, in reality, a miniature example of a multiple plate clutch fitted to certain high class machines, cleverly adapted to a motor bicycle. The illustrations show clearly the construction of the clutch, which consists of about forty grooved steel plates or discs, half of which are carried on the inner sleeve, and the other half, which latter are fitted into the feathers or ribs on the inner periphery of the hub shell. The springs pressing the plates into contact gives an absolutely solid drive, and by disengaging the clutch the rod sliding within the spindle is caused to compress the springs, the driving and driven sets of plates thereby being released from contact. The en-



The first illustration shows the clutch complete with the hub shell removed. The centre view shows the rear wheel complete with free engine and dummy belt rim for brake, the lowest view showing the neat hub partly built up, also method of operating the clutch.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

M.C.C. Race Meeting and Gymkhana at Brooklands.

[4336.]-In the report of the M.C.C. meeting, Mr. Deacock's Wanderer is given as 3 h.p. I would like to state that the machine was an ordinary 2½ h.p. tourist model. The Wanderer Works do not build machines of higher power. I am willing to match my own 2½ h.p. tourist Wanderer against any 3 h.p. tourist machine in England, and also against fifty per cent. of 3½ h.p. singles and 5 h.p. twins. I may state that I weigh 13½ stones.

H. C. TROMP VAN DIGGELEN.

[The horse-power of the machine was taken from the M.C.C. programme. We have no doubt that the writer's challenge will be taken up.—Ed.]

Road Dangers at Night.

[4337.]-I think that hundreds of your readers will agree that it is time something definite was done to compel all slow moving vehicles to carry back lights. During the last three years I have had several very narrow squeaks of crashing into the back of covered waggons and furniture vans, and I ride very cautiously at night.

The danger, to my mind, is not confined to the probability of injury by colliding with the back of a van, but in making a hurried swerve to either side-slip or crash into some user of the road coming the opposite way, and whose light had been obscured by the van in front.

If this matter is taken up in the right quarter we shall soon have a change, and it will be heartily welcomed by all sensible users of the road, I feel sure.

W. A. MILLINGER.

[4338.]-From time to time I notice letters addressed to you with regard to road dangers at night, and these generally refer to cattle or sheep on the road. I ride a great deal at night, and have often met flocks of sheep, but my light has always been bright enough to avert any danger.

A rather peculiar and unfortunate accident befell me the other night owing to another road danger, which was, unfortunately, not quite so easily avoided as sheep. Some boys were flying kites from a high bank on the side of the road, and just as I was passing on my motor cycle one of the kites came down, and the string caught me right across the face, cutting it rather severely. I informed the police, and they endeavoured to trace the boys, but without success. I suppose it would be useless to summon the boys, as I believe their parents are not liable for their actions, but it is rather hard that I should have to pay the doctor's bill.

W. LESLIE GARDNER.

[4339.]-I am sorry to see by your footnote to the letter of "CF 417," in *The Motor Cycle* of October 20th, that you still favour the carriage of lights by drovers at night. I should like to point out that, unless your correspondent is mistaken in thinking that "he was riding very slowly and had a good lamp," he alone was to blame. He does not assert that the cattle were careering rapidly along the road to meet him, so it follows that either he was not on the alert, or he was unable to pull up after his lamp had disclosed the obstruction, which would show speed excessive for the light obtained. The only other explanation is that he hoped to squeeze through, which is an attitude of mind sadly too much indulged in.

ARIS

I feel sure the drovers' lights would fail in their object that very reason, as many motor cyclists would continue to decline to slow down on the chance that a light seemed to indicate a total obstruction of the road. It should be remembered that the exact nature of the obstruction would only be apparent (as it is at present) when it came into the range of one's own lamp, and this suffices for the careful driver.

I strongly assert that stationary or slow-moving obstructions which are unlighted do not endanger truly careful drivers any more than do the hedgebanks on a winding road. So long as some motor cyclists, whether from want of judgment or otherwise, persist in what is really blind rushing over dark roads, so long will collisions continue.

I should like to say that if any case of accident or public danger occurs from droves of animals being rushed along dark roads, and those responsible can be prosecuted, I should be happy to contribute £2 2s. towards the cost of so doing. This applies to the approaching dark season. E 872

Transmission on Motor Cycles.

[4340.]-I have read letter 4321 (October 20th), and endorse every word the writer says. For six years I have done a large country medical practice with motor cycle three years with the charming Triumph, practically trouble free bar belts and tyres, and every other day dirty hands in snow or rain slipping belts and more dirty hands.

Fifteen months ago I took to a Phelon and Moore with steel studded tyres in fear and trembling, since when, I have seen Pears's soap advertisement, I would use no other. I have ridden 8,000 miles on a moderate estimate, including a long miles tour, and hands clean every day. I simply go out and come home. Bar trivial nuts to tighten and contact points to level, I have no trouble. The cost of belts for three years equals £18. Fifteen months equal two new chains, 10s.

With increasing knowledge the belt will be unknown, and looked on as a freak, as in present day cars.

R. C. MACDONALD, M.D.

Lubrication and Other Matters.

[4341.]-In reply to F. Percy Seagar (letter No. 4 in issue of October 20th), I have had for the last three years a 2½ h.p. Clément-Garrard motor bicycle. It has an outside flywheel and small crankcase, diameter 3¼ in. × 1½ in. deep. This machine is, I think, what he describes at the end of his letter, and for which he asks for consumption of oil. The pump has a stop to prevent being drawn up too far, and I find on average roads, a fluid ounce of Price's Motorine C lubricates it sufficient for twenty miles. If there is much hill-climbing to be done then one ounce in fifteen miles is better. The carbonisation of the piston was very little.

Like "Ixion," I, too, have often wondered that no one has fitted a strong pedalling tricycle with a modern engine. It would be ideal for all weather or night riding.

With regard to the lightweights, I think they would all be improved by a chain from crankshaft to a counter-shaft giving 2 to 1 reduction. Then a 6 in. pulley driving on an 18 in. belt rim would give a 6 to 1 gear ratio. With pulleys of these diameters the belt would not need to be very tight.

W. J. S.

Handicapping at Brooklands.

[4342.]—In the last issue of *The Motor Cycle* I notice in the article on "Handicapping at Brooklands" that your contributor draws comparisons between my handicap and that of Mr. Lee-Evans on the single-cylinder Indian.

The article states that in the Autumn Handicap, in which I received 10s. start from the Indian, "the machine is known to be hot stuff."

I cannot see how this can be, as the machine in question was only finished two days before the race and had never been on the track before.

I should also like to point out that according to the B.M.C.R.C. the cubic capacity of the Indian is 497, whilst that of the Trump-J.A.P. is 482 c.c.—and your contributor gives the c.c. of the Indian as 478.

My weight is over fifteen stones, and Mr. Lee-Evans is, I believe, about eleven stones. I fail to see, therefore, why any exception should be taken to my receiving a start from him under these conditions.

I, personally, quite agree with your contributor that the handicapping this year has been most unsatisfactory. It has struck me that perhaps better results would be obtained by appointing a committee of, say, five well-known riders to act as the official handicapper, as those who are in touch with the machines used for racing at Brooklands would naturally know what each is capable of. FRANCIS A. McNAB.

The Technical Aspects of the T.T. Race.

[4343.]—I read with much interest the article on the Technical Aspects of the T.T. Race, by Mr. B. H. Davies. With much of what he says I entirely agree, but on the matter of chain driving I would like to state a point of fact. It is true that in this country the chain-driven motor cycle is not popular to any extent. However, in the U.S. the machine, which is typical, as is the Triumph over here, of the best standard practice is the Indian. Further, to emphasise the point I may say that there have been a great number of machines assembled from "Thor" parts, and the "Thor" design was licensed by the Indian Co.

This year's Buyers' Guide of the *Cycle and Auto Trade Journal*, U.S., gives the following figures: Firms selling belt-driven machines 27, chain-driven 10, shaft-driven 3. These figures show an apparent superiority in numbers for the belt drive, but in fact the actual number of chain-driven machines on the road in the U.S. are very much in excess of those driven by belt. Finally, I may add that I have ridden a number of machines of both types, and for all-round riding infinitely prefer the chain. In addition to these facts it would be of interest to note that with a well-made clutch and two-speed gear the jerk of the chain should be largely obviated, and it would be possible to more nearly approach the ideal of so many, the light, two-speed, all-leather machine. Should you care for further information as to numbers of chain and belt-driven machines in the States, I have no doubt that one of your American contemporaries would be delighted to supply same. I enclose my card. COSMOPOLIS.

The End-to-end Record.

[4344.]—I should like to answer the letter which appeared in last week's issue of *The Motor Cycle* under the nom-de-plume of "Own Bat," as his remarks are such as to entirely distort the true facts of the case so far as I am concerned.

If he will be so good as to read firstly his letter and then my answer he will find that not one single remark, not one isolated sentence in either, touches in any way on the politics, so to speak, of the record.

There was nothing at all in my letter endeavouring to justify attempts on the record. My letter was merely an objection to what I considered—whether rightly or wrongly—rather an unsporting and foolish letter dealing with the present record. So far from "discreetly refraining from further combat" I would say that I withdraw not one single word of my letter. "Own Bat" can surely see that my letter dealt solely with the performance quite apart from the politics of the question. If this is past his comprehension I can only say that I am exceedingly sorry for him.

I should like to say here that I heartily agree with "Ixion" when he says that directly the record exceeds 20 a.p.h. from start to finish the time has arrived for the record to stop. I would in justification of this ask "Own

Bat" to refer back to a past issue of *The Motor Cycle* in which appeared a short note to the effect that I had decided not to go for this record again in view of the present state of public opinion. I would also like to say that at the beginning of this year I had started making arrangements for a record from London to Nice, but acting on the advice of Mr. C. Jarrott and the Editor of this journal, who told me that this might cause ill-feeling in France, I at once abandoned the idea, much as I was looking forward to it.

"Own Bat" has jumped at an erroneous opinion of my attitude, and if he will be so kind as to go rather more carefully into the matter I think he will find I am in the right, and I hope he will be good enough to withdraw his remarks about me, which were just a little severe and unfair, although I quite expect and appreciate that he was labouring under a delusion.

If he will understand my letter, and it is simple enough, the majority of his latest effusion becomes quite irrelevant. I shall look forward with interest to his next. Why not use his own name? It is far more satisfactory for both of us. There is nothing to be ashamed of in one's own name.

ARTHUR W. BENTLEY.

Winter Riding in South Africa.

[4345.]—The photograph shows a bevy of our dusky beauties. The snap was taken one Sunday morning last July (our mid-winter), whilst they were on their way to visit a neighbouring kraal. You will see by very close



A bevy of dusky beauties, admiring a reader's four-cylinder F.N. and Millord sidecar.

inspection that they have their "Sunday best" on. They showed great interest in the machine, and one "intombi" told another to "look out" as the engine was "shushu." East London. SNOMYSIGH.

English v French Measurements.

[4346.]—In replying to R. C. M.'s eager advocacy of the metric system, I would point out that the "inconsistent medley of measurements" which he deplores is entirely due to those, who, like himself, are content to "leave the general public out of the question."

Fortunately, the general public have so far left the metric faddist out of the question both in this country and in America, so that the "defunct system of measurement"—the English inch—is still in universal use in all English-speaking countries.

It is therefore evident that British engineers are likely to continue to calculate horse-power on a basis of 33,000 ft.-lbs., to express quantities of heat in British thermal units,

to weigh in lbs., and, in spite of the want of a "definite and simple relation" between the unit of distance and time, to use the unscientific system of sixty minutes to the hour, and twenty-four hours to the day.

The average motor cyclist may not sufficiently appreciate the peculiar advantage of a system of measurement in which, among other delights, "1 c.c. of water at 40 centigrade has a mass of 1 gramme," but he will certainly be able to form a more accurate idea of his cylinder dimensions if expressed in inches than in the unwieldy metric figures.

The metre, however widely used on the Continent, is exclusively French, and is an inaccurate division (professing to be the one-ten-millionth part) of the quadrant of the meridian passing through France from Dunkirk to Formentera, so that regarded purely as a standard of linear measurement, it has not even a theoretical advantage over the English standard.

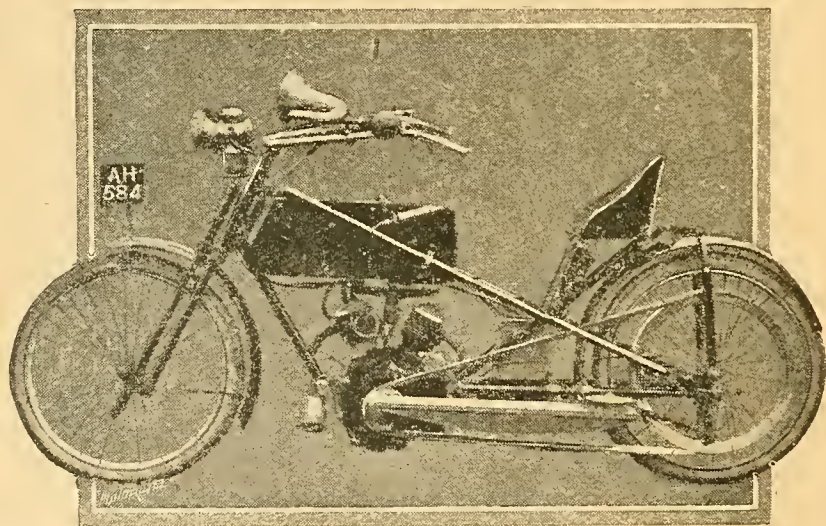
Since there does not appear to be the slightest chance of persuading the people of this country to adopt the metric system in its entirety, we may leave "R. C. N." to the consolations of those "modern books on mathematics" which revel in centimetres and grammes.

Finally, I contend that we derive no theoretical or practical advantage from the use of the metric system for cylinder measurement only, so that there is no reasonable excuse for the incongruous mixture of dimensions at present in vogue, and that we might with a real advantage revert to the consistent use of our standard legal measures.

ALFRED A. SCOTT.

Spring Frames.

[4347].—I saw recently the illustration of a motor cycle with a sprung rear wheel in *The Motor Cycle*, and thought readers would probably consider the enclosed photograph interesting. The frame was made to my drawings the latter end of last year, and I have been using it all this year, mostly with a sidecar attached. It will be seen that the back wheel is held in a fork which is sprung by two lami-



A home-made spring-frame motor bicycle suspended at the rear on laminated springs. See accompanying letter.

nated springs at the bottom and hinged with a link at the top, giving a perfectly free movement and preventing all sideplay. The frame is made low in front of the seat to facilitate mounting, as the leg can be passed across the frame instead of having to put it right over the bucket seat. Also, it will be noticed that the footboards are 2½ in. deep; this, with the lid opening on top, makes an excellent toolbox. The spring forks need no explanation, as I think the photograph makes the working of them quite clear. In conclusion, I may state the machine is in no way finished off, as my intention was to give it a good test before having it properly finished. Wishing your excellent paper every success, which it deserves,

J. ANTHONY.

A Month's Imprisonment for an Accident.

[4348].—I think it is about time more attention was drawn to the unjust fashion in which many of our police courts are inflicting fines and imprisonment upon motorists. I can speak from experience.

On July 24th last I was riding my 2½ h.p. Minerva along one of the main streets of Leicester on my proper side, at about seven to eight miles per hour, when a cyclist suddenly dashed out of a small side street, intending to cross the main street, consequently boring me down into the gutter, and although I had sounded my horn twice (his attention being taken up on the other side of the street) he came closer, until we brushed elbows, and so upset both our balances, a lamp-post ultimately stopping me, and he falling on the kerb, unfortunately breaking his arm.

Five weeks later I was summoned for "driving to the danger of the general public," and upon the evidence of the cyclist I was fined £5, which I refused to pay on principle, and was taken down for a month's imprisonment. This meant a considerable loss to me, as I am in a small way of business as a cycle and motor cycle repairer, etc. Not only did I suffer the injustice of the conviction, but a day or two after entering the gaol I was almost accused of an attempt to murder, and was told that these motor fiends going about the country on steam-driven machines murdering people ought to be far more severely dealt with, and that the bench should do all in their power to stop these murders up and down the country.

Now I have had my driving licence endorsed, which would go against me in trying to get a situation as a motor driver, etc., as, unless things look up a bit, I shall be compelled to seek other employment.

This imprisonment may perhaps leave a stain, but it is not on my conscience.

A. PEPPER.

Club Competitions.

[4349].—I have read Mr. J. T. Ward's article under the above heading with great interest, and whilst agreeing with his views I cannot see how an amateur rider who buys a new machine each year, and perhaps rides two different machines in competitions, can be handicapped. I must also point out that his ideas as to prizes and trade riders do not work at all. The following is a "hard case."

I promoted a hill-climbing competition for my own club (the Leeds M.C.C.), and made four classes, two for full touring machines and two for racing T.T. and special machines. Single cylinders over 500 c.c. capacity were barred, and the same remark applies to twin cylinders over 750 c.c. Moreover, no trade member was eligible, and competitors had to ride their own machines. The prizes were given specially, and consisted of a splendid gold medal for the first rider in each of the four classes, whilst a valuable special prize was provided for the second rider in each class.

In the Leeds Club there are probably 120 good 3½ h.p. and 5 h.p. machines which might have entered, especially considering the fact that the trade "cracks" and amateurs on extra high-powered machines were absolutely barred, and so I anticipated a huge entry, as never before have we held a competition for which so many valuable prizes were offered. The selected hill was within eight miles of headquarters. I may say that we only have one amateur rider who stands out above all others as a hill-climbing expert, and he only competes in the racing twin class. There were five entries sent in. What does Mr. Ward think of this?

If any members of my club can advise me what to do, or when to bring this postponed competition forward again, I shall be most happy to hear from them.

FRED. C. BAGSHAW.

EXPERIENCES WANTED.

"F. B." (St. Albans) would like private owners' experiences with the Scott two-stroke motor bicycle?

"L. M." (Exeter) would like experienced riders' opinions on 1909 Tourist Rex twin and single, particularly with regard to speed, flexibility, skidding, and wearing qualities.

"R. C. S." (Bath) would like to know the experiences of riders of the Model B Douglas lightweight, especially as to cost of running, upkeep, and reliability.

"W. H. M." would like readers' experiences with extra silencers fitted to twin-cylinder machines. He wishes the machine to be as silent as possible and yet to have a cut-out.

We have received recently copies of three letters of appreciation from riders of Fumber motor cycles who write in unqualified praise of their mounts.

CURRENT CHAT

Time to
Light Lamps

SPECIAL FEATURES

SOME 1910 MODELS (Illustrated).
THE REVIVAL OF THE TWO-STROKE
ENGINE.

PASSENGER PROSPECTS FOR 1910.

Nov. 3..5.29 p.m.

,, 6..5.24 ,,

,, 8..5.20 ,,

IMPORTANT ANNOUNCEMENT.

"The Motor Cycle" on Mondays.

The next and subsequent issues of *The Motor Cycle* will be on sale on Monday instead of Wednesday as heretofore. With each issue a four-page coloured supplement will be presented. The special feature of next week's supplement will be the Cambridge University Motor Cycle Club.

The T.T. Fund.

Late donations to the Tourist Trophy Fund were: A few members Birmingham M.C.C., £1 1s.; Kent A.C., £1 1s., bringing the total to £139 12s. 6d.

The Motor Cycle Section of the M.U.

We are informed that between March and September of the current year the number of individual motor cycle members of the Motor Union has increased by 100 per cent.

A Tube Borrowed but Not Returned.

When in Douglas to see the Tourist Trophy Race, Harold Collins, of Norwich, a rider of a 5 h.p. twin Roc, lent a 26 by 2½ in. Continental butted tube to the owner of a four-cylinder F.N. (registered number believed to be E 908) who promised to return the tube when he got home. This the F.N. rider has failed to do, and if by chance he has mislaid Mr. Collins's full address we can furnish it to him on request.

A.C.U. Quarterly Trials.

In the table of official results of the A.C.U. Quarterly Trials published last week, the bore and stroke of the L.M.C. ridden by V. Underhill is given as 84 by 86 mm. This should have been 81 by 88 mm. The cause of this competitor's delay, we are told, was due to the bursting of a tyre. He changed the cover, and, continuing, handed his card to the official at Uxbridge, but arrived too late to secure a certificate.

New Motor Cycles for the Stanley Show.

A new pattern lightweight to make its bow to the public at the Stanley is the Hobart, made by Hobart Bird and Co., Ltd., Coventry. The machine has a 2½ h.p. single-cylinder engine, 69 by 78 mm., automatic carburetter, spring forks, and seat-pillar, Bosch gear-driven magneto placed behind the engine, and Watawata belt. It will be obtainable with either 24 in. or 26 in. wheels, and the total weight will be under 100 lbs.

The Kerry-Abingdon motor bicycle is also a newcomer, intended for the show; as also specimens of the A.S.L. air spring frame motor cycles, a model which we tested a month or two ago with much success.

A New South Wales Auto Cycle Union.

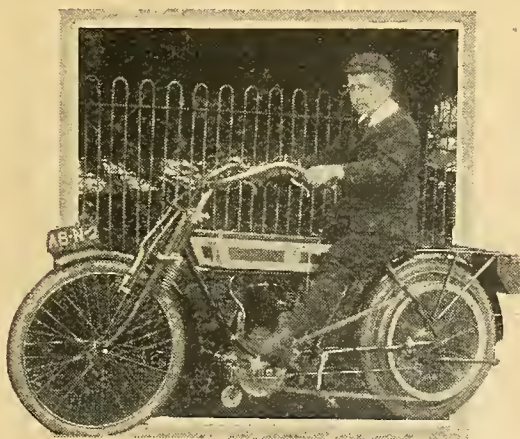
New South Wales motor cyclists have banded together and formed an Auto Cycle Union. At the inauguration meeting the capitation fee for each member was fixed at 2s. 6d., and it was resolved that "affiliated clubs be compelled to register their full list of members with the Union." The union is "strictly an amateur body," and no cash racing will be permitted under its rules.

Mirrors for Motorists.

It has already been found in practice that at certain blind corners the erection of a mirror in such a position that motorists and others are enabled to obtain a view of approaching traffic from other directions is a most effective preventive of accidents. Such a mirror has recently been erected at Woodbridge. The Harrogate and District Automobile Club, assisted by the Motor Union, is endeavouring to arrange for the placing of a similar safety mirror at the end of Park Road, in Harrogate.

A Youthful Motor Cyclist.

Master K. H. Clark was only fourteen years of age when he commenced riding a Corah lightweight early this year (fourteen years is the minimum age for riders of motor cycles); since that time he has ridden several machines, including 3½ h.p. single and twin, and 8 h.p. twin-cylinder



A 14 year old motor cyclist—Master K. H. Clark, of King's Norton.

machines. He is thoroughly happy when riding the 3½ h.p. Corah on which he is seen mounted in the photograph. He has ridden several hundred miles on this machine, and last April entered for the Quarterly Trials, but had the misfortune to experience a bad skid after riding forty miles in a thunderstorm on the way to Uxbridge, damaging the machine. He, however, patched things up and rode home again to King's Norton.

A Message to Manufacturers from Java.

A reader in Semarang (Java) writes: "I am patiently waiting for my new motor cycle on which I expect to get about the country more. So far motor cycling here is hardly 'born,' simply because it has never been pushed. There is an enormous field waiting for some enterprising maker with a reliable machine to offer, and not too conservative to adapt himself to the requirements of the tropics."

Records in the 500 c.c. Class.

It is interesting to note that on the occasion of the one hour race at Brooklands in August, H. H. Bowen, on a single-cylinder Bat-J.A.P., 85×85 mm., 482 c.c., covered 59 miles 485 yards, but arrangements had not been made to take his fifty miles time. If this had been done, his time would have been a world's record for engines under 500 c.c., the same as the hour distance above mentioned. Mile-a-minute speeds are becoming quite common for engines under 500 c.c.

International Motor Traffic Regulations.

The proposals of the recent assembly of delegates in Paris at an International Conference on Motor Traffic have now been issued. Section No. 6 refers to the special regulations for motor bicycles, tricars, and small cars. The main points are: (a) Reversing gear mechanism is not enforced for these vehicles. (b) The illumination may be reduced to a single lamp, fixed to the front of the motor cycle or small car. (c) The distinctive plaque indicating nationality shall only measure 18 cm. horizontally and 12 cm. vertically; the letters shall be 8 cm. in height, their width being 10 mm. (d) The horn shall be of a sharp tone. The distinctive letters for Great Britain are G.B.

The Pneumatic Tyre Majority Celebration.

We understand that the tickets for the Pneumatic Tyre Majority Celebration on the 19th inst. are selling extremely well. The limit of seats, i.e., 450 (the largest hall at the Hotel Cecil having been engaged), bids fair to be reached at a very early date. It behoves those who desire to be present at this historic function therefore to get into communication at once with the various hon. secretaries. The Royal Automobile Club, the Society of Motor Manufacturers and Traders, the Cycle and Allied Trades' Association, and the Stanley Show Committee are all co-operating in the matter. The hon. sec. of the London Committee is Mr. W. G. Williams, 10, Brompton Road, S.W., who will be pleased to supply particulars upon application.

The Next Issue a Show Special.

The next issue of *The Motor Cycle* will be the first of the three special numbers to be published in connection with the Stanley Show. It will contain much early information regarding the new pattern machines to be exhibited.

The Triumph Co.'s Balance Sheet.

The annual report of the Triumph Cycle Co., Ltd., which was issued last week, again shows a handsome profit on the year's trading, which, including dividends, etc., amounts to £41,201 12s. 1d. Dividends at the rate of 10% on the ordinary shares and 5% on the preference shares are recommended by the directors.

R.A.C. Scheme of Association.

It has been resolved that the newly-formed Doncaster and District Automobile Club shall become associated with the R.A.C. It is noteworthy that the accession of this club raises the number of associated automobile clubs to fifty; the associated motor cycle clubs at the present time number forty-eight.

A Cycling Memory Revived.

Old cyclists, many of whom now ride motor cycles or drive cars, will learn with interest that the old name of Dibble, after a comparatively brief interval, once again appears on the famous "Anchor" at Ripley, Alfred Dibble having re-acquired the tenancy at the old house. No doubt much of the popularity so long and so deservedly gained by the Anchor will in due time be eclipsed. At any rate, "Dibble at the Anchor, Ripley," will sound like old times in the ears of a very considerable number of the old brigade.

Speed Limits.

To-morrow (Thursday) has been fixed as the last day for objections to reach the Local Government Board against the imposition of ten mile limits over the following portions of roads in Harlow parish, Essex: Epping to Bishop's Stortford Road, from the gateway of Mark Hall Park to a point eight chains north of the George Hotel. Parndon to Sheering Road (including parts of Fore Street and High Street), from the Malting of Mr. F. C. Edward to the Fire Engine House, Mulberry Green, a distance of seven furlongs. Copies of objections lodged should be sent to the Clerk of the Essex County Council, Chelmsford.

A ten mile limit came into force on Monday over two stretches of road in the village of Robertsbridge, on the main road from Hastings to Tonbridge.

The West Sussex County Council has asked for a ten mile limit in the urban district of Southwick, the length of road affected by the application being so much of Upper Shoreham road as extends from the point 150 yards west of Windmill Inn to a point fifty yards east of Five Cross Roads. There will be an inquiry into this application at 10.30 a.m. on Saturday next at the Urban District Council Offices, Southwick.

A Hill-climb in the Far North.

There are many fine roads in Elginshire, and consequently many keen motor cyclists. A number of these in the Turriff district recently decided to run off a hill-climb, and accordingly, on Wednesday last, they met at the

FUTURE EVENTS.

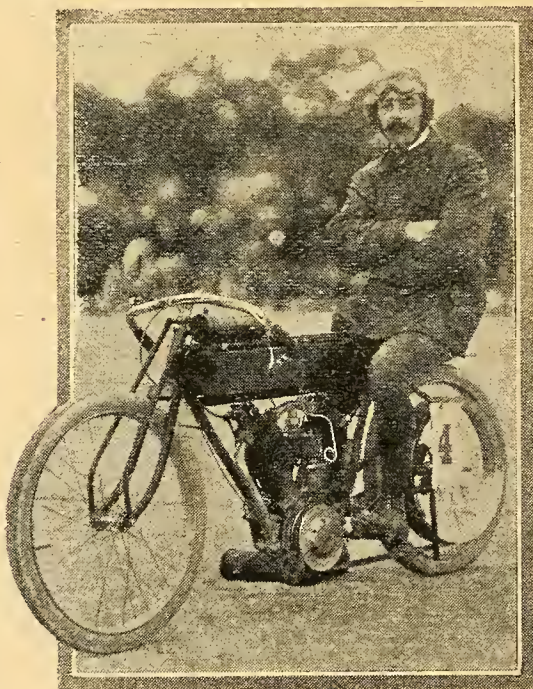
Nov. 12-20—Olympia Motor Exhibition.

„ 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, Islington, N.

„ 22-27—Meeting of the Trade and competitors to consider conditions for the 1910 Tourist Trophy Race.

Jan. 20—Auto Cycle Union annual dinner at the Waldorf Hotel.

Den of Gask, where a sharp rise of some 750 yards, with a portion having a gradient of 1 in 3.6, provides an excellent test. The weather was good, and the road surface being in fair order, some excellent ascents were made. The competition was a purely sporting event, and no formula was used, results being according to the time occupied in making the ascent. In this connection it is interesting to note that the best performance was made by a single-cylinder machine: 1, R. Duguid (3½ h.p. Triumph), 1m. 1s.; 2, J. Lowe (5½ h.p. twin Rex), 1m. 7¼s.; 3, G. Kemp (5 h.p. twin Rex), 1m. 12s. The winner's average is equal to about twenty-five miles per hour.



H. V. Colver (8 h.p. Twin Matchless-J.A.P., 964 c.c. capacity, holder of the 50 miles, 100 miles, and two hours' records, made at Brooklands on the 9th ult. Colver's two hours distance was 118 miles 14 yards. His machine was equipped with accumulator and coil ignition, Longuemare carburetter, and the new Hut hinson motor cycle tyres.

A District to Avoid.

During the quarter ending September 30th, fines imposed on motorists at Kingston-on-Thames County Police Court, totalled over £500, exclusive of penalties on motorists for offences committed in the borough itself.

Address Wanted.

In making an enquiry of Acer, Ltd., A. W. Buckingham, late of Ingatestone, Essex, failed to mention his present address, with the result that the reply of Acer, Ltd., has been returned. Probably this will meet his eye.

A Manx Motor Cyclists' Club.

The latest club to be formed is the Manx Motor Cyclists Club. This organisation will not look after its members interests solely, but also the interests of visitors. As there are between forty and fifty motor cyclists on the Island, many of whom have signified their intention of joining, the club should do well.

Reinforced Inner Tubes.

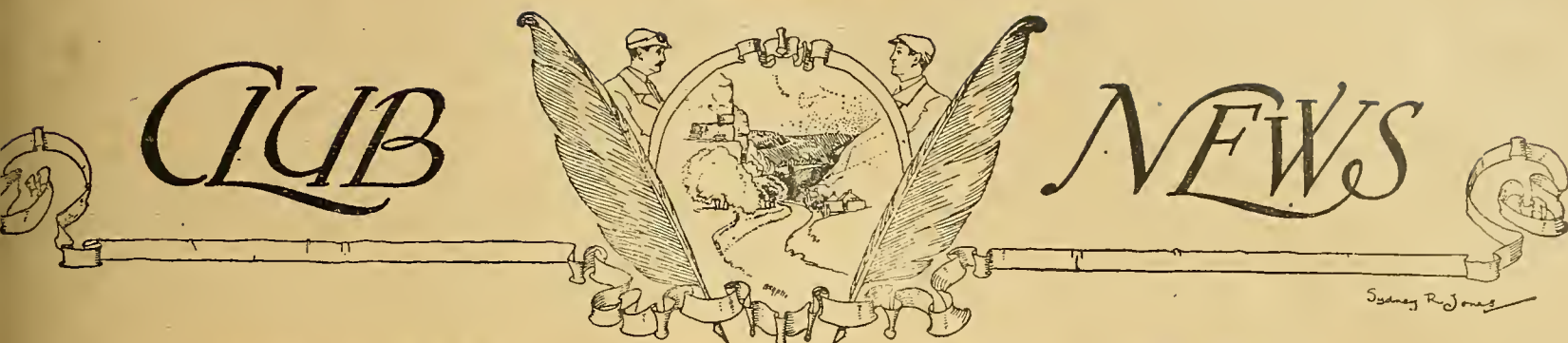
J. Fisher, coachbuilder, Hanley, informs us that he has used the Challenge reinforced inner tubes on the rear wheel of a heavy and powerful tricar with great success. Readers of *The Autocar* who are motor cyclists will doubtless remember seeing particulars and illustrations of these inner tubes which allow an old outer cover to be used without any fear of a burst.

An Infinitely Variable Gear.

Mr. Wedgwood, the patentee of the gear described in *The Motor Cycle* of the 27th ult., informs us that he has lately made a run in terribly bad weather over roads thickly covered with mud and water. The gear worked perfectly, and he had not once to touch the belt, with the exception of wiping some mud off it. In one place last week it was inadvertently stated that the device was a two-speed gear. As, however, the article points out, it is in reality an infinitely variable gear, ranging from 3 to 1 to 12 to 1.

Temperature and Overheating.

On a recent occasion Lieut. Shackleton addressed the Duke of Connaught, the Duke of Teck, Prince Francis of Teck (chairman of the R.A.C. and president of the Auto Cycle Union), Prince Alexander of Teck, and other distinguished members of the Royal Automobile Club on the performances of his car during the early part of his dash for the South Pole. The car was propelled by a four-cylinder air-cooled engine provided with no special means of cooling the cylinders, as it was contended that the low temperature would prevent any possibility of overheating. Although at times a temperature of 40° below zero was experienced, overheating was one of the first troubles to be encountered, which goes to prove that a low temperature has little or no effect on an engine in which overheating troubles are likely to occur. Another interesting point in Mr. Shackleton's address was his statement that petrol was to all intents and purposes unfreezable; at any rate at temperatures likely to be met with in any inhabitable portions of the globe.



Cambridge University M.C.C.

Will all members of the University owning motor cycles, and who desire to become members of the C.U.M.C.C., write J. M. Oakey, Trinity College, who will be pleased to supply all information?

Bolton and District M.C.C.

It has been decided to hold a whist drive on Wednesday next, the 10th inst., in the Mimosa Café, Deansgate, at 8.30 p.m. prompt. It is hoped that there will be a record gathering of members and friends. Tickets are now ready, 6d. each (including refreshments), which may be obtained from any of the committee.

Shropshire M.C.C.

It has been decided to hold a hill-climb on the 21st inst. Longville. There will be one class only, and the usual formula will be used. The winner will hold until next year the silver cup which the competitors in the Six Days' Trials kindly presented to the club. The hon. secretary will be glad if members who intend to enter will send their names to him as soon as possible. The hon. secretary is C. Rice-ley, Wheatlea House, Meole Brace, Shrewsbury. Entries close on the 18th inst.

Glasgow University M.C.

A hill-climbing contest will be held on Peesweep Hill, near Braes, Paisley, on Saturday next, the 6th inst. There will be three classes for motor cycles: I., single-cylinder touring machines (unlimited); II., multi-cylinders (unlimited); III., scratch class (singles up to 500 c.c., twins up to 750 c.c.) The winner in Classes I. and II. will be determined by formula $\frac{\text{capacity} \times \text{gear} \times \text{time}}{\text{weight}}$ (1.5).

For motor cycles with two speeds the formula will be $\frac{\text{capacity} \times \text{gear} \times \text{time}}{\text{weight}}$ (1.5), and in the case of three speeds, gear ratio = second gear ÷ first gear. Entries close to-morrow (Thursday), the necessary forms being obtainable from the hon. secretary, W. M. Cranston, The University Union, Glasgow.

Western District M.C. (London).

It having been necessary twice to postpone the petrol consumption test, it was decided to run off the event on the 10th ult., instead of the paperchase which was announced for that date. A good muster of members was present, the weather being all that could be desired. Starting from Gerrard's Cross, the club's favourite circuit *via* Beaconsfield and Slough was chosen, a distance of seventeen miles, the circuit being covered once. Subject to confirmation of the committee, the following are the results, based on the formula:

Total weight of machine and rider.

Amount of petrol consumed, in ounces.

CLASS I.—For single-cylinder machines.

Name and machine.	Figure of merit.	Miles per gallon
D. W. T. Holloway (3½ h.p. Triumph)...	17.89	143
S. E. Woods (3½ h.p. Triumph) ...	12.98	95
R. King (3½ h.p. Triumph) ...	9.65	77

CLASS II.—For multi-cylinder machines.

H. W. Beach (5 h.p. Vindec, with side-car and passenger) ...	18.33	75
W. F. Ritchie (5 h.p. Vindec) ...	14.80	108
C. R. Taylor (5 h.p. Indian) ...	11.61	87
F. W. Ritchie (5 h.p. Indian) ...	9.58	75
W. J. Akerman (2½ h.p. N.S.U.) ...	9.43	85

North-west London M.C.C.

The winter programme arranged up to the present is as follows: A club meet at the New Cricklewood Skating Rink this evening (Wednesday). Closing run (lunch at the Bull, Redbourne) on the 7th inst. A meeting of members at the Stanley Show on Wednesday, November 24th, at 6.30, at the A.C.U. stand. The annual dinner will be held at the Criterion Restaurant on December 18th. A whist drive will take place early in January. The club dance will be at the Portman Rooms, W., on February 26th.

Middlesbrough and District M.C.C.

The final results have now been worked out for the hill-climb held on Yearby Bank by the above club last month. They are:

	Fig. of merit.	Time.
1. J. H. Dale (3½ 1909 Triumph) ...	.0092	1m. 16s.
2. W. A. Duchars (3½ 1909 Rex) ...	.0091	1m. 20s.
3. W. L. Lockwood (3½ 1909 Norton) ...	.0087	

These results were worked out on Professor Callendar's formula. W. Armstrong (1908 Triumph) made the ascent in the fastest time, viz., 1m. 15½s. The following competitors climbed the hill in a satisfactory manner: E. Young (3½ h.p. 1909 Bradbury), E. Rees (3½ h.p. 1909 Triumph), E. Brice (3½ h.p. 1909 Premier), J. Telford (3½ h.p. Triumph), R. W. Day (3½ h.p. N.S.U.), W. Turner (3½ h.p. Minerva), J. Bellerby (3½ h.p. Triumph), and J. Bell (5 h.p. twin N.S.U.)

At a committee meeting of the above club held at the Corporation Hotel last Thursday evening, it was decided to hold a smoking concert on Wednesday evening, the 10th inst. It was also decided to present the prizes won in competitions during the year to their respective winners at this concert. The winter programme has been decided upon, and has been left in the hands of the secretary to arrange dates, etc. Copies of winter events cards will be issued at the earliest possible date.

Bishop Auckland, Darlington, and District M.C.

This newly-formed club held its first annual dinner at the King's Head Hotel, Darlington, on Wednesday, the 27th ult., presided over by T. W. Craig, in the unavoidable absence of Sir Wm. Eden, Bart., the club's president. A thoroughly enjoyable evening was spent by the members and their friends who were present. Between the intervals of the toasts and harmony the secretary announced the result of the first hill-climbing competition, which took place on Legs Cross Bank, a few miles north of Piercebridge, on Wednesday, October 6th, as follows:

SINGLE-CYLINDER MACHINES.

	Fig. of merit.
1. J. W. Jones (3½ h.p. Triumph) ...	77.23
2. R. B. Thompson (3½ h.p. Triumph) ...	79.06
3. H. V. Lockwood (3½ h.p. Triumph) ...	79.15
4. R. H. Arnott (3½ h.p. Triumph) ...	84.31
5. C. W. Smith (3½ h.p. Humber) ...	86.3
6. W. Swan (3½ h.p. Triumph) ...	90.38
7. W. Denham (3½ h.p. Triumph) ...	91.23
8. W. Pawson (3½ h.p. Brown) ...	93.49

MULTI-CYLINDER MACHINES.

1. H. Mason (4½ h.p. Berceley) ...	364.78
2. J. E. Spedding (9 h.p. Bat) ...	365.00
3. R. Rowntree (4½ h.p. Minerva) ...	398.94
4. A. Todd (5 h.p. Peugeot) ...	465.33
5. R. Manners (5 h.p. F.N.) ...	534.23
6. H. N. Hull (5 h.p. Rex) ...	589.21

J. W. Jones made fastest time in single-cylinder class, and J. E. Spedding fastest time in multi-cylinder class. The club, which was formed a month or two ago, has met with

Club News.—

most enthusiastic support, and during the short period of its existence has enrolled eighty members. As the club's district covers a very large area, there is every prospect of the membership being considerably augmented in 1910. The membership consists of both motor car owners and motor cyclists (the latter being in the majority), captains being elected for each section. The club is affiliated to the North-eastern Automobile Association, carrying with it affiliation to the Motor Union, R.A.C., and A.C.U. The hon. secretary, R. B. Thompson, will be pleased to receive the names of any prospective members, or to supply full particulars, upon request to his address at 7, Market Place, Bishop Auckland.

Coventry and Warwickshire M.C.

J. Van Hooydonk's lantern lecture has been fixed for Saturday, December 4th. The original title, "The Holyhead Road," has been changed to "On the Road," and the lecture will be illustrated by a number of slides illustrative of the classic highway from London to Holyhead.

The annual dinner and distribution of prizes will take place on either January 15th or 22nd.

Walthamstow M.C.

The postponed non-stop run to Clacton-on-Sea took place on October 24th, the weather being all that could be desired. The result was as follows:

A. A. Blanks (3½ h.p. Rex) ...	Non-stop
R. J. Lisles (5½ h.p. Humber tricar) ...	Non-stop
W. S. Low (3½ h.p. Rex) ...	Non-stop
A. T. Stanton (3½ h.p. Bradbury) ...	Non-stop
F. A. Applebee (5 h.p. Rex and sidecar) ...	Non-stop
G. Peppercorn (3½ h.p. Triumph) ...	Non-stop
G. West (5 h.p. Rex and sidecar) ...	Non-stop
G. Humphries (3½ h.p. Rex) ...	Non-stop
H. Hudson (3½ h.p. Peugeot) ...	Non-stop
D. Fairhead (3½ h.p. Royal-J.A.P.) ...	Non-stop
J. W. Percival (6 h.p. Fafnir tricar) ...	Non-stop
sidecar) ...	Valve trouble
J. H. Kerr (5 h.p. Rex and sidecar) ...	Punctured
S. McMinn (7 h.p. Royal-Phänomen and sidecar) ...	Valve trouble
F. W. Applebee (5 h.p. Rex and sidecar) ...	Sparking plug porcelain broke.

On Saturday next, the 6th inst., the second paperchase will be held, and the committee hope that all the members will support this event, which will be the last competition that the club will hold this year. The prizes for this event have been presented by J. W. Percival (hon. sec.) as



T. L. Baylis (3½ h.p. Corah), winner of the President's Silver Cup and Gold Medal in the Worcestershire M.C.C. Reliability Trial—Bromgrove-Rhayader-Bromsgrove

follows: For the first single or twin-cylinder motor bicycle; for the first passenger motor cycle with engine exceeding 4 h.p.; for the first passenger motor cycle with engine not exceeding 4 h.p.

The annual dinner, distribution of prizes, and Bohemian concert will take place at the City Arms, St. Mary Axe, London, E.C., on Saturday, December 4th.

Formation of a Manx Motor Cyclists' Club.

For some time past motor cyclists in the Isle of Man have felt that the time has come when a club to look after their interests and the interests of motor cyclists visiting the island should be formed. There is in existence another motor



The A.C.U. Quarterly Trials. Competitors preparing for the start from Ux. ridge on Saturday morning, the 16th ult.

club on the island, called the Manx Automobile Club, but this club consists chiefly of car owners. Last Thursday a number of the motor cyclists attended at the Castle Mona Hotel, and, under the chairmanship of C. W. Coole, jun., it was unanimously decided to form a club, to be called the Manx Motor Cyclists' Club. By the kindness of Miss Parry, the club's headquarters are to be the Castle Mona Hotel. F. W. Harrison was appointed to be the hon. treasurer, and George J. A. Brown the hon. secretary. It was decided that the committee consist of six members. Rules were drafted and various suggestions made, and the meeting was adjourned till to-morrow (Thursday), at the same place, at 2.30 when rules will be adopted. It was also decided to hold a club run at the termination of the meeting. At the next meeting a hill-climbing competition will be arranged.

We understand that an inner tube for motor cycle tyres in which punctures seal themselves has been introduced by J. Liversidge and Son, Ltd., 196, Old Street, E.C. The Sealomatic may be tested at the firm's offices, and testimonials from users may be seen. A motor cyclist on one occasion ran over a horseshoe, which made an inch cut in the cover and tube. This occurred in Yorkshire, and he completed his run to London without the tube deflating.

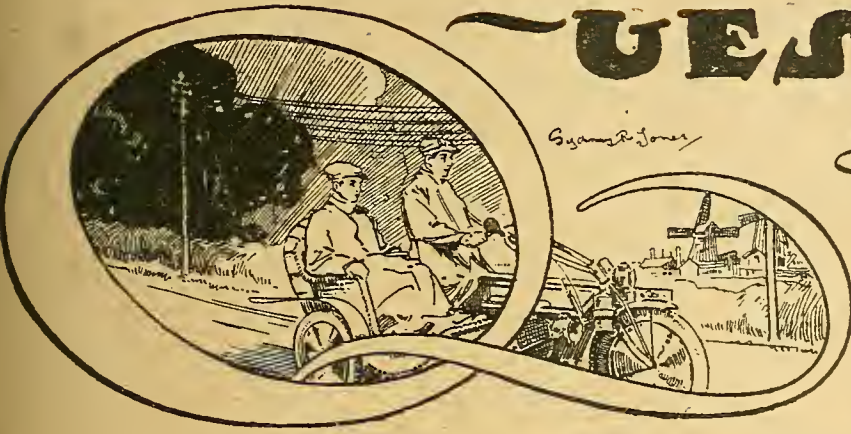
THE MOTOR CYCLE

SPECIAL SHOW NUMBERS.

MONDAY, Nov. 8th ..	FORECAST ISSUE.
" " 15th ..	FORECAST AND GUIDE.
" " 22nd ..	STANLEY SHOW REPORT.

QUESTIONS

AND REPLIES



An Engine Backfire.

? I was out riding the other day on my 3 h.p. cycle when suddenly the back wheel skidded, and the engine pulley tightened up and refused to rotate, yet nothing seized and piston is free. I have taken down the engine, but cannot find the cause. Can you suggest what it was? Also, why does the plug become covered with dirty oil? The cylinder head and piston are also covered, yet the compression is very good.—H. F.

Probably what happened was that a rather serious back-fire occurred, the charge exploding before the piston reached the top of the stroke, due, no doubt, to excessive carbon deposit on the cylinder head and piston. This should be all scraped off, as when the engine has been running for some time the particles of carbon become white hot. Perhaps you are over-lubricating, with the result that you get an excess of carbon deposit which will tend to foul the plug and cause pre-ignition.

Engine Dimensions and Power.

? (1.) Which would be the more powerful—a Minerva motor cycle engine measuring 85 by 85 mm., or a Fafnir engine measuring 80 by 80 mm.? I notice both engines are classed as $3\frac{1}{2}$ h.p. Do they both give the same power? If so, I cannot understand why this should be so. I should have thought the larger bore and stroke would be much more powerful. (2.) What is your opinion of a Minerva $4\frac{1}{2}$ h.p. twin? Are the valves mechanical or automatic? Is it very complicated, and capable of taking sidecar without change-speed gear? Would a Minerva or Fafnir be likely to overheat with sidecar and two-speed gear?—W. M.

(1.) An engine of the dimensions 85 by 85 mm. would give more power, other things being equal, but the $3\frac{1}{2}$ h.p. Minerva is only 82 by 82 mm.; $3\frac{1}{2}$ is probably an approximate horse-power in the case of the large engine and the actual horse-power in the case of the small one. (2.) The twin mentioned is a good one. The valves are mechanically operated, and it is not at all a complicated machine. We strongly advise a two-speed gear, whatever machine you use in conjunction with a sidecar. Neither of the engines should overheat if used with a sidecar if they are in good order to begin with and driven properly.

A Lower Riding Position Desired.

? I have an old $3\frac{1}{2}$ h.p. motor cycle which will take me anywhere, but is not a comfortable mount. It has 26in. wheels, and the saddle is mounted high and handle-bars are short upturned. If I fitted long handle-bars and a dropped seat-pillar, would riding be more comfortable and less fatiguing? Is there more danger of a side-slip?—T. N.

Yes, we should strongly advise you to adopt the suggestion made in your query of fitting a dropped seat-pillar and longer handle-bars. The position would be much more comfortable and safe. There should be no danger of side-slip if you fit a non-skid tyre.

Benzol as a Fuel.

? In a recent issue a correspondent stated that a 1909 Triumph rider rode his machine on benzol, and managed to average twenty-seven miles for one penny. Can you tell me why benzol is not more extensively used, considering it is only half the price of petrol, and any modern machine can, apparently, run on it if a smaller jet is fitted?—F. R.

The reason is partly due to the fact that very few people have used benzol, and apparently they are afraid to try a new fuel. However, we do not doubt that it will rapidly become more popular. In certain districts the cost of benzol would be almost as much as petrol, as the cost of carriage must be added. Carburetters would require the level of the petrol altering for benzol.

Concerning Carburetters.

? (1.) On what occasions is it necessary to give extra air to the engine? (2.) What advantage is there in a variable petrol jet in the carburetter, and in what manner does it affect the working of engine, which is a Fafnir? The throttle is worked by a rocker motion on the engine, and is near the top of the cylinder. The throttle in the Longuemare E carburetter has been taken out, I suppose, as unnecessary. I have your "Motor Cycles and How to Manage Them."—NOVICE.

(1.) Our best answer to this question is, whenever the engine requires it; that is to say, it is necessary to vary the air so that the engine is running with its maximum efficiency. The more air you can give the engine with-

A selection of questions of general interest received from our readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

out its misfiring the cooler it will keep, besides which you will economise petrol consumption. (2.) A variable jet is undoubtedly an advantage. We have not tried one yet which works satisfactorily with a motor bicycle. Of course, one of the advantages is that it can on special occasions give more power on a greater fuel consumption. When the engine is controlled by means of a variable opening of the inlet valve there is no necessity to fit a throttle in carburetter or inlet pipe.

A Motor Cycle for All Weather Riding.

? (1.) I have a $4\frac{1}{2}$ h.p. four-cylinder F.N. (magneto). Is this strong enough for sidecar work? (2.) I want to use it during the winter on every day and for getting home week-ends only, and on very greasy roads. I am afraid of side-slip, and want sometimes to carry a bag, suit-case, or such, and sometimes to run empty. Can you recommend a suitable attachment in both of the following cases: (a) Ability to take passenger if necessary; (b) ability to take passenger not necessary; (c) have heard that there is some forecar attachment suitable for light personal luggage—What is it? (3.) Have heard that flexible sidecars are the easiest to steer, but that motor cycles can slip on mud. "Road Rider," in "Hints and Tips," says so. Does the motor cycle come down the same as with an ordinary bad side-slip? Can a fixed wheel sidecar be worked empty? Are any of the latter easily detachable.—W. P. C.

(1.) The machine is strong enough for sidecar work. We have noticed several in use with passenger attachments. (2.) If you use your machine with a sidecar, a two-speed gear is desirable. In the case of (a) a fixed wheel sidecar. (b) Personally, we should think that, under the circumstances, the best attachment would be a light forecarriage attachment, to which either a front seat or a luggage carrier could be easily fitted. (c) Probably the Chater Lea or Phoenix attachment. (3.) What you say about the flexible sidecar is practically correct. The motor cycle cannot fall altogether, but it imposes a heavy strain upon the attachment joints. The fixed wheel sidecar is practically immune from side-slip, but is not pleasant to steer round corners when empty. All the latest patterns are now quickly detachable.

Test Hills Near London.

? As I am contemplating the purchase of a $3\frac{1}{2}$ h.p. motor bicycle for touring purposes, I should be obliged if you would kindly tell me the hill nearest London, giving its locality, which would be a reasonable test for such a machine.—G.

A very fair test hill would be West Hill, Highgate (about 1 in 8), which is a continuation of Kentish Town Road. If when you get to the top of this you do not think it quite steep enough, ask anyone in the locality for Swain's Lane, which is steeper, the gradient being about 1 in 6.

Gear for Sidecar Work.

? I have a 5 h.p. twin 1908 Rex with Roc two-speed gear and sidecar attachment. Can you tell me if it is geared too high, as I have to use the low gear on nearly every hill unless I get a good start? It is geared 4 to 1 with 5in. pulley. If too high, please advise best sizes of pulleys. I always use machine with sidecar.—T.H.C.

You do not mention your weight or that of your passenger, which is important in selecting a suitable gear. 4 to 1 is much too high for sidecar work. The top gear should be 5 to 1 for serious road work, or, better still, fit an adjustable pulley, which will allow you to vary the ratio and select the gear which gives the best results.

Engine Braking. Magneto Switches.

? (1.) In a recent issue, in answer to a question by "A Novice" re engine braking, you say when throttle is shut the compression and internal friction cause the retarding influence. I should be glad if you will inform me how this is so. I am not even a novice, only hope to be soon, but from the knowledge I have gleaned from *The Motor Cycle* it seems to me that, after the first exhaust stroke following the closing of the throttle, a partial vacuum must result in the cylinder and induction pipe, and this would have a certain amount of braking effect, but there would be no compression. (2.) I was recently asking a party in the trade why he was so against having a switch fitted with magneto ignition, and he replied that even when riding with the switch not in use, the mere existence of the extra length of wire to the switch acts as a sort of *cul-de-sac* in the journey taken by the current, and weakens the spark at the plug, and it also greatly increases the risk of an involuntary short. Is this so, or was he only taking advantage of my entire lack of practical experience?—E. G.

(1.) Naturally when the engine ceases to propel the machine, the machine has to propel the engine, and the extra internal friction set up acts with a small amount of retarding effect. As to whether or not the compression is of any use as a brake at slow speeds can easily be proved by closing the throttle and trying to push the machine without raising the valve.

When, however, the speed increases, the compression acts more as a cushion, and has less retarding effect. (2.) There is something in what your informant said with regard to short circuits, but a leakage is extremely unlikely unless the insulation was defective or the switch itself was soused with water. A switch certainly does not weaken the spark. Is it likely that manufacturers would specially design their magnetos to be fitted with a switch when such a fitting would interfere with their working?

Noise from Valves and a Flooded Carburetter.

? Could you tell me what is the cause of a loud screech coming from the valves, I think, of my $3\frac{1}{2}$ h.p. motor cycle? This only occurs when running slowly or when the engine is picking up. On the stand it will do it if the foot belt rim brake is applied fairly hard. I have just cleaned the cylinder out, while the engine was overhauled by the makers a few months ago. When I get away from traffic and can open up it runs splendidly. There is plenty of oil in the crank case, and the valve stems are not at all tight, even when hot. Compression is good when hot. When I have flooded the carburetter it will continue to drip until I start, even when it is on the level; but if I depress the needle for a second or two it stops at once and for good. Should this be so?—LB 924.

We advise you to rub the valve stems with dry graphite, then if the screeching continues it is not caused by the valves. Sometimes the belt slipping on the engine pulley will cause a screeching noise. A firm application of the foot brake while the engine is running on the stand will cause the belt to slip and screech a little if it is fairly slack. The trouble you mention with the carburetter is due to the needle sticking. Probably the small balance-weighted levers are worn and require to be renewed.

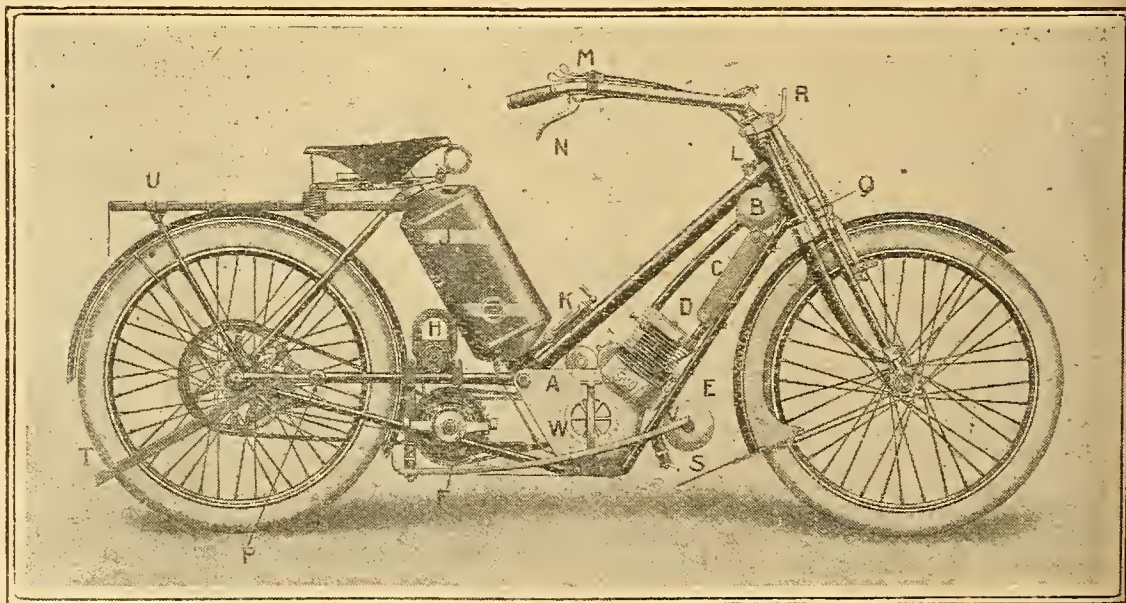
Picking Up Speed Quickly.

? I wonder if you or any of your readers could help me in the following difficulty: I have a Minerva-Longuemare carburetter with my $3\frac{1}{2}$ h.p. Minerva (gear 4 to 1), jet 8, choke 24. I have tried 7, 8, and 9 jets with all combinations of 22, 24, and 26 choke tubes, made adjustable hole in induction pipe, and, in fact, everything that could suggest itself in the way of varying the air and gas supplies, but I cannot get it to pick up after slowing down for corners or traffic, but have to dismount and start again, as the engine stops when the speed drops to about ten miles an hour. Engine pulls badly on hills, although compression is good. I do not think the jet is too small, as would seem to be the trouble at first sight, as I can only do 70 to 75 miles to the gallon.—R.H.D.L.

It certainly seems as if your carburetter was at fault, though perhaps you might look to the tension of the exhaust valve spring. You appear to have tried all possible adjustments with your present carburetter, although you do not mention that you have ascertained that the petrol level is correct, which is important. As a last resource we would recommend you to stop up one (or two if there is an improvement) of the main air holes at the base of the spray chamber. You must first make sure that no air is being drawn into the engine *via* faulty unions, or past a loose throttle spindle. The 4 to 1 gear is much too high.

The 1d. Edition of "The Autocar."

Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.



One of the two-stroke models which will be exhibited at the Stanley Show—a $3\frac{1}{2}$ h.p. Scott twin cylinder motor bicycle with two speed gear and chain transmission.

- | | | |
|-----------------------------------|--------------------------------|----------------------------|
| A. Engine. | J. Petrol tank. | R. Lamp bracket. |
| B. Water tank. | K. Lubricating oil pump. | S. Front splash guard. |
| C. Radiator. | L. Lubricating oil filler cap. | T. Automatic stand. |
| D. Water-cooled top to cylinder. | M. Carburetter control levers. | U. Luggage carrier. |
| E. Silencer. | N. Front rim brake lever. | V. Spring foot-boards. |
| F. Change-speed and clutch pedal. | P. Foot starting lever. | W. Inspection hole covers. |
| H. Bosch magneto. | Q. Spring fork. | |

MOTOR BICYCLES FOR SALE.

4-cyl., 5-6h.p., 1909 model, ridden 800 miles, no fault, all accessories; £35.—E. Blackburn, 217, Nam Hill Rd., Manchester.

RE Bargain, must sell, £18, or best offers cash.—5h.p. Twin Rex, equal to new, and fitted with gear.—3a, Lord St., Rochdale.

DEC. 5h.p., handle-bar control, magneto, Trufault, adjustable pulley, accessories, perfect; £22, n.—18, Farcliffe Rd., Bradford.

p. N.S.U. Lightweight, 1909, just delivered, as new; first reasonable offer accepted; cost £45, fittings.—A. H. Burnell, Ferrybridge.

8 5h.p. Twin Rex, two-speed, handle-bar control, complete with sidecar, nearly new; £35, or offers. ey, Bentley's Hotel, Cleckheaton, Yorks.

9 Triumph, absolutely new, as received from works, unable to take delivery from agent; accept offer over £40.—Crook, 236, Manchester Rd., Burn-

8 5h.p. Twin Rex, handle-bar control, variable pulley, non-skid tyre, splendid condition throughout, bag, spares, etc.; £23.—35, Market St.,

1, 1908, 4h.p., two-speed, magneto, handle-bar control, adjustable pulley, overhauled by makers, guaranteed, perfect; any trial; £26.—105, Milnrow Rd.,

8 3h.p. Rex, magneto, enamelling, plating, tyres as new, complete with lamp, horn, etc.; any £21.—Motorist, 61, Ackroyd St., Hr. Openshaw, ester.

THPORT.—3h.p. Bamber-Peugeot, powerful, fast, accessories, finished dark green, with gold lines, ill condition; £27 10s., or near offer; inspection.—ne St.

9 Bradbury, 3h.p., magneto, new June, not done 1 000 miles, splendid condition, numerous spares; sold immediately; wanting cash; this is a genuine gain.—Grosvenor House, Menston, near Leeds.

LIFAX.—Cash Bargains. All guaranteed. 2h.p. Verrier, £5 5s.; 2h.p. Humber, spray, £5 5s.; 2h.p. Lloyds, vertical, spray, £5 10s.; 2h.p. Antoine, l, spray, £6; 2h.p. Buchet, vertical, spray, £6 h.p. Rex, H.B. control, £7 5s.—Below.

LIFAX.—Illustrated list of second-hand Rex motors, and monster list of tricar and motor on application; ask for special cash discounts.—Exchange, Wesgate, Halifax.

LIFAX.—3h.p. Rex Speed King, 1910 Amac, like ew, used Tourist Trophy race only, £35; new 1909 liberal exchanges; offers considered.—Motor Ex., Westgate, Halifax.

9 Premier, cyclometer, registers 1,000, Palmer cords, special butted tubes, complete with tools alllets, finest little mount on the road, never yet ad an adjustment; 34 guineas.—Ratcliffe, Queen

ERPOOL.—Intending purchasers of Triumphs and Douglas motors should, to obtain the protection of makers' guarantee, buy only from the official agents. Hings, Ltd., 74, Bold St. (the firm with over 30 highest reputation).

RATIONLESS Douglas, the best lightweight on the market and British made; send for list and onials.—Hitchings, Ltd., 74, Bold St., Liverpool. agents for Douglas and Triumphs.

TERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, deliver new machines from stock at low prices; exchange or gradual payments; charged accumu- for hire, 1s. per week.—Cookson Bros., 511, r Rd., Old Trafford.

9 New Triumph, standard model; two 1908 N.S.U.'s, 3h.p., magneto, fully equipped; 3.6h.p. eight 1908 Rex, fully equipped, almost new; x quadcar, 8h.p., twin, overhauled, new tyres; fers wanted, as we desire to clear quickly.—Mold-Engineering Wks., Huddersfield.

o Worry" Bargains.—The following high-grade motor bicycles are to be cleared at once. Every e been overhauled and guaranteed: 1909 Triumph been ridden, as new, £40; 1909 Triumph, splen- dition, £36 10s.; 1908 Triumph, magnificent non-skids, very carefully used, £33; 1909 Tourist Triumph, with touring saddle and handle-bar, and carrier, cost over £50, magnificent order, £38 1908 Tourist Trophy Triumph, own machine, win- dozen hill-climbs, £30; 1909 Phelon-Moore, 3h.p. eeds, new five weeks ago, unscratched, £42; money y of above gladly refunded if not satisfied after days' trial.—Eric S. Myers, "No Worry Depot," anningham Lane, Bradford.

SECTION III.

arvon, Denbigh, Flint, Cheshire, Derby, fford, Shropshire, Montgomery, and rioneth.

Twin Rex, magneto, spring forks, and rigid side- car; nearest offer £25.—S. Minshall, Stoneway, orth.

9 Humber-Minerva, B.B., Dunlops, splendid order; B.S.A. racer, plated frame, offers.—28, Lion St., venny.

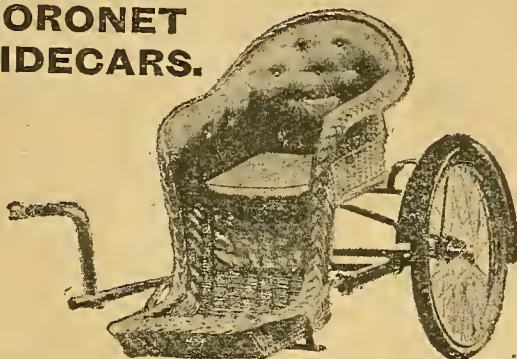
9 Triumph, 3h.p., standard, unscratched, equal to new; trial by expert; what cash offer. — W. Claremont St., Old Hill.

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3h.p. MINERVA, magneto, 2 1/2 tyres.....	£18 15
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3 h.p. TRIUMPH, magneto, spring forks, 1906..	£18 10
4 h.p. ANTOINE, 26in. wheels, M.O.V., smart..	£11 10
2h.p. LLOYDS, vertical engine, 26in. wheels ..	£8 15
2h.p. CLEMENT GARRARD, 26in. wheels, low built	£8 15
3h.p. 1909 HUMBER, two speeds	£37 10
3h.p. REX, 1908 1/2, ball bearing, h.b. control ..	£29 10
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3 h.p. REX, 1908, magneto, h.b. control	£17 10
3h.p. REX, 1909, nearly new	£32 0
5h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£13 10
3h.p. REX, spring forks, trembler coil	£10 10
3h.p. REX, 26in. wheels, M.O.V., h.b. control..	£8 15

THIS WEEK'S SPECIAL BARGAINS.

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Complete with coil, accumulator, belt, toolbag, etc.	
£4 - 19 - 9 EACH	£4 - 19 - 9.

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5 h.p. CORONET, new, water-cooled, M.O.V. ..	£8 10
2 h.p. STANDARD, new, water-cooled; suit boat	£4 10
3h.p. REX, ball bearing, 1908 model	£5 10
4 h.p. ANTOINE, M.O.V., splendid order	£5 10

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The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing.

Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

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Made from selected parts of hides, correct angle, perfect drive; the best leather belt on the market. Longer life than rubber.

3in., 10d.; 3in., 11d.; 3in., 1/1; 3in., 1/2. Special terms to the trade.

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BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES

CHARLES STREET, off Square Road,

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

3h.p. Ariel, bought May, unpunctured, spring forks; £17, or exchange. — Wax-Holme, Station Rd., Whittington Moor, Chesterfield.

£9.—3h.p. Humber motor cycle, free engine, coil and accumulator, Palmer tyres, Longemare, good condition.—Strefford, Coleham Head, Shrewsbury.

3h.p. Quadrant, excellent order, new L.M.C. cylinder, Stanley-Dermatine belt, Brown and Barlow handle-bar control, spring forks; what offers?—New, Fairville, Oxtou, Birkenhead.

TRIUMPH, late 1907, magneto, handle-bar control, switch, everything complete, in perfect order, will do 48 m.p.h. on level, rubber belt, spare; bargain, £27.—Edwin Smith, Bakewell.

1909 Triumph, new two months back, only run 250 miles, all tools and spares, acetylene searchlight, unscratched, and better than new; £40.—Preakley, 215, Birmingham Rd., Burnt Tree, Tipton.

3h.p. Brown, magneto, 1909 piston, new belt and tyre, B105/4 saddle, Bradbury stand, H.B. control, accessories, spares, French grey, lined blue; £20, or near offer.—Bostock, Newton, Middlewich.

DOUGLAS Lightweight, British made, twin cys., magneto, spring forks, a revelation in comfort, ease of starting, power, and reliability, absolutely vibrationless; write for lists.—Hitchings, Ltd., 74, Bold St., Liverpool. Sole Agents for Liverpool and Birkenhead.

HITCHINGS, Ltd., specialise in Douglas lightweight motor cycles. Inquiries receive prompt and courteous attention.—74, Bold St., Liverpool.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

1909 Triumph, as new, has not done 500 miles; £33 cash, no offers.—Warner and Miles, Leamington.

MOTOR Cycle, Rex, 3h.p., 26in. wheels, low built; bargain, £9 10s.—12, Bull Ring, Birmingham.

WOLF Lightweight, Stevens engine, practically new; bargain, £12 10s.—12, Bull Ring, Birmingham.

CHASE, 5-6h.p. twin Peugeot engine, finished French grey; bargain, £16 10s.—12, Bull Ring, Birmingham.

1908 4h.p. Twin Minerva, good condition, very little used; price £24.—Apply, 52, Ladypool Rd., Birmingham.

3h.p. Stevens-Talbot Motor Cycle, grand going order; cash wanted urgently; £8 10s.—4, Varna Rd., Edgbaston.

F.N., 2h.p., H.B. Amac, Fishback, spares, two covers, tube, plugs; £15, offers.—Brears, Lamartine St., Nottingham.

4-CYL. F.N., equal to new, handle-bar control, tools, spares, accessories, faultless; £28.—164, Coventry Rd., Hay Mills.

3h.p. Quadrant, surface carburetter, spring forks, good condition, perfect running order; £12.—Dr. Millard, Gilroes, Leicester.

5h.p. 2-cyl. N.S.U., two-speed, magneto, with sidecar, Palmer cord back, spares, good condition; £36.—Stedman, Binbrook, Lincoln.

5h.p. Twin Rex, magneto, every modern improvement; also sidecar, sell cheap; exchanges entertained. —358, Stratford Rd., Birmingham.

2h.p. 1908 Rex, excellent condition, £14; 3h.p. 1909 Humber, two-speed, shop-soiled only; £36.—Main, 36, Parade, Leamington.

R. and P. Motor Cycle, 3h.p., magneto ignition, handle-bar control, low built, splendid order; bargain, £17 10s.—12, Bull Ring, Birmingham.

ARIEL, Ariel, Ariel. — To clear, a few 1909 2h.p. lightweights, magneto, handle-bar control; end of season bargains.—Ariel Wks., Bournbrook, Birmingham.

REX, twin-cyl., 1907 model, long wheelbase, spring forks, Clincher tyres, very fast, splendid hill-climber; price £16.—Louis B. Davis, 3, New St., Birmingham.

QUADRANT, 2h.p., single-cyl., Clincher tyres, fine little runabout, good condition; price £8.—Louis B. Davis, 3, New St., Birmingham.

MINERVA, 3h.p., single-cyl., Clincher tyres, splendid condition, fast, good hill-climber; price £11 10s.—Louis B. Davis, 3, New St., Birmingham.

£6 10s.—3h.p. Rex, good running order, new Continental on back, good appearance, surface carburetter, stand, etc., good hill-climber, and very fast.—R Hodgson, Spilsby.

MOTO-REVE, late 1908, spring forks, studded back, good condition, good working order, recently overhauled, several spares; bargain, £20.—Barker, 16, Victoria St., Warwick.

BOSCH Magneto Twin-cyl. 5h.p. Rex Motor Cycle, low built, splendid order, accessories; sell bargain, £17 10s.; approval; deposit system.—Lancaster, 103, Heeley Rd., Seely Oak.

3h.p. Lincoln Elk, 1908 machine, in splendid condition, 26in. Palmers, spray carburetter, accumulator ignition, adjustable pulley; £7, real bargain.—Alfred Holland, Earlsdon, Coventry.

1907 Triumph, just done up and engine overhauled, new tyres, lamp, two generators, motor horn, and many extras; can be seen by appointment; £28.—Starkey, 27, St. Nicholas St., Coventry.

MOTOR BICYCLES FOR SALE.

5 h.p. 1907 Twin Rex, new 40 amp. Lithanode, new lin. Shamrock belt, also 2½ Dunlop rear tyre, Advance pulley, powerful and reliable; £17, or near offer.—C. H. Leadbeater, 46, Wellingborough Rd., Northampton.

1909 Triumph, free engine clutch model, ridden 2,000 miles, exceptionally good condition, Auto-lamp, spare rubber belt, plug, valve, and all tools; £42, or nearest.—Geoffrey Smith, 37, Northumberland Rd., Coventry.

SMITH Bros. for bargains in second-hand motor cycles, any new make supplied; exchanges, railway fares paid, covers, replacements, repairs, overhauling; lowest prices.—C.C.R. Motor Works, Ford St., St. Ann's Well Rd., Nottingham.

MOTOSACOCHE latest accumulator pattern, in perfect order, has never given a moment's trouble, new tyres, butt-ended tubes, new spare belt, spare pulley, spare cover and tubes, acetylene head lamp, horn, carrier-stand, and spares; a bargain, £17.—C. W. Pennell, Lincoln.

TRIUMPH, 3½ h.p., 1906, October, good condition, two accumulators, new Watatawa, good tyres, H.B. control 1910 B. and B., just fitted, toolbag, horn, amp, spares, reliable as ever; £21; will ride 50 miles or probable purchaser.—Schoolmaster, Rednal, Birmingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

JUNE, 1908, F.N., 4-cyl., in nice order, complete all spares; £21.—3a, Bridge St., Cambridge.

1908 4h.p. Roc, two speeds, magneto, studded tyres; bargain, £25.—37, Searle St., Chesterton, Cambridge.

1909 Free Engine Triumph, run 600 miles, perfect, as new; any trial; £48.—Crawley, St. Mary's, Bedford.

1909 Tourist Trophy Triumph, excellent condition, ridden only 1700 miles, touring handle-bars and saddle if required, tyres 26 by 2, reinforced wired-on Dunlops, exceptionally fast machine; £38.—Langley, 9, Bromham Rd., Bedford.

VINDEC Special, 6h.p., twin, magneto, free engine, spring forks, non-skid on rear, two-speed gear, beautiful order throughout; first £26 secures this exceptional bargain, worth £45.—Vindee, 28, Woodbridge Rd., Ipswich, Suffolk.

3½ h.p. Rex (1909), unscratched, and equal new, spring forks, spring cantilever seat-pillar, S.G. belt, Clincher tyres, lamp, generator, horn, foot pump, tools, and spares, winner in London-Edinburgh run, gold medal in London-Land's End and back, Jarrott Cup Competition, and first prize in 100 miles non-stop run, etc.; will ride 100 miles to likely purchaser; £32 10s., complete, and ready for anything; Cowey speed indicator extra.—F. Mussell, 28, Rothesay Rd., Luton.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

2 h.p. Humber, good tyres, want little repairs; £4, or offer; exchange.—Lewis, 3, Victoria Rd., Pontypool.

LIGHTWEIGHT 2h.p. Minerva, £7, or exchange for ½ belt and band brake, or foot brake and cash.—E. Feale, Cwmgiedd, Ystradgynlais.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

1909 Moto-Reve, brand new, never ridden; 33 guineas.—155, Castle St., Salisbury.

DOUGLAS, 1909, Palmer cords, new September; cost £42, best cash offer.—Motorist, 145, Fisherton St., Salisbury.

BARGAIN.—3½ h.p. Daw, good going order, new tyres, accessories, very powerful; £8 8s.—Simpson, jun., Sandhurst, Berks.

TRIUMPH, 1909, perfect condition throughout, all spares and accessories; £36.—Lieut. Bennett, Navigation School, Portsmouth.

3 h.p. Clyde, magneto, Amac, H.B. control, spring forks, brass torpedo tank, 2in. Dunlops, enamelled green, low, splendid condition; £14.—4, Bath Buildings, Bristol.

TRIUMPH, 1908, 1909 engine, horn, all spares, magneto parts, two belts, good condition, Clinchers (studded back); £35, or offer.—Duke, 19, Michael St., Oxford.

3½ h.p. N.S.U., magneto, perfect condition, £18, a bargain; 3½ h.p. 1909 Triumph, spares, with set magneto parts, £38, equal to new.—King, Lynchford Rd., Farnborough.

7 h.p. Leader-Peugeot, synchronised ignition, new condition, French grey, lined green, low, comfortable, and safe in grease; photo on application; £30.—Kirkham, 46, Cleeve Rd., Knowle, Bristol.

DE DION Pattern 90 by 100 Motor Cycle, Chater-Lea frame, and spring forks, Wright's footrests, Albion spring seat-pillar, Brooks best saddle, tyres Palmer, 2 and 2½ by 26, two spare covers, condition almost as new; £20.—Captain Hughes, Highlands, Minchinhampton.

1736. 2 h.p. MOTO-REVE, 1908 model, magneto, spring forks, stand carrier, guaranteed £21 0 0
1651. 1½ h.p. MOTOSACOCHE, 1908 model, Druid spring forks, lamp, horn, guaranteed £17 10 0
1465. 3 h.p. TRIUMPH, 1905 model, accumulator ignition, nice condition, guaranteed £15 15 0
988. 6 h.p. L. and C., horn and spares, low position £18 0 0
1098. 3½ h.p. ARIEL, B. and B. carburetter, handle-bar control, horn £11 0 0
927. 3½ h.p. BROWN, horn and accessories £8 15 0
1481. 4 h.p. Twin WERNER, spring forks, horn, and accessories £12 10 0
1377. 3½ h.p. BROWN, Chater-Lea frame, horn and spars £11 0 0
1941. 3½ h.p. Twin GRIFFON, accumulator, spring forks, low position £17 10 0
1639. 3 h.p. ZENITH Bicar, Amac carburetter, handle-bar control, guaranteed £15 0 0
1802. 8 h.p. MATCHLESS-J.A.P., 1910 model, spring forks, magneto, 1910 B. and B. carburetter, handle-bar control, Nala two-speed gear and free engine, enamelled French grey £55 10 0
1790. 1½ h.p. MOTOSACOCHE, 1909 model, magneto, Druid spring forks, a nice up-to-date lightweight, guaranteed £23 0 0
1791. 5 h.p. V.S. and Sidecar, 1909 model, magneto, Truffault spring forks, Brown and Barlow carburetter, handle-bar control, two-speed gear, free engine, guaranteed £59 0 0
1710. 2½ h.p. LA FRANCAISE, horn, stand, carrier, 1909 model, M.O.V., guaranteed £15 15 0
1534. 4½ h.p. MINERVA, twin engine, splendid condition, 1908 model, guaranteed £21 0 0
1398. 3 h.p. SIMPLEX, with Fafnir engine, magneto spring forks, low position, 1908 new machine, guaranteed £28 10 0
1756. 3½ h.p. HUMBER, magneto, spring forks, handle-bar control, Roc two-speed gear, free engine, footboards, 1909 model £35 0 0
918. EXCELSIOR and Sidecar, enamelled blk. £17 10 0
1793. 3½ h.p. TRIUMPH, 1909 model, new, magneto spring forks, handle-bar control, Brooks' saddle, guaranteed £48 0 0
1764. 5-6 h.p. Four-cylinder F.N., magneto, stand, carrier, guaranteed £33 10 0
1789. 5 h.p. REX DE LUXE, 1910 model, magneto, spring forks, Brown and Barlow carburetter, handle-bar control, Roc two-speed gear and free engine, J.A.P. automatic lubricator, spring Cantilever seat, guaranteed £62 0 0
1778. 3½ h.p. MINERVA, 1909 model magneto, enamelled French grey, horn, lamp, and generator, guaranteed £28 10 0
1808. 5-6 h.p. Four-cylinder F.N., spring forks, magneto, stand, carrier, and accessories, £26 10 0
1804. 1½ h.p. Magneto MOTOSACOCHE, spring forks, 1909 model, new condition, horn and toolbag, guaranteed £25 0 0
1811. 3½ h.p. PEUGEOT, 1908 No. 6 Chater-Lea frame, spring forks, lamp, horn, and toolbag, new 26 x 2½ in. Kempshall cover on back wheel £21 0 0
1711. 3½ h.p. N.S.U., low frame, 24 in. wheels, footboards, good order £12 0 0
1515. 7-9 h.p. PEUGEOT, Chater-Lea frame, footboards, good order £15 15 0
1813. 3 h.p. FAFNIR, Chater, recently rebored and bushed, toolbag and horn, excellent condition £10 10 0
1717. 3½ h.p. 1908 Magneto QUADRANT, very low, handle-bar control, spring forks, horn, toolbag £25 6 0
1799. 1909 Four-cylinder Two-speed F.N., with coach-built Lowen sidecar, Rom tyres, H.B. control £59 0 0
1715. 1 h.p. CLEMENT-GARRARD, chain drive £7 7 0
1618. 6 h.p. N.S.U. and Sidecar, coach-built sidecar, two-speed gear, guaranteed £35 0 0
1606. 3½ h.p. DUART Tricar, Phoenix two-speed gear, horn, lamp, and spares £24 0 0
1806. 3½ h.p. 1907 TRIUMPH, handle-bar control, Whittle belt, adjustable pulley £24 0 0
1664. 3½ h.p. ROC, magneto, free engine, Druid forks, H.B. control, guaranteed £15 15 0
1790. 2½ h.p. TRIUMPH, toolbag, pump, footrests, guaranteed £10 10 0
1774. 3½ h.p. M.M.C., Nala two-speed gear, magneto, spring forks, carrier, guaranteed £19 19 0
1770. 3½ h.p. J.A.P., B.S.A. spring frame £10 0 0
1566. 2 h.p. BUCHET, low, long bars £5 10 0
1766. 2½ h.p. F.N., magneto, spring forks, and toolbag £18 10 0
1661. 1½ h.p. DE DION-HUDSON, long bars, low saddle £5 10 0
1117. New Forecar Attachment £8 10 0
110. One Forecar Attachment £2 10 0

Machines quoted in this column are offered subject to being unsold on receipt of cheque.

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9, SHOE LANE, FLEET STREET, LONDON, E.C.

Telephone, 5777 Holborn: Telegrams, "Opifcer, London."

MOTOR BICYCLES FOR SALE SECTION VIII.

Hertford, Essex, Middlesex, Surrey, and Sussex.

J.A.P., 6h.p., and sidecar; £25; seen after 50, Lansdowne Rd., Clapham.

2½ h.p. Kelecom, in running order; £5.—Chris 24 Glebe Cottages, Hatfield, Herts.

3 h.p. Brown, reliable, in excellent order, smalling; £10.—Apply, 163, Forest Lane, Forest

1909 Triumph, Mabon clutch, as new, ridden 500, perfect condition; £40.—3, Newmar

LIGHTWEIGHT Royal Wolf, new in crate model; clear nearest £18.—10, Old Town, C

1909 Tourist Trophy 3½ h.p. Triumph, run 500 offers wanted.—Gray, 2, The Square, R

2½ h.p. De Dion-Batt, London-Edinburgh m 24 fast and powerful; £11.—50, Manor Rd., ley.

TRIUMPH, 1909, Mabon clutch, studded tyres horn, equal new; £38.—Garland, 97, Curta

1909 5h.p. Special Twin Rex, with spares, c perfect; nearest offer to £33.—16, Ha

TRIUMPH, 1908, good condition, with lamp etc.; £31.—Edwards, 136, High Rd., W Green.

1909 Triumph, with Mabon clutch, accessories little used; £40.—2, Market High Rd., Green.

3½ h.p. Rover, new butt tubes and covers, in running order; £15; trial.—Hopkins, Surrey.

TRIUMPH, late 1908, free engine clutch, in condition; £38.—Pateman, 143, High Rd tenham.

2½ h.p. Minerva, long handles, good order; £8 would exchange higher power.—C. West, Village.

4½ h.p. Twin Minerva Motor Bike, spring for new; £21.—L. N. Palmer, 190, Melliss Tooling.

MINERVA 1½ h.p. Motor Cycle, Longuemare, r road; £6 10s.—Collins, 68a, Romney St. minster.

LIGHTWEIGHT Triumph, fitted M.O.V., M perfect; sacrifice £7 10s.—Scales, 18, S Finsbury.

3½ h.p. Singer (in frame), magneto, Longuemare piston, running order; £7.—50, Beresfo Kingston.

1908 5½ h.p. Rex de Luxe, two-speed, magne done 1,000 miles, perfect condition, as ne —Below.

3½ h.p. Rover, M.O.V., fast, reliable, new Palr justable pulley; £11 10s.—Below.

3½ h.p. Excelsior, good condition, ready for trials any time.—Francis, Newsagent, wood.

3½ h.p. Quadrant, spring forks, Palmer cords, £15; exchange lightweight.—74, High St ley, Kent.

3½ h.p. N.S.U., 1908, magneto, spring forks, e 2 condition; £20; approval.—Eagles and Co St., Acton.

4 h.p. Roc, splendid condition, two speeds, Amac, bar control, R.O.M. tyre; what offers? Crockenhill.

2½ h.p. Lightweight Rex, handle-bar control, trial; £16; exchange.—Page, 74, East H ford, Kent.

3½ h.p. Bradbury, spring forks, B100 saddle sidecar machine; £8.—Townsend, 162a, Lane, N.E.

SAROLEA, 2½ h.p., Chater frame, Brooks sadd carburetter, Dunlop tyre, accessories; £6-10 Brixton Rd.

2½ h.p. Minerva, Chater-Lea fittings, splendid co your price; no room.—99, Woodside, Bruce Grove.

LIGHTWEIGHT, 2½ h.p., like new; must sell; sonable cash offer refused.—2, Burne St., Rd., London.

3½ h.p. Humber, chain drive, good conditio tyres, splendid climber; £8, bargain.—3 land Rd., Lee.

2½ h.p. F.N., chain drive, enamelled grey, lam tools, and spare tube; £12.—"Perryfield mington, Kent.

3½ h.p. Bradbury, 1909 model, magneto ignit skid tyres, shop-soiled; only £34 10s.—73 St., Camberwell.

1909 Triumph, excellent condition; £35 o offers.—E. Harper, Athelstan House, The Wanstead, Essex.

1909 Triumph, just delivered, all tools, etc., plied, Dunlop non-skids; 42 guineas. Paine, Potters Bar.

TRICARS FOR SALE.

Humber, Trimo front, two speeds, handle starting, excellent condition; trial; £16.-4, Francis St., Ch.

Riley Tricar, three speeds, reverse, excellent condition, smart appearance; £45.-147, High Rd., Green.

ISON, 4h.p., water-cooled, coach-built, Phoenix motor, chain, 2½ back, 75 to gallon; offers.—n, Chinley.

IFAX.—3h.p. Humber, spray, chain drive, less seat: £10 10s.—Halifax Motor Exchange, te, Halifax.

Tricar, Kent two-speed, foot clutch, handle control, coach built; price £12 10s.—Cooke, 45, Sand- Warrington.

Antoine, R.O.M. ignition, Mabon clutch, fast and powerful, perfect; £15 10s.—Townsend, 162a, Lane, N.E.

ER Tricar, 3½h.p., perfect condition; must sell; reasonable offer refused; no dealers.—110, Whit- Rd., Bowes Park, N.

W.C. Tricar, perfect, wheel steering; £20, or exchange for good pony and barrow and little 9, Turnpike Lane, Hornsey, London, N.

Riley Coach-built Tricar, water-cooled, wheel steering, chain driven, perfect order, for motor cash.—3, Marine Villas, West Bay, Dunoon.

De Dion Chater-Lea Open Frame Tricar, two speeds, magneto, bucket seats, wheel steering and £20, or offer.—3a, Bridge St., Cambridge.

TE and Poppe Tricar, 4h.p., Kent three speeds, 10in. foot clutch, etc., warranted; £21; exchange and little cash.—13, Sun St., Pitsmoor, Sheffield.

BER Chain-driven Tricar, 3-4h.p., new tyres, perfect condition; ride 50 miles to purchaser; £10 spares; lot £25.—80, Bispham Rd., Southport.

Chater Tricar, Dunlops, Longuemare carburettor, clutch with starting handle; a bargain, £13 offer.—Peters, 31, St. Martin's Rd., Stockwell.

STON Humber Tricar, 4½h.p., water-cooled, two speeds, chain driven, coach-built, new tyres, per- der; £27 10s.; try it.—49, Abbots Park Rd.,

Riley Tricar for sale, coach-built, twin-cyl., splen- d condition; any inspection or trial; £45, bar- bought larger car.—Wheeler, 20, Gloucester Rd., n.

ETTE, 6h.p., water-cooled, coach-built, wheel steering, two speeds, splendid order; bargain, £28; good motor cycle part exchange.—12, Bull Ring, gham.

Chater-Lea Tricar, J.A.P. water-cooled, three- speed and reverse, coach-built, climb anything; al; what offers?—Murphy, 790, Romford Rd., Park.

FAUR, 4½-5h.p., coach-built, chain drive, enamelled cream, 2½in. tyres, good hill-climber, splendid on; offers.—Glencroft, Knight's Hill, West Nor- London.

Garrard, three speeds, excellent condition through- out, good head lamps, new back tyre, new carbur- et; £18.—Apply, Brierley, 12a, Wellington Rd. Stockport.

J.A.P. Twin Water-cooled Tricar, coach-built, ree-speed and reverse, car tyres, wheel steering, good condition; offers wanted.—Lake, Laburn- ave, Ilford, E.

p. Aster Tricar, water-cooled, two speeds and free, wheel steering, 700 by 80 tyres, silent, drive, enamelled lead colour, in good condition; s.—Strefford, Coleham Head, Shrewsbury.

TE and Poppe 4½h.p. Tricar, coach-built, two speeds, free engine, wheel steering, foot clutch, s chains, Palmer cord tyres, acetylene lamps, tools, extra studded cover; £30.—Aylwin, 1, Claygate est Ealing.

h.p. 2-seater Singer Tricar, coach-built, twin-cyl., ater-cooled, three speeds and reverse, free engine, steering, Renolds chain, car tyres, in perfect con- recently overhauled; trial; £30.—Major Nichol- illsborough, Kent.

ETTE, 1908, 6h.p., water-cooled, magneto, two speeds, handle starting, coach-built, finished green uite, car tyres, unpunctured, has just been over- by makers, acetylene lamps, etc.; £46.—Harris, commercial-Rd., Portsmouth.

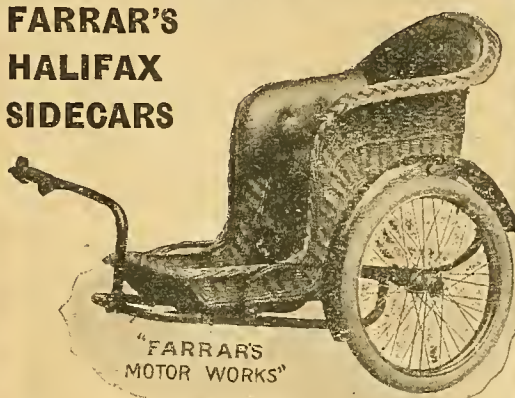
p. Water-cooled Hobart Tricar, two speeds, wheel steering, fitted with magneto and accumulator a, all controls on steering wheel, spare tyres, etc., all in good order; £30; trial by appointment. Barnes, Rushey Platt, Swindon.

p. Water-cooled, with pump, free engine, large metal-to-metal clutch, wheel steering, coach-built just re-upholstered, long footboards; any reason- er accepted; must be sold, as money is wanted.— licott Rd., Sandy Lane, Coventry.

ETTE, 8h.p., two speeds, water-cooled, seats three, finished Napier green, unscratched, upholstering, new Kempshall cover and tube on back, two covers, one tube, spare accumulator, new oil; with basket, three lamps, and horn, guaranteed d running order; £40.—E. Chadwick, High St., Salop.

GUARANTEED 12 MONTHS

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BETTER THAN THE BEST, and HALF THE COST.
£4 17 6 Each. Complete with best tyres.
An IDEAL WINTER ATTACHMENT. Quite Rigid.
No sideslip. Can be ridden without passenger.
Guaranteed twelve months. Full particulars on re- quest. Get one on approval. You will be delighted

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3½ h.p. 1908 N.S.U., magneto, very low.....	£22
3½ h.p. Low REX, handle-bar control.....	£12
8 h.p. BEAUFORT CAR, 3 speeds and reverse	£35
5-6 h.p. 1908 Magneto REX, a beauty	£25
3½ h.p. 1908 TRIUMPH, very good	£29
4-5 h.p. Twin N.S.U., magneto, spring forks..	£21
3½ h.p. REX, magneto, two-speed gear	£19
1908 F.N. Lightweight, Bosch magneto....	£18 0
3½ h.p. Magneto REX, fine condition.....	£17 0
3½ h.p. GRITZNER, 1908, magneto ignition	£17 0
1908 N.S.U. Lightweight, magneto.....	£22 0
1908 Magneto REX, brand new.....	£21 0
3½ h.p. 1906 REX, M.O.V., spring forks ..	£13 10
REX DE LUXE, magneto, clutch	£26 10
5½ h.p. TWIN REX a beauty.....	£15 10
3½ h.p. REX, M.O.V., spray.....	£10 10
6 h.p. TWIN REX and Sidecar	£20 0
6 h.p. REX DE LUXE and Sidecar	£31 10
3½ h.p. BROWN, vertical, M.O.V.	£12 0
3 h.p. MINERVA, champion condition.....	£11 0
3½ h.p. 1907 REX, lovely goer	£15 15
4 h.p. ANTOINE, M.O.V., fine goer	£11 0

TRICARS.

5½ h.p. REXETTE, fine machine.....	£24 0
5-6 h.p. ROVER, newly enamelled	£17 0

1908 Magneto REXES.

Single-cylinder, 3.6 h.p. (R.A.C. rating), black and gold finish, Bosch magneto. £17 10s., or exchange.

SPECIAL PURCHASE.

1909 AMAC carburetters, handle-bar control 19/6 each.
BROWN & BARLOW latest 1910 pattern 28/-

£3 DOWN secures any of these.
Balance 5/- per week.

2½ h.p. Singer, mag.	£6 1	2½ h.p. Stevens ..	£5
3½ h.p. Rex	£9 1	2½ h.p. R. and P. ..	£7
3½ h.p. Dux	£9 1	2½ h.p. Humber ..	£5
3 h.p. Rairair	£9 1	2½ h.p. King	£8
3½ h.p. Humber, 26in. wheels, belt drive.....	£10		

1909 "PREMIER" Magnetos.
Absolutely the finest magneto. **£3 15s.** each.
DELIVERY FROM STOCK.

SPECIAL BARGAINS.

1908 Twin Rex Engine, new.....	£7 10
Twin Bosch Magneto, new	£4 10
1909 Mabon Clutch, like new	£2 0
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Whittle's Belts: rin., 12/6; ¾in., 10/-; ¾in., 7/6, all good condition.	
Montgomery Flexible Sidecar	£4 4
"Fit-All" two-speed gear, h.b. control....	£3 5
2½ h.p. Humber engine	30/-
Tricar frame, for wheel-steering	50/-
Low motor cycle frame, vertical.....	30/-
Very good sidecar, rigid	£3 5
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6

Send for Price List of Accessories—Pounds Saved.

Clincher A Won Covers, all sizes, 17/6 each.
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Tubes with valve, all sizes. 4/11.

High-class Machines Wanted. Cash Waiting.

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TRICARS FOR SALE.

REXETTE, 10h.p., twin-cyl., 1907 model, water-cooled, two speeds and reverse, twin tyres on back, Dunlop car tyres throughout; open any trial; price £35.—Louis B. Davis, 3, New St., Birmingham.

LAGONDA Tricar, 10-12h.p., twin cyls., water-cooled, three speeds and reverse, tyres in excellent order, non-skid on back wheel, just been overhauled, and in grand condition; price £60.—3,447, The Motor Cycle Offices, Coventry.

SIDECARS AND FORECARS.

MONTGOMERY Flexible Sidecar, £4 5s.; trailer, for motor cycle, £1 15s.—12, Bull Ring, Birmingham.

SIDECAR, left.—Creswell, Holbrook Garage, Richmond Hill. Tyre and tube new, 26 by 2; £3 10s., no offers.

SMART Little 26 by 2½ Sidecar, as new; £4 10s.; just what you're looking for.—785, High Rd., Ley- tonstone.

MILLFORD Rigid Sidecar, just bought, but find can- not get into passage; £4 2s. 6d.—132, Branksome Rd., Brixton.

SIDECAR for sale, wicker, upholstered brown leather, Dunlop tyre, good condition.—Apply, 29, Beach Rd., Eastbourne.

FARRAR'S Halifax Sidecars are sent on approval; guaranteed 12 months; immediate delivery; to fit any motor cycle.

HALIFAX Sidecars are superb value; £4 17s. 6d. each; equalling others costing double.—Farrar's Motories, Square Rd., Halifax.

FORECAR, Dunlops, in good condition, 26in. wheels, upholstered green; £5.—Peters, 31, St. Martin's Rd., Stockwell, S.W.

LIBERTY Rigid Art Cane Sidecar, apron, etc., 26in. wheel, splendid condition; only 65s.—Wilkinson, Twigmoor, Doncaster.

LIBERTY Sidecar, left, new Continental, cane body, exceptionally good condition; £4 10s.—Lewis, 23, Arden Rd., Handsworth.

FORECAR Attachment, long stays, nearly new Clin- cher tyres; £4 10s.—Chaufeur, Cottage, Melbourne Lodge, Queen's Walk, Ealing.

WHOLESALE and Retail manufacturers.—Baskets, springs, fittings.—Middleton and Co., Watson St., Newington Green, London, N.

MONTGOMERY, right or left, compensating, uphol- stered green, all in perfect condition; £6.—Francis, Newsagent, Brentwood.

12 Guinea Sidecar, brand new, and this year's model, 26 by 2½ Clincher tyre, latest improvements; £6 8s.—H. Bert, 9, Gaskell St., Clapham, S.W.

CHATER-LEA Spring Frame Forecar, all adjustments, tube steering, no seat nor tyres; £3; perfect con- dition.—Kent, 24, St. Ann's Well Rd., Nottingham.

STAMFORD HILL. — Our famous sidecars at £4 17s. 6d. are giving great satisfaction; Chater-Lea sidecar, £5.—128, High Rd., Tottenham. Deliveries from stock.

ADJUSTABLE Rigid Sidecar, 26in., nicely uphol- stered, new apron, £3 5s.; Amac racing carburet- ter, H.B. control, new. 18s. 6d.; approval willingly. —Scales, 18, Sun St., Finsbury.

SIDECARS.—Before buying elsewhere call and inspect our new models; best value in England; prices, £4 15s. and £5 10s.; second-hands from £3 15s. We are exhibiting at Stanley Show, stand No. 124. Don't forget to call.—C. A. Edgar, 123, Holloway Rd., Lon- don, N.

HALIFAX.—Rigid de Luxe Sidecars, enamelled and plated, luxuriously sprung, everything of the best, fit any machine, 26 by 2½ tyres, £6; art cane bodies, 15s. extra; cheaper quality, as advertised, £4 17s.; second- hand sidecars taken in exchange.—Halifax Motor Ex- change, Westgate, Halifax.

TANDEMS.

PHENIX Lady-back Tandem, 2½h.p. Minerva engine, low built, in good condition and running order; would entertain exchange open sprung tricar frame, or sell £12 10s.—J.C., 261, Rotherhithe New Rd., Ber- mondsey.

QUADCARS.

PHENIX Quadcar, 8h.p., twin, water-cooled, two speeds, excellent condition, £35.—128, High Rd., Tottenham. Great bargain.

PHENIX, 8h.p., twin, new tyres, four lamps, spares, tools, fully equipped and overhauled; trial given; £35 cash net for quick sale.—Moldgreen Engineering Works, Huddersfield.

CARS FOR SALE.

9h.p. M.M.C., 2 or 4-seater, splendid order; £19 10s.—Washington, Middlewich.

5½h.p. Humberette, good reliable car, climb anything; £34; trial.—Haigh, Decorator, Goole.

6h.p. Wolsley, in new condition, property of a doctor; 50 guineas; appointment.—Gladwin, 7, Gaskel St., S.W.

PIEPER Car, 2-seated, belt drive, good climber, per- fect condition; £25.—36, Legge St., West Brom- wich.

CARS FOR SALE.

ALMER.—6-8h.p. Daimler delivery van, 2-cyl., carry about 15 cwt., solid tyres; £35.

ALMER.—9h.p. Jackson, 2-seater, twin-cyl., steel frame, direct top drive, like new throughout; £105.

ALMER.—15h.p. Germain chassis, with tonneau body, ready receive engine and gear box; £15.

ALMER.—8h.p. Regal, tonneau, single-cyl., three speeds, reverse, cardan drive; very cheap, £35.

ALMER.—12h.p. Duryea, 2-seater, 3-cyl., wood wheels, pneumatic tyres, wants overhauling; £10.

ALMER.—12h.p. M.M.C., tonneau, 2-cyl., three speeds, reverse, good reliable car; £40.

ALMER.—16-24h.p. F.I.A.T., side entrance, fully equipped with hood, screen, etc., perfect; £220.

ALMER.—10-15h.p. Panhard chassis, 4-cyl., four speeds, reverse, Krebs wheel control; £55.

ALMER.—15h.p. Darracq, tonneau, dual ignition, hood, screen, fast, reliable, splendid condition; £25.

ALMER.—24-40h.p. F.I.A.T., Roi des Belges, complete with hood, screen, splendid car; £175.

ALMER.—12-14h.p. Humber, tonneau, 4-cyl., cardan drive, raked steering, economical car to run; £85.

ALMER.—16-20h.p. De Dietrich, side entrance, fitted hood, screen, high grade car; bargain, £90.

ALMER.—15-20h.p. Mors, side entrance, brougham, honeycomb radiator, steel frame; £150.

ALMER.—5h.p. motor boat, seat about 20 persons, 25ft. long, magneto ignition; £45.

ALMER.—All above seen any time at L. N. Palmer's, 190, Mellison Rd., Tooting. Garage one minute from tram terminus, Tooting. Phone, 208, Eatham. Photos, details per return. Easy terms; changes.

38 cash.—12h.p., twin-cyl., tonneau, three speeds, reverse, Cape hood, lamps.—518, Kingsland Rd., Dal-

11h.p. Clement, 2-seater, cardan drive, reliable little car, suit traveller; £21.—9, Parkholme Rd., Dal-

CLIPSE.—12h.p. Aster, 2-cyl., side entrance, pressed steel, Stepney, hood, screen, lamps, speedometer; quite bargain, £65.

CLIPSE.—20-30h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.

CLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

CLIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £42 10s.

CLIPSE.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.

CLIPSE.—14h.p. Brooke, tonneau, 3-cyl., three speeds, in excellent order; £30.

CLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £57 10s.

CLIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

CLIPSE.—10-12h.p. Sorex Cab, 4 seats, in splendid order; £87 10s.

CLIPSE.—5h.p. Beeston Humberette, two speeds, climbs anything; £28 10s.—Eclipse Engineering Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 15 Putney.

22.—9h.p. latest type Oldsmobile, two bucket seats, wheel steering, fine order; part exchange.—34, Beau Liverpool.

30. Mors, 8-10h.p., 4-seater, three speeds and reverse, Buchet engine.—Concord, Sandfield Rd., Thornton Heath.

11h.p. Argyll, just thoroughly overhauled and re-painted, detachable tonneau, exceptionally powerful engine; offer £35.—Below.

11h.p. Clyde, Aster engine, good condition, handy 2-seater, lamps, and spares; £45.—Below.

11h.p. Vauxhall, 2-seater, two speeds, good order, wire wheels; £20.—Below.

11h.p. Baby Peugeot, three speeds, little used, practically equal new, can do 31 miles per hour, Stepney wheel, re cover, etc.; £37 10s.—Below.

EXCHANGES Considered.—Sully, 10, Old Town, Clapham. Photos. Phone, 1781, Battersea.

11h.p. Progress, Aster engine, three speeds and reverse, 22 artillery wheels, lamps, horn, in good condition; £5.—14, Clapham Rd., S.W.

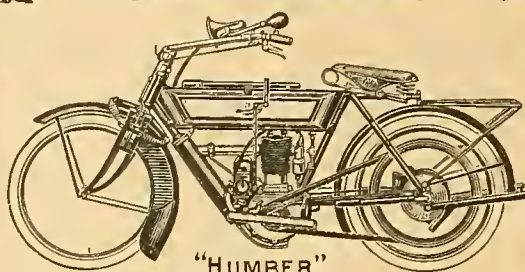
LADIATOR Car, 6h.p., 4-seater, artillery wheels, three-speed and reverse, splendid order; £35; trial appointment only.—329, Goldhawk Rd., W.

EGAL Car, 6h.p. Aster engine, overhauled, re-painted, lamps, horn, Stepney, tyres, and all in splendid condition; nearest offer, £40.—Graves, High St., Mablethorpe.

0h.p. Ariel de Luxe, new last July, not run 1,500 miles; too powerful for owner; cost £625, accept £75.—Full particulars, write, Burman, 3, Fludgate Rd., Wottonstone.

ALIFAX.—8-10h.p. 2-cyl. Ford, very little used, 700 by 85 tyres, artillery wheels, 2-seater; £24 10s.; ready to drive away.—Halifax Motor Exchange, West-e, Halifax.

1909 HUMBERS.



"HUMBER"

We have purchased several 1909 Humber Motor Cycles, and offer them at bargain prices. All these machines are like new, and have been throughout examined and overhauled by the makers.

A SPLENDID OPPORTUNITY occurs for purchasing a practically new machine at "old crock" price.

IN STOCK AT HALIFAX.

501. Racing model, girder forks, 2½ h.p. J.A.P. engine, Dunlops, nearly new £25 0

503. 3½ h.p., two-speed gear, Dunlop studded tyres, Brooks Bro5/4 saddle, perfect order, trials machine £34 0

506. 3½ h.p., two-speed model, finished French grey, Druid forks, Dunlop studded tyres; a bargain £32 0

504. 3½ h.p., two-speed, nearly new tyres, excellent condition £33 0

507. 3½ h.p., two-speed, Bro5/4 saddle, padded, standard specification, almost new £36 0

In fact, all these machines are like new, and guaranteed fully. They have been used for trials and demonstration purposes only. Exchanges entertained. Let us have your enquiries.

IN STOCK AT LONDON.

508. 3½ h.p., two-speed, magneto, Druid spring forks, large belt rim and pulley, Brooks Bro5/4 saddle, Dunlop studded tyres, practically new £37 0

509. 3½ h.p., two-speed gear, Dunlop studded tyres and perfect, magneto.... £32 0

505. 3½ h.p., pedal model, finished French grey, Druid forks, Brooks saddle, nearly new, Dunlops..... £30 0

500. 3½ h.p., Druid spring forks, Dunlops, extra large petrol tank, six days' trial machine £34 0

502. 3½ h.p., two-speed gear, Dunlops studded, Bro5/4 saddle £32 0

N.S.U.'s.—IN STOCK AT BOTH HALIFAX & LONDON.

3 h.p.	£37 0	£25 0
3½ h.p.	£40 0	£31 0
3¾ h.p.	£42 0	£32 0
3½ h.p.	£52 0	£37 0

All brand new and perfect, and fully guaranteed by us. Let us have your enquiries. Best allowances given.

3½ h.p. 1908 N.S.U., brand new	£31 0
3½ h.p. MINERVA, spring forks.....	£15 0
4 h.p. HAMILTON, will climb anything ..	£14 0
3 h.p. TRIUMPH, magneto, practically new tyres, handle-bar control, guaranteed to climb Sutton Bank; a beauty	£20 0
2 h.p. MOTO-REVE, magneto ignition, spring forks	£20 0
3 h.p. CENTAUR, in good condition	£9 0
2½ h.p. BARTER, Brooks saddle, 26in. wheels	£8 0
5 h.p. Twin REX, 1906, first cheque secures ..	£15 0
2 h.p. BRADBURY, three-speed pulley and free engine	£10 0
2 h.p. MINERVA, new enamelled, in good condition.....	£8 0

All machines guaranteed in running order.

50/- DOWN AND 5/- weekly secures the following:

QUADRANT, 2 h.p., spray	£8 0
SINGER, 2 h.p., magneto	£6 0
MINERVA, 1½ h.p., coil and accumulator..	£5 0
REX, 3½ h.p., aluminium finish	£9 0
DOWSON, 3½ h.p., long wheelbase	£10 0

TRICARS.

3 h.p. HUMBER, cane chair, upholstered in red, splendid condition throughout, and fitted with good tyres, etc. £15 0

PHENIX Trimco, two-speed gear, foot brake, coach-built, good tyres to wheels £15 0

TRICYCLE.

DE DION, fitted with genuine De Dion engine, perfect order, enamelling and plating in splendid condition £7 10

BOOK YOUR ORDERS FOR 1910 P. & M.'s.
 Lightweight model..... £47 0
 Heavyweight model £55 0
BEST EXCHANGE ALLOWANCES.

MADE'S MOTOR MART, POWELL STREET, HALIFAX.

Telephone—433 Day, 904 Night.
 Telegrams—"Petrol, Halifax."
 Also at 136, Great Portland Street, LONDON, W.

CARS FOR SALE.

NEW Orleans, smart, 7-9h.p., 2-cyl., three speeds, reverse, detachable tonneau, in excellent order; good motor cycle or tri-car part payment.—Garnham Woodbridge Rd., Ipswich.

IMMEDIATE Sale or Exchange 8h.p. Wolseley, s running order, latest improvements, for 6h.p. two-speed gear, sidecar, 1908 or 1909.—Write, S., Forest Rd., Walthamstow.

SMART Little 5½h.p. O.T.A.V. Car, Bosch magneto, ignition, Continental tyres, as new, Cape hood, 95 guineas, price £40; any trial and examination. Riddelsdell, Boxford, Suffolk.

HUMBERETTE, 5½h.p., governed engine, three speeds and reverse, £55; 8h.p. M.M.C., three speeds, reverse, £45; both cars good condition; give trial pleasure.—Westons, Shaw Lane, Leicester.

6 h.p. Genuine French Helbe Car, single cyl., wipe down, three speeds and reverse, two bucket seats, roomy sloping boot behind, newly painted crimson, in good order, smart fast car; £45.—Grampian Engineering and Motor Co., Ltd., Causewayhead, Stirling.

INSURANCE.

PLEASE send for reduced rates for 1910 policy: Personal 5s., inclusive 18s. 6d. per annum.—Bass Insurance broker, Ongar.

INSURANCE for Motor Cycles of every description arranged by Hugh J. Boswell, Insurance Broker, Norwich: fire, 2s. 6d.; third party, 7s. 6d.; accident, 15s.; inclusive policy, 18s. 6d.; please write for particulars.

TUITION.

MOTOR Car Driving and motor tyre repairs taught in one month.—Particulars, Stimpson, Stratford-upon-Avon.

MOTOR EXPERTS.

NYE'S!—The place for bargains; cycles taken in exchange. — 69, Leather Lane, Holborn. 6299 Holborn.

SITUATIONS WANTED.

MOTOR Cyclist, six years' experience with all makes, would like situation in any capacity.—3,461 Motor Cycle Offices, Coventry.

BUSINESSES FOR SALE.

WELL-ESTABLISHED Cycle Business for sale in market town, good position, main road, convenience, stock, etc.; about £300; good reason for selling.—Box No. 3,455, The Motor Cycle Offices, Coventry.

LOST AND FOUND.

FOUND, October 14th, a starting handle, in 100 Square.—Apply, Dr. Warren Davis, 1, Dorset Square.

£10 Reward.—The above reward will be paid to any person for information that will lead to the recovery of the 3½h.p. Tourist Trophy Triumph, No. 5951, frame No. 140255, which was stolen from The Garage, Brooklands, Weybridge, on Saturday, 31st. between 4.15 p.m. and 5.30 p.m.—Reply, 1 Clifton Buildings, Vandy St., Worship St., London.

FINANCIAL.

PARTNER Wanted, with £500, to extend motor manufacturing business (Midlands), good condition; output easily doubled; half share; exceptional opportunity.—3,464, The Motor Cycle Offices, Coventry.

THE Proprietors of the Patent No. 14,631, of "Lubricating arrangement applicable to motors of motor cycles," desire to sell the said patent or to grant licences on reasonable terms for the manufacture in this country of such patented apparatus. Address, Harris and Mills, 23, Southampton Buildings, London, W.C., patent agents.

ENGINES.

3 h.p. Engine, fitted with F.N. carburetter; £25. Clarendon St., Earlsdon, Coventry.

5 h.p. Soreale Twin, exhaust valve lift, perfect condition. £6.—94, Alexandra Rd., Lowestoft.

TWIN-CYL. Soreale Engine, 5-6h.p., carburetter or near offer.—Bottone, Wallington.

TRIUMPH Engine and silencer, 78 by 76, only 18 months; what offers?—14, Fir St., Sheffield.

1½h.p. Clement-Garrard, with two-speed and full complete; £3.—205, Broomfield Rd., Coventry.

ENGINES for Cars, cycles, motor boats, and aeroplanes.—Send for particulars to Advance Motor Manufacturing Ltd., Northampton.

NILMELIOR Ball Bearing Magneto, single-cyl., cost £5 17s. 6d., what offers?—Crole-Rees Highbury Quadrant, N.

ENGINE Sets, 2½h.p. Dennis, complete with flywheels, cylinders, crank cases, etc.; accept 17s. 6d. set. Bull Ring, Birmingham.

DE DION Engine, 3½h.p., water-cooled, suitable for car, £7 10s.; also gear box for same, £2 10s. Bull Ring, Birmingham.

MODEL Petrol Motors, ½h.p., real, sound, practical, water-cooled engines for practical work; many castings; wonderful trade value; 9s. 9d.; air or oil cooled; catalogue, illustrated, 4d.—Madison Motor Littleover, Derby.

ENGINES.

J.A.P. Engine, vertical, new condition, £3 5s.; N. carburetter, 5s.; coil, 5s. — Colling, Sea nchelsea, Sussex.

AIN.—Genuine 3½ h.p. M.O.V. White and Poppe ine, with coil, Longuemare carburetter, silencer, s.—Particulars, A. Moyse, Kessingland.

nd Second-hand Engines, 1½ to 8 h.p.; cash, stalments, or exchange; 12 years' Coventry ex- all types cycle motors; M.M.C., De Dion parts all repairs prompt and moderate.—The Record , Wembley, Middlesex.

IGNITION APPLIANCES.

fact.—Pure platinum is best for contact tips.— ith, G.O.M., Summer Lane, Birmingham.

wanted, three Fullers Midget trembler coils, never used.—Jenkins, 169, Tredegar Rd., Bow, E.

ER Magnetos, brand new, 1909 model, single- £3 15s.; twin-cyl., £4 10s.—Farrar, Square fax.

ETOS.—Hirst, very latest; 3 guineas each; ap- oral; guaranteed.—Wauchope's, 9, Shoe Lane, London.

Primary Battery, for charging ignition accu- torators; from 2s. 6d.—Pearce, 23, Repton Rd., n, Bristol.

BLERS for all makes of engines, with solid e platinum tips, 1s. 3d. each. — Meredith, Birmingham.

T Pattern Brand New Bosch Magneto, £2 15s.; 18 amp. Minerva accumulator, 7s. 6d.—52, Manor Park.

N, Registered 291-289, vastly superior to num, cures misfiring; best contacts for blades, exers, magnetos, coils. Jebron has no equal.

N. 2s. 6d. each rivet fitted; Jebron trimmers, Jebron screws fit Bosch magnetos DA2, DAV, eakers 5a, 5b, 5c, 5s. 6d. pair; old screws Jeb- 6d. each. Over 10,000 fitted. Try it.

N. King of Contacts, fitted return post free.— n the inventor, J. Edwards Brown, 38, Her- Plumstead, Kent. Liberal trade terms.

N Contacts were used by Messrs. H. A. Collier hours), C. R. Collier, H. V. Colver, Harry hen making their recent world's records.

M Champion Contacts. — Any parts fitted red same day, 1s. 3d. each, warranted pure; idium trimmers, 9d.; magneto screws refitted, ch.—Williams, 16, Wellington St., Woolwich.

ON Coils and Magnetos Repaired, any make; mulators repaired and charged; best workman- erate charges. Tel.: 453.—Glover Bros., Elec- Coventry.

RISTS. We are experts on ignition; send your s, accumulators, and magnetos to us for over- nd repairs; all work guaranteed; promptness tch.—The Victoria Garage and Electrical Co., entry.

ETO Repairs.—Bosch magnetos repaired in two t half makers' prices; work guaranteed; ac- and coil repairs a speciality; Mayfair accu- 15 amp., 10s. 6d.; guaranteed.—Fellows, 49, St. Maryfair.

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FITE Patches, the absolutely only sure patch e market.

FITE Patches, the only patch that will not e off, no matter what heat or speed of tyre.

FITE Patches, small size, 1s. per dozen; sample e on receipt of Id. stamp

DGE'S Indiarubber Magneto Covers, 2s. 6d. a post free.

FITE Solution, splendidly made; 6d. and 1s. r tin.

DGE. 58, George St., Camberwell, London,

ETO Covers, made of special high-class rubber, ranted not to tear; wet mud, and oil resist- 6d. each; post 1d.—Below

DGE'S Special Heavy Inner Tubes, made of best rubber, will stand speed and the roughest of —Below.

DGE'S Tubes are made for the motor cyclist wants no trouble.—Below.

DGE'S Tubes are the result of a practical hard of all weathers; the absolutely best obtainable.

DGE'S Tubes, 26in. by 2½in., 13s.; 26in. by . 13s. 6d.; money returned with pleasure if oved; best quality.—58, George St., Camberwell,

, Covers, and Inner Tubes, at sacrifice prices; inspect.—Wauchope's, 9, Shoe Lane, E.C.

, 920 by 120, Dunlop, steel studded, new o tread; £2 10s.—J. Storey, Elsdon, North-

owed for your old cover against a new rubber ded Clincher at 30s.—James Fox, 136, Suffolk ingham.

NE for Covers and Tubes.—See last week's ert.—215 and 217, Pentonville Rd., King's ondon, N.

THIS WEEK'S Knock-out Bargain

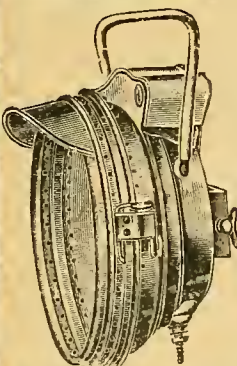
£4 15s. 1½ h.p. QUADRANT, low built, 26in. wheels, ready to drive away .. £4 15s.

BIG DISCOUNT FOR CASH.

—ALL THOROUGHLY TESTED.—

Brand New 1909 V.S.: good stuff.... from	£48 0
Brand New 1909 N.S.U.'s.	£27 10
1909 TRIUMPH, brand new	£45 0
1909 3½ h.p. Magneto TRIUMPH, little used	£37 0
1909 3½ h.p. Magneto TRIUMPH, 2 speeds	£45 0
1908 3½ h.p. Magneto MINERVA, spring forks	£21 10
4 h.p. ROC, 1907, magneto, H.B. control ..	£23 0
MOTO-REVE, Druid forks, magneto & belt	£25 0
MOTOSACOCHE, 1908	£22 10
3½ h.p. N.S.U., magneto, low, long bars	£20 0
3½ h.p. ARIEL, M.O.V., 26in. wheels	£15 15
F.N., 2½, vertical, 26in. wheels, magneto....	£15 5
REX, 3½, 1906, spring forks, M.O.V.	£12 10
4 h.p. CORONET, Roc type frame, 26in. wheels	£14 10
4 h.p. ANTOINE, M.O.V., spray, vertical ..	£15 0
1907 3½ QUADRANT, spring forks	£16 10
1907 3½ REX, spring forks, low	£16 10
ALLDAYS, 2½, 26in. wheels, spring forks	£11 0
REX, 3½, John-o'-Groat's model, 22in. frame	£9 10
KERRY, 2½, spray, 26in. wheels	£10 10
BUCHET, 2½, long low mount	£9 10
3 h.p. HUMBER, spray, clutch	£7 10
TRIUMPH, 2 h.p. Minerva engine, spray ..	£9 10
QUADRANT, 2 h.p., low, 26in. wheels	£8 10
REX, 3 h.p., long bars, dropped seat	£7 10
RALEIGH, 2 h.p., vertical	£7 5
REX, 3 h.p., good value, vertical engine	£5 19
1½ h.p. TRIUMPH-MINERVA, a gift	£5 19
MINERVA, 2 h.p., M.O.V., spray	£6 15

Full list on application.



The BRITELITE.

Strongest generator lamp on the market. Perfect in every detail, complete with clip and extra large generator, 16/6.

Approval against cash.

£3

deposit and balance in weekly payments of 5/- secures a good reliable motor cycle up to value of £11.

SCENE SHIFTERS.

1909 Twin VINDEC	£64 0
Twin REX, 5-6 h.p., magneto	£21 0
4½ h.p. Four-cylinder F.N., magneto	£20 10
1908 Twin REX DE LUXE	£32 10
Twin REX DE LUXE, two speed	£32 10
6 h.p. Twin ANTOINE, ROM, a flier	£15 0
5½ h.p. Twin REX, spring forks	£17 17
6 h.p. Twin ZENITH, spring frame	£14 0
5½ h.p. Twin REX and new Sidecar	£18 10

MISCELLANEOUS.

The Latest in Headlights, "The Britelite"	16 6
Cowey Speedometer, as new	£3 3 0
Roc Clutch and Two-speed Gear to fit 1909 Triumph	£6 10 0
New XL-ALL spring forks	16 0
Forecar, long side stays, 26in. wheels, good tyres, less front seat	£2 10 0
NEW and Second-hand Accessory List on receipt of postcard. GET THIS—IT'LL PAY-YOU.	

BROWN AND BARLOW and AMAC Carburetters, with handle-bar control. B. and B., 25/-; Amacs (1909 32/- model), 19/6. Exchanges.

SIDECARS is more than some dealers ask for a sidecar, but it's cheap when you see what you get. We will send on appro. on receipt of cash. 2½ tyre.

5½ h.p. REX DE LUXE, magneto, spring forks, handle starting, and new art cane sidecar, 26 x 2½ Clincher tyre, £27 10s.

TYRES.

ALL NEW, PERFECT, AND BEST MAKES. 24 x 2½ 15/6; 26 x 2½ 18/6; other sizes 17/6 each. Send for Lists (free). Exchanges made.

CONTINENTAL TYRES BY RETURN.

COLLIER'S MOTORIES, 37, Park Cross St., LEEDS.

(FACING TOWN HALL.)

TYRES.

2,000 Clincher Tubes, 28 by 2, 2½, 3s. 11d.; 26 by 2, 2½, 4s. 11d.; 26 by 2½, 5s. 6d.; all brand new.—Booth's Motories, Halifax.

1,000 Clincher Covers, 17s. 6d.; Clincher rubber studded, 25s.; 26 by 2½ Peter-Unions, 17s. 6d.—Booth's Motories.

5,000 Old Covers and Tubes wanted in part payment for new Continentals, R.O.M., Palmers, Shamrocks; gratifying allowances; right place for tyres.—Booth's Motories, Halifax.

MOTOR Tyres of all makes supplied, covers retreaded, relined, non-skid bands, every size supplied; write us.—Reliance Co., Dulas St., Tollington Park, N.

1,000 Clincher and Reflex Clipper covers, all sizes, brand new and perfect, 17s. 6d. each; tubes, with valves, 4s. 11d.—Motor Exchange, Westgate, Halifax.

BRAND New Perfect Motor Cycle Covers, 24 by 2½, 26 by 2, 28 by 2½, best makes; 14s.—Motor Exchange, Westgate, Halifax.

LUCKY Farrar.—Bought two tons tyres before rubber advanced; Clincher covers, 17s. 6d.; tubes, 4s. 11d., all sizes; Continentals and other makes equally cheap.—Square Rd., Halifax.

COVERS, Covers.—650 by 65 extra heavy covers, 30s.; 700 by 65 ditto, 30s.; 700 by 85 ditto, 50s.; also huge quantity of all other sizes: save 50 per cent.; send for clearance list.—Garnham and Co., tyre factors, Ipswich.

TYRES.—All makes supplied by return. R.O.M., Continental, Dunlop, Goodrich, Palmer, Clincher, Michelin, Shamrock, etc.; expert advice from actual experience as to trying; agent for all re-treads; old covers bought.—Bernard Elston (temporary address) 58, Penge Rd., South Norwood, S.E.

ANY Tyres on approval.—26 by 2 Lomax detachable non-skid band, equal new, 17s.; newly re-treaded Clincher, 10s.; new ribbed cover, 16s. 6d.; 26 by 2½ detachable rubber stud non-skid band, new, 17s. 6d.; newly re-treaded Clincher, 11s.; Continental, just re-treaded, rubber studs, 13s. 6d.; 26 by 2½ rubber stud cover, new, 28s. 6d.; Dunlop, second-hand, sound, 10s.; 650 by 65 new Michelin tricar cover, plain, 18s. 6d.; 26 by 2½ W.O. ribbed cover, new, 17s. 6d.; 28 by 2½, W.O., Bates, 18s. 6d.—Jas. Fox, 136, Suffolk St., Birmingham.

REPAIRERS.

PREMIER Motor Co. for all repairs.

PREMIER Motor Co. for Antoine parts.—Aston Rd., Birmingham.

ANTOINE Cylinders, pistons, etc.; prompt delivery.—Premier Motor Co., Aston Rd., Birmingham.

COMPRESSION.—Cylinders ground and new pistons fitted; 24s.: oldest engines restored to highest vitality.—Premier Motor, Birmingham.

OBsolete Parts accurately duplicated; irreproachable work; quotations free for all repairs.—Premier Motor Co., Ltd., Aston Rd., Birmingham.

£5 Any Motor Cycle we cannot repair.—White's, 22, Brooks Alley, Liverpool. Royal 3782.

ACER, Ltd., for repairs.—64, Grosvenor Rd., Hanwell, W. Tel.: 433 P.O., Ealing.

COMPRESSION Restored, cylinders ground to .001in. guaranteed; pistons fitted.—Acer, Ltd.

ENGINE Repairs in all branches.—Overhauling, re-bushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges. Lists free.—Acer, Ltd.

CYLINDERS Re-bored, new pistons fitted, re-bushing, estimates free.—Dewsbury Road and Canning St. Motor Wks., Leeds.

OXY-ACETYLENE Welding.—Broken cyls., flanges, cracked water jackets, valve seatings, pistons, and any broken castings.

OXY-ACETYLENE Welding.—Aluminium crankcases a speciality, overhauling, cyls. ground, new pistons fitted, all work guaranteed.—West London Welding Co., Essex Place, Chiswick. Tel.: 536.

NYE'S. — Repairs of every description; skilled workmen; consult us.—69, Leather Lane, Holborn. Tel.: 6299 Holborn.

CRACKED Water Jackets of Motors successfully repaired by Lea's metallurgical process.—Lea and Son, Engineers, Runcorn.

FRAMES Cut Down, tanks made to fit; your old machine modernised beyond recognition; send p.c., and will give price; customers delighted.—Butterworth, 174, Stamford St., Stalybridge.

To West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders rebored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Wks., Bridgwater.

CCCCCCCC. — Compression means power; cyl. re-bored and new piston fitted; guaranteed fit 4-1,000in. bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

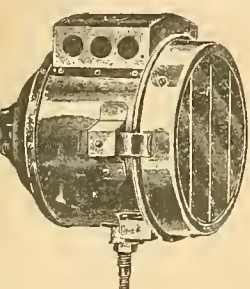
BIRMINGHAM. — Overhauling, repairs, re-bushing, cylinders re-bored, pistons (flat or dome), pulleys, valves, connecting rods, step-cut rings; any special parts or ideas; frames cut down and altered; re-enamelling and plating; estimates by return.—Priest and Co., 66, Bishop St.

PREMIER

MOTOR CO., LTD.

PREMO" is the new Registered title for all our Specialities.

THE BRITISH PREMO SEARCHLIGHT.

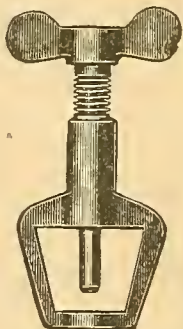


The lamp of World-wide repute. Mirror Lens, Made of solid brass. It was the first Searchlight for motor cycles to be marketed, and remains the **BEST**. **30/-**. With Premo Generator and I.R. tube.

Full details in our new Catalogue. Discount to trade.

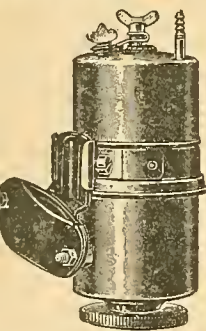
THE PREMO HOLLOW CUTTER BELT DRILL.

A hardened steel hollow cutter takes the place of the usual drill or punch. Makes a true, clean hole with little effort.



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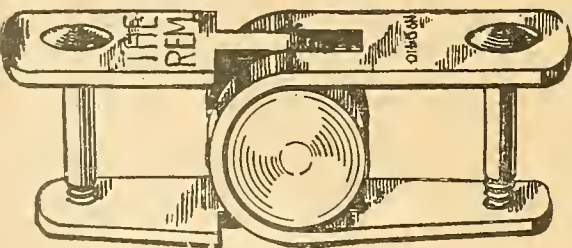
THE PREMO GENERATOR



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TENNANT Engineering Co., compression specialists.—Cylinders re-bored, ground, and new pistons fitted from 12s. 6d.; new pulleys, any pattern, from 5s.; accumulators properly charged and repaired. Will our numerous clients please note that we are now installed in larger premises with increased productive facilities at 120, Pershore St., Birmingham.

EXCHANGE.

EXCHANGE coach-built forecar for wicker.—35, Englefield Rd., Kingsland.

LADY and Gent's Cycles, in good condition, for motor cycle.—24, Strafford Rd., Acton, W.

4 h.p. Aster, Chater tricar, two-speed, light and low; £18, or cycle and cash.—Jarvis, Hertford.

EXCHANGE for good motor cycle, 4 h.p. Quadcar, two speeds, good order.—28, Dock St., Leeds.

£50 and motor value £30 buys freehold house in Purley.—Particulars, apply, Axell, Elm Rd., Purley.

GENT'S New Two-speed Bike, also lady's, good condition, for motor cycle.—23, Oxford Rd., Wycombe.

EXCHANGE for good motor cycle, 5 h.p. twin Triette tricar, just been overhauled.—28, Dock St., Leeds.

8 by 4 Billiard-Dining Table for Motosacoeche, Douglas, Triumph, magneto, cash adjustment.—Cook, Cafe, Newmarket.

PIANO, iron frame, check action, trichord; exchange for magneto motor cycle.—38, Romiley Rd., Finsbury Park.

LATHE, 5in., S.S. and S.C., gap bed, £16, or motor cycle and cash, or small car.—44, Stanmore Rd., Leytonstone.

WILL give second-hand push bike for good 3 h.p. engine, with carburetter.—Smith, 48, Willingdon Rd., Eastbourne.

3 h.p. Humber Tricar, two speeds, £17; 3 h.p. tricar, Minerva engine, £15; exchange motor cycles; offers.—Below.

6 h.p. Rexette, practically new, unsoiled, three lamps, accessories, spares, very smart; £35, motor cycle part.—Below.

9 h.p. Rex Car, cardan drive, tonneau, easily alter to 2-seater; £35; motor cycle part.—Below.

12-16 h.p. Prunel, handsome 4-cyl. car, good tyres; £65, smaller car part.—20, Potternewton Lane, Leeds.

COLUMBIA Graphophone, with 30 records; exchange for good pair paraffin side lights.—Rev. Patrick, Galbally, Tipperary.

EXCHANGE for motor cycle, gent's Humber tandem, Edison phonograph, and records.—George Collier, Repton, Burton-on-Trent.

EXCHANGE Raleigh Three-speed Cycle, cost 15 guineas last season, for motor cycle.—J. Hanson, Halifax Rd., Hightown, Liversedge.

REXES—Few 1909 machines, brand new: offers considered; must be cleared for 1910 models.—Halifax Motor Exchange, Westgate, Halifax.

EXCHANGE Boiler and engine, complete, 50 volt 4 amp. dynamo, good order, for motor cycle.—Apply, 33, Dover Rd. East, Northfleet, Kent.

EXCHANGE good reliable second-hand motor cycle for perfect reliable typewriter and cash.—Stanton, 619, Lea Bridge Rd., Leyton, London.

20 £1 Shares in well-known motor company and cash for 1908 or 1909 magneto Phelon-Moore or Triumph.—Motor, 1a, Prince's Av., Finchley.

GIVE new rubber belt for X'fall spring forks, or other accessory. Give new treadle lathe for air or water-cooled engine.—Booth's Motories, Halifax.

3 1/2 h.p., low, long bars, Amac, as new, for lightweight, magneto, Moto-Reve preferred; sell £21; trial.—3,446, The Motor Cycle Offices, Coventry.

12-14 h.p. Chenard-Walcker, 2-seater, four speeds and reverse, cardan drive, Dunlops, fast, for motor cycle.—5, The Parade, Coldharbour Lane, S.E.

3 h.p. Bradbury and Sidecar, magneto, Palmers, spring forks, excellent condition, for Motosacoeche, or sell £16.—H., 22b, High St., Kingston-on-Thames.

10 New Cycles, by leading makers, offered in exchange for motor car, valued about £48, offers; no rubbish.—Melvin, cycle agent, Stonehouse, Lanarkshire.

3 h.p. Hobart Motor Cycle, good condition; £9 10s., or offer; will exchange for furniture, typewriter, or anything useful.—Conway Villa, George St., Bedford.

TYRE Building Machine, build up to 2in., Longne-mare, Rex spare tank, for magneto, headlight, 28in. by 2 1/2in. B.E. tricar tyre.—37, Merefield St., Rochdale.

TYPEWRITER wanted, in good condition; exchange motor bicycle to value, or cash adjustment either way.—Eastern Garage Co., 418, etc., Romford Rd., Forest Gate, E.

WANTED, fumed oak dining and bedroom furniture in exchange for 5 h.p. (1909) twin Rex, perfect condition, new July.—No. 3,462, The Motor Cycle Offices, Coventry.

5 1/2 h.p. N.S.U., Bosch magneto, and Montgomery side-car, all perfect, for modern magneto, single; sell £30; separate £25 and £6.—Bell, chemist, Waterloo Rd., Middlesbrough.

IMPORTANT SALE OF SHOP-SOILED MOTOR CYCLES.

Guaranteed 1909 and 1910 Models not 1908 Machines. Must be cleared to make room for New Stock.

1910 **ARIEL**, free engine, variable pulley worked from handle-bar, all the latest 1910 improvements; listed £51 10s.; in price, £40 cash; a great bargain.

1910 **LINCOLN ELK**, 3 h.p., Palmer tyres and tubes, magneto ignition; to make room £25 cash; only shop-soiled.

1909 (two) **ARNOS**, 3 and 3 1/2 h.p., never been on road; lowest model on the market; to clear, £28 and £32 10s.; listed £37 10s. and £45; an exceptional bargain.

1909 **REX**, 3 1/2 h.p., all the latest improvements; a great bargain at £35 cash listed £42; from makers, shop-soiled.

1909 3 1/2 h.p. **HUMBER**, two-speed gear, free engine; handle starter; from makers month ago; £45 listed; will sell for £40 cash; shop-soiled only.

1909 5 h.p. **Twin NORTON**, with Phelon and Moore two-speed gear; a fine sidecar machine; listed 62 guineas; to clear, £40 cash; done 50 miles.

1909 1 1/2 h.p. **LINCOLN ELK**, spring forks, Palmer tyres and tubes; a bargain at £22 10s. cash; as new.

1909 **PHELON & MOORE**, 3 1/2 h.p., fine sidecar machine, go anywhere; listed £52 10s. sell for £40 cash; a bargain.

1909 **TRIUMPH**, fine order, little used; a romping machine; sell £35 cash.

GOOD SECOND-HAND MACHINES.

1908 **QUADRANT**, 3 1/2 h.p., var. pulley.. £21

1907 **TRIUMPH**, handle-bar control .. £25

1907 3 1/2 h.p. **REX**, spring forks..... £10

1906 3 h.p. **HUMBER**..... £7 10

1908 **MOTO-REVES**, fine order, £12 10s. and £14

1908 **MINERVA**, 2 1/2 h.p., a romper ... £17 10

1908 **KERRY**, 3 h.p., low built, h.b. control..... £18 10

1908 **FAIRY**, as new, twin-cylinder... £15

1908 **LINCOLN ELK**, 3 h.p. £15

1908 **Four-cylinder F.N.**, 3 h.p., mag-neto £18 10

A fine assortment of reliable models from £10, all on deferred payment, comprising

MINERVAS, REXES (Single and Twin), TRIUMPHS, RADFORDS, ARIELS, DOUGLAS HUMBERS, QUADRANTS, KERRYS.

Lightweights of all makes, besides a few powerful Twin Machines for Sidecar work. State what you want. Everything sold on approval against cash. Offers and Exchange entertained for anything I have in stock.

TUBES AND TYRES (all makes).

SPECIAL TERMS for advertised makes. Tubes from 4/6; Tyres from 15/-. See our hands, in all makes, equally cheap. Allowance on old tubes and tyres. Have bought right, and am selling right. Small Profits Quick Returns.

Remember, boys! I am the only firm who sell all goods ON APPROVAL, and PAY THE CARRIAGE. Prices right to the Trade.

CONTINENTAL TUBES & TYRES.

Write at once for quotations. 5/- to 10/- allowed for old cover. Special terms for **ONE WEEK ONLY**. Stock just come in, no perished rubbish. **REMEMBER!** Rubber has gone up 50 per cent.

Winter Riding and Bargain Lists now ready

Note the address of the Only Motor Broker:

HITCHEN'S LANCASHIRE MOTOR EXCHANGE,

EUSTON RD., MORECAMBE

Tel. 112. Wires: "Motor, Morecambe."

Motor BICYCLES

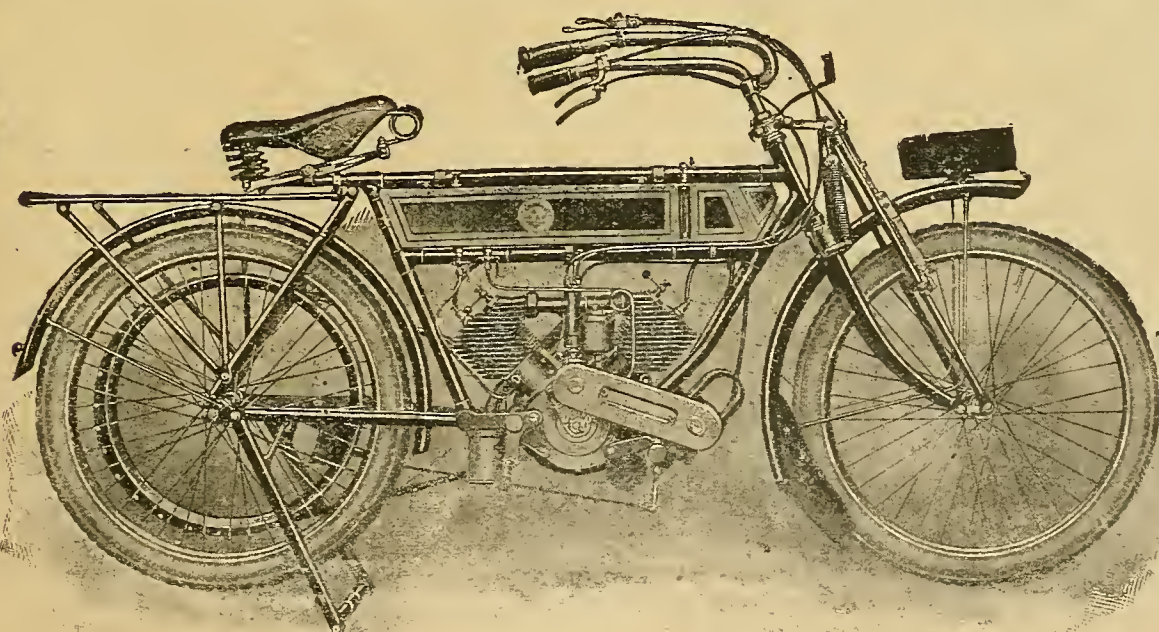


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Single-cylinder Motor Cycle
can possibly be, is the

PREMIER Twin-Cylinder MOTOR BICYCLE.

It is designed to meet the needs of far-riding motor cyclists who desire a machine of the utmost reliability and speed power. The even firing, perfect balance, absence of vibration and ease of control are qualities which will recommend themselves to every motor cyclist.



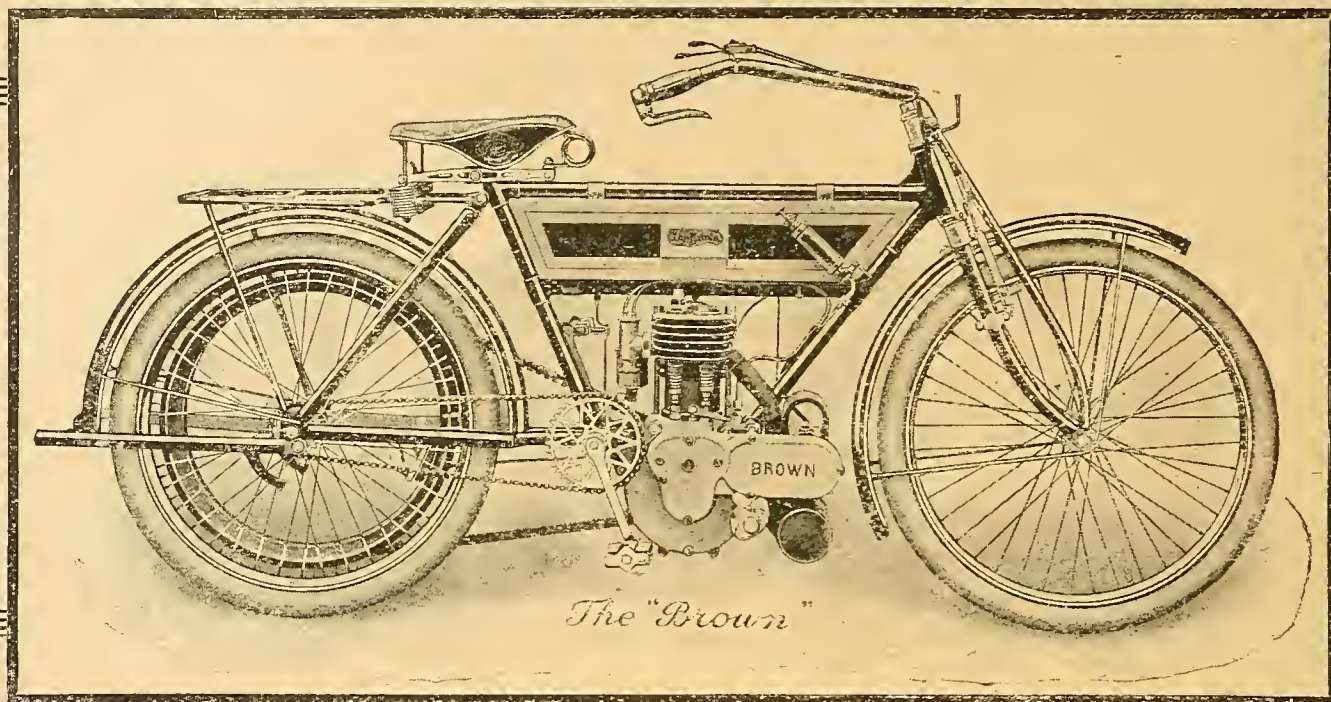
PREMIER MODEL 2. DOUBLE CYLINDER. PRICE 50 Guineas net cash.

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See it at the Stanley

Cycle Show, **Stand No. 267,** in the Gallery.



The "Brown"

The 1910 'Brown'

3½ h.p. 85 x 85 m/m Motor Bicycle.

Every motor cyclist interested in seeing the very latest advance in motor cycle construction should arrange to visit our stand, and examine the new model illustrated above. In no other instance are so many desirable features found embodied in one machine—innovations in design, in engine construction, in minor fitments, etc.—such as will be approved by the most critical rider.

Spring Forks of an entirely new type

will be the standard fitment for this model. Ball-bearing engine, chain drive for magneto, adjustable pulley—not to mention a number of other improvements, you will be able to discover for yourself.

Make a note to examine it NOW, or send us your name and address, and we will post you full specification and price particulars immediately they are out of press.

BROWN BROTHERS, Ltd.

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Showrooms:
Wholesale
only:

15, Newman St., Oxford St., W.
Gt. Eastern St., LONDON, E.C

If the Price is your principal consideration,

you should write us for full particulars of our special offer, whereby you can obtain a brand new motor bicycle of proved reliability at an hitherto unheard-of price.

£28 for a 3½ h.p. motor cycle. A few 5½ h.p. twins at £42.

This offer refers to a few 1908 models of Brown motor cycles we are clearing to provide further room. It is open for a limited period only, and will be withdrawn immediately they are sold.

Write us to-day, and we will send you full specification of the machines referred to.

THE MOTOR CYCLE

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FOUR-PAGE COLOURED SUPPLEMENT.

This Week's Special Feature :

THE CAMBRIDGE UNIVERSITY MOTOR CYCLE CLUB.

Subscription Rates : Home, 6s. 6d. ; Canada, 8s. 8d. Foreign, 10s. 10d. per annum.

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ADDRESS—20, TUDOR STREET, LONDON, E.C.

Improvements in Design.

HAT the year 1910 will be a motor cycle year is the general opinion of those who are in a position to judge, and at the forthcoming Stanley Show those readers who are contemplating a change of mount or the purchase of their first motor bicycle will have ample opportunity of making a selection from the many and varied patterns which will be on view. As we have an opportunity of inspecting most of the new models intended for the show, a few remarks on the state of design for 1910 may be acceptable.

Firms who have established a reputation for any particular type of machine are, generally speaking, making any very drastic alterations, but real improvements are everywhere apparent. Lightweight models will be more numerous at this year's exhibition than at any previous show, several cycle manufacturing firms having decided to market a motor weighing in the neighbourhood of 100 lbs. These machines are very different from the lightweight models of several years ago, and, as we predicted at that time, the lightweight has been gradually improved, and has now become a practical mount which threatens to become a serious competitor of the heavyweight.

With regard to the heavier standard types of machine, the frames do not show any signs of alteration. The seating position is as low as it is possible to make without further reducing the depth of the tank and bringing the crankcase too close to the ground. A few machines which previously were so arranged as to remove the cylinder entailed the removal of the tank or some other portion of the mechanism are now designed so that this drawback no longer

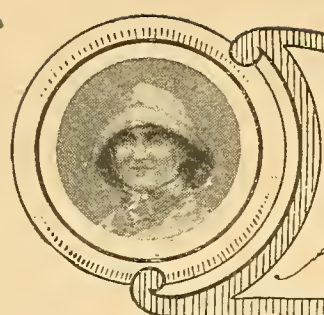
exists; in fact, many engines, with carburetter, magneto, and transmission, can now be removed bodily from the frames without disturbing any other part. Spring forks have been greatly improved, and spring frames are making headway. A few more machines will be provided with a rear springing device in the form of an insulator for the rider only, and not the wheel or frame. Machines whose road wheels are entirely sprung will also be exhibited, but they are not numerous, most makers appearing to fight shy of springing devices if they mean added weight and complication.

One enterprising firm is making provision for attaching sidecars to any of its standard roadster models without using special clips, *i.e.*, the lugs for the sidecar bolts are integral with the frame.

The diameter of wheels is practically a standard of 26in., but on one or two lightweights 24in. wheels are being tried, as small wheels reduce weight. One make of machine at least will have 28in. wheels, which certainly have a good deal to recommend them.

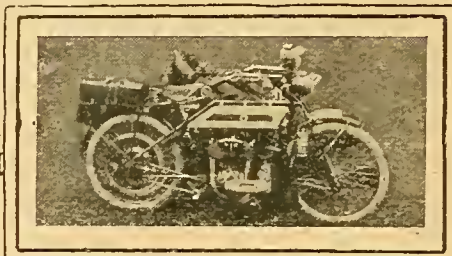
Engines will probably be the least altered of any portion of a motor cycle's mechanism, leaving out the two-stroke variety, to which attention was drawn last week. All types will be shown, from the tiny lightweight single to the powerful twin with cylinders at angles varying between 45° and 60°, but one firm will show for the first time a twin with cylinders at 90° and with a different internal construction from the usual V twin engine. Engines with mechanically-operated valves and ball bearing mainshafts will be more in evidence at the show.

Change-speed gears will be found on most of the machines to which they have been fitted in previous years, but the names of no new makers occur to us.



The End to End Sidecar Record

By
Arthur W. and



Horace M.
Bentley.



Although the record run described (driver) and W. Lamm (passenger) on description of the record made by the ences, are interesting. It is rather the custom when a record is beaten to forget the previous performance in the interest aroused by the new and improved time, but even when a record is a thing of the past the performance itself remains for all time, and is none the less good when beaten.

WE were disconsolately walking down to the City one morning; feeling somewhat bored with things in general, when we began discussing Vivian Olsson's record with his 7-9 h.p. V.S. and Millford sidecar, and as we both had a few precious days of holiday left, it occurred to us to spend our vacation attempting to improve this record. We had both ridden 5 h.p. Rex de Luxe machines with sidecars earlier in the year, so the question of what to go on did not trouble us.

The morning in question was just seven days before we actually started from John-o'-Groat's for Land's End, and as we had not definitely decided until three days before we journeyed up North, it can well be imagined that there was not too much time for making those arrangements which are of such vital importance in connection with a long distance record.

The machine and sidecar were at the Rex Works, and, having paid a hurried visit to Coventry to settle a few details about spare parts, we arranged that the combination should be packed in a crate and sent straight up to Wick all ready for the fray.

We naturally had a fairly lively time during the next few days, and after finishing work in the City on Friday, had nothing left but the purchase of sou'-westers and complete suits of oilskins, which we thought advisable in view of the unsettled state of the weather.

The Journey North.

We started out of King's Cross at 7.55 p.m., and after a comfortable journey arrived at Inverness, where we changed over to the Wick train. This sadly reminded us of the Metropolitan Railway, as it apparently pulled up every mile or so, and at most houses of whatever size.

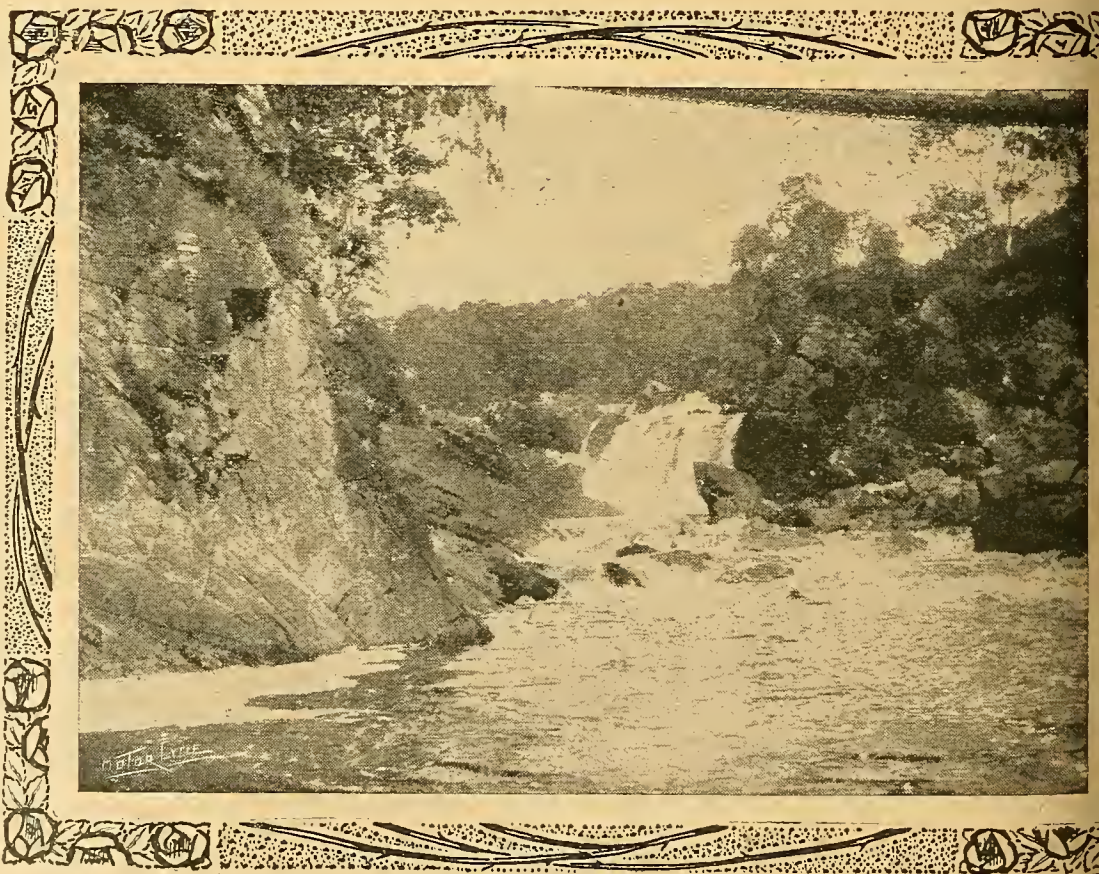
To anyone who is not familiar with the methods of travel in these parts, the story of the engine driver who stopped his train in order to watch a fish being played in a loch adjoining the line, what time he shouted encouragement for the best part of threequarters of an hour, may appear a trifle tall, but we are assured is none the less true.

However, we reached Wick about

4.30 on the Saturday afternoon, and pounced upon a massive crate in which reposed our machine and car, all coupled up ready for the record attempt.

For the benefit of others who may contemplate attack on this record, we would here interpose transporting a motor bicycle and sidecar by train, while undoubtedly convenient on occasion, is nevertheless exceedingly expensive, as a visit to the station master speedily showed. The carriage amounted precisely £20 6s. 11d.! This high rate was because the combination had to be carried in a crate on a separate truck. We were more than a little embarrassed at the prospect of having to do so, and could think of no more at first than to write to Mr. Mantalini, "O demm the pence!" A friend in need is a friend indeed, and J. Robert very kindly offered to help us in this our hour of need, and in a short time had the machine unpacked and down at his garage. Here we checked over the spares and equipment, after which we enjoyed a good tea at the Station Hotel, where we had booked rooms for the night.

A walk through the town and we retired to rest,



Highland Falls, just off the End-to-end route.

The End-to-end Sidecar Record.—

were soon fast asleep, in spite of the continuous blasts from a high-powered steam organ which was doing its duty nobly at a fair which was in full swing a short distance from the hotel.

Sunday opened wet and lowering, but, as is so often the case in Scotland, the sky soon cleared, and shortly after breakfast we were enjoying a splendid run over to John-o'-Groat's—the more enjoyable as our engine was pulling with plenty of vim.

We were joined shortly afterwards by three motor cyclists whom we knew (*en passant*, many thanks to them for the splendid file, belt punch, etc., they kindly lent us), and we all had a good walk along the beach before dark, and after a rousing evening turned in at about twelve o'clock.

We were due to start at eight o'clock on Monday night, and on that account stayed in bed most of the

the lower roads were more or less under water, we were not surprised to find we were running behind time, but as it was quite unsafe to drive fast we contented ourselves with plodding steadily along without worrying about schedule.

In spite of our caution we very nearly had a bad accident at the top of Berriedale, although we were prepared for the dangerous corner, having been there before, as upon applying the brakes the whole caboose swung bodily round, and the passenger narrowly averted disaster by embracing a stone wall somewhat in advance of the sidcar wheel. For a time we were even more careful, though after crossing "The Mound" we made a good run along the Cromarty Firth, through Dingwall, and so along the Beaully Firth into Inverness, where we sat down to our first meal at the Palace Hotel.

After a first-rate breakfast we were once again on the move, and after a knockabout run over the vile setts through Inverness, turned to the right, and the Rex was soon making light work of the steady ascent.

The Road over the Grampians.

We were told at the Palace Hotel that a number of cars had come up by train in order to avoid the road over the Grampians, which after the summer traffic looks like a dried-up watercourse, and in many places is little better. We thought the accounts of the road must be exaggerated, but we had perforce once more to close the throttle if we were to stay on the road at all—and so quite gently most of the way to Blair Atholl, whereabouts the surface improves considerably. And by the way it is often quite easy for a solo machine on a vile surface to pick out the only little bit of road that is really fit to ride on, but it is a very different game for a two-track machine. Once past the Grampians we managed to liven things up a bit, and made good

time into Perth, where we stopped for our second meal.

Having filled up with petrol, we made a clean ascent of the long hill out of the city, and so on to Stirling, after which we commenced one of the most depressing parts of the ride. From Culterburn onwards, until one eventually crosses the bridge over the river and turns sharp to the left up the Lockerbie Road, one passes through a countryside of gloom into which the sun seldom if ever seems to penetrate; the inhabitants for the most part appear resigned to their molelike existence; the sky overcast with the great drifts of smoke which pour unceasingly from the gaunt chimneys which tower up on all sides.

We were heartily glad to get clear of this depressing stretch, and as the weather had considerably improved we enjoyed a glorious run through the hills. On this beautiful summer afternoon the sight of two travel-stained maniacs in oilskins provoked no small amount of merriment, as we made our way to Lockerbie.

Here, much to our surprise, as we drew up outside the King's Arms Hotel we noticed a very businesslike



Carrbridge on the Grampians. This is passed on the run.

day. At six o'clock we rose and had supper, and at a quarter to eight wheeled the machine to the hotel door.

The Start from John-o'-Groat's House.

We had arranged to make a start at this time under the impression that it would hardly get dark at all so far north, but had not realised how late it was in the year, and that naturally we should have to light up quite early.

At ten minutes to eight J. Robertson, who had driven over in his car, sent us on our way, and making good start we had soon left Wick behind. Hereabouts it started raining heavily, and kept on more or less continuously most of the night. In ordinary motor cycling "guaranteed" waterproofs—and we have tried most—we should have been wet to the skin long before daybreak, and it only emphasises the fact that, for long continuous riding in rain, oilskins are the only garments that are really satisfactory for keeping out the wet.

Owing to the intense darkness and to the fact that

The End-to-end Sidecar Record.—

Rex with an extra wide tank like our own for long-distance riding, and on going inside were delighted to find F. W. Chinn with a good sensible meal ready for us.

Climbing Shap Fell in the Darkness.

After a brief delay to shorten the belt, Chinn led the way at a good bat, and we were soon over the Border bridge and through Carlisle, making a desperate effort to cross Shap before nightfall. This, however, we failed to do, and had the somewhat unpleasant task of tackling it in complete darkness, but thanks to the Lucas lamp, which was burning well, we were able to make fairly good progress.

By the time Kendal was reached we were both feeling very hungry, so while the generators were being replenished we seized the opportunity to get some food. Quite a crowd had collected by the time we were ready to start, and gave us a good cheer as we moved off into the inky darkness.

The gentleman who wrote a letter recently to *The Motor Cycle* anent present-day records, preferring them done off one's "own bat," would have come rather sadly to grief in this district unless he happened to know the road like a book. The course is really very hard to follow, and we very gladly followed Mr. Chinn's light over what seemed endless miles of tramlines, and, thanks to his skilful piloting, made fair time until Warrington was reached, where we found A. J. Moorhouse waiting for us.

We had originally intended to make a stop at Wigan, where H. Timberlake had kindly made preparations to receive us, but we ran through the town and were far on our way before we realised our mistake.

On again, after a brief halt, through those weary hours before the dawn, to the accompaniment of a steady drizzle, which lasted until just before Bridgnorth, when the rain ceased as the sun got up, and life was worth living once more.

Eight Hours behind Schedule.

Just outside Tewkesbury we had rather a serious collision and buckled the sidecar wheel badly. This caused a long delay, but eventually an ordinary motor cycle front wheel did the trick, with the aid of sundry washers to pack it out. Moreover, we suffered a further delay in this neighbourhood owing to a broken roller on the tappet lifter.

At Tewkesbury we partook of breakfast, and by the time we were ready to continue it had started raining heavily. This was hardly encouraging, as we were now some eight hours behind our schedule, and had the certain prospect of a third night on the road.

Accordingly we continued our journey in no very merry frame of mind, but pressed on all through that day without talking much or stopping longer than

necessary for food, since there seemed a very fair prospect that towards the break of Thursday morning—having last gone to bed on Sunday night—we might run casually into a ditch or wall or what not through want of sleep.

Towards eight o'clock we reached Exeter and stopped at the Bude Hotel for supper, which we had ordered by wire. And here we said goodbye to A. J. Moorhouse, who had ridden with us all the way from Warrington, on smooth racing tyres, which caused him to exhibit a very nimble bit of riding, especially through Gloucester, where in one place he skidded clean round and was almost facing us when we drew level. To add to his discomfort, we found that he had ridden the whole distance on the lightest of racing saddles, which was not improved by the fact that both its apologies for springs had broken early in the proceedings. It would be hard to imagine a more sporting action than that of Mr. Moorhouse, who original



Falls near Dingwall.

intended to leave us at Tewkesbury, but, seeing that owing to the awful weather the ride had developed into rather more than a joke, rode with us right down to Exeter, and by his continual cheerfulness encouraged us considerably.

More Rain on the Last Stages.

By the time we were ready to leave it was quite dark, and within a few miles the rain had started again—very steadily this time, and looked like lasting.

Never since we started motoring has either of us put up a poorer average than we did that night—pitch dark, raining hard, greasy roads, and incessant lamp troubles, as the last dose of carbide was a dead failure. Figuring out the mileage and time afterwards, we found that over a good deal of this stretch we could not have averaged much over ten miles an hour, so that with better luck we could easily improve on our record by several hours.

End-to-end Sidecar Record.—

We had hoped to pick up time over Bodmin Moor, but so thick was the mist which blew in from the sea at times we were almost brought to a standstill through sheer inability to see the road. Another day we might be more lucky.

At about 2 a.m., the hour when vitality is normally at its lowest ebb—ours had almost reached vanishing point—we had to stop and knock up the occupants at a wayside inn. They very kindly turned out and gave us some brandy, which warmed the cockles of our hearts and kept us going.

We soon regained our spirits after this and went forward at a fine pace, nearly annihilating a little rat and a black piglet, which woke up abruptly on our approach and scuttled ahead of us at a fine pace.

Over the next stretch we will not dwell, but as day broke we quickened our pace and ran through the deserted streets of Penzance with only ten miles of

hilly roads ahead of us, and here the two-speed came in very handy.

Land's End at last, and the engine pulling as well as when we started—900 miles back. We were met by J. T. Taylor, of Penzance (who was kindly timing us), and four or five other gentlemen whose names we do not know. They had spent that dreary night in a car, and were as glad to see us as we were to see them. As it was too early to get any food, we drove back to Penzance, where we had a shave and a good bath, and after breakfast boarded the train, and at 11.5 were sleeping peacefully in the London express.

It is a great tribute to the Rex spring seat and the riding position in general that neither of us felt the very least stiff or tired, and physically were perfectly fit at the end of the run, although naturally the mental strain of keeping awake for the 59h. 7m. of the ride was bound to have its effect.

THE EDITOR'S GASOLENE ENGINE.

THE following amusing article was published in the August number of *The Motorcycle News* of America:

"We have come at last to appreciate the failings of the man-in-a-rut, and we sympathise with him. We are in his class, a brother to him, a moss back. We are continually urging better methods of running, growing better stock, using faster, more economical machinery, and we are sincere in our belief that those are the things to do. Yet we know ourself-examination that we are in the moss back class. Why? Because the dads, the superintendent of the power and light department, the travelling salesmen of various electric supply companies have each and all urged us to substitute a motor for our gasoline engine and we refused. That engine has come to be a part of our life. We can't swear in the language of electricity. We have learned the gasoline language, the old mother tongue, the Standard with its various dialects, The Water-Pierce, The Uncle Sam, The Erie, The Independent.

When on a busy day the Leader shop's machinery suddenly slows down, we know what's the matter and we can express ourselves. A certain ruckachuck means that the lubricator is empty and the cylinder is running dry. A peculiar soft pat-pat pat-pat from the engine exhaust, a sound like a bare-footed nigger shuffling his feet preparatory to a buck and wing dance on a stone pavement, is due notice that she is missing fire. A heavy wet sob tells us that she is using too much gasoline. And so it goes on through the entire machine; each spring, each valve, each cog wheel has its note of complaint. We have learned these notes, and the expletive best suited, so express our feelings when we hear them. We can take oil, a screwdriver, a monkey wrench, and with some degree of assurance undertake to coax and cajole our gasoline engine out of any pet or temper she may be in. We have spent weeks of valuable time and many units of sweet disposition over our engine, and we have learned to love her. She talks back, and we can know what ails her.

But a motor—a dumb, springless, valveless, iron-clad, self-contained, unsympathetic motor. You are over in the corner, remote and apart from it, and

put a brass case knife in the grasp of a brass clothes-pin, and the thing starts—or it doesn't start. If it starts, well and good. If it doesn't start, who or what is a man to swear at? In a general sort of way we know that the thing is full of watts, amperes, volts, cycles, and phases; but they are wrapped up in miles and miles of wire. You can't get at 'em with a monkey wrench. It is rumoured that if you tackle a motor with a screwdriver you will discover something more shocking than a peek-aboo waist, or even a sheath gown. Suppose you did get at the inwards of the thing. There is not a blacksmith in town who could retemper an ohm, turn a hook on an ampere, or weld a lug upon a volt. We don't know how to put bushing in a kilowatt, and we don't propose to learn. There is nothing more cheerful or social about a motor than there is about a dry land terrapin. It is full of hell and mystery, and we propose to have nothing to do with one. We are a moss back; we are in a rut, and intend to stay there. What is time, money, and temper saved compared with the pain of parting with what we have learned to love and the effort required to master a new language."

With the coming of the wet season the question occurs how best to deal with cuts and gashes in covers. It is generally realised that the neglected cut or the one unscientifically repaired is a source of serious trouble and expense, for the mud and wet work in, often to the utter ruin of the tyre. The present price of rubber is not altogether a consoling feature when considered in conjunction with the short life of neglected tyres. Chemico tyre stopping comes as a perfect boon to motor cyclists for extending the period of service of their tyres. This stopping, a plastic preparation placed in the cut or gash, is said to effect a perfect union with the other material to which it is added, in such a way that after a few miles running it will be difficult to locate the place of repair. There is no question of its dropping out, for by amalgamation it has itself become part and parcel of the cover. Those who are yet unacquainted with this tyre stopping may have a free sample for the purpose of a practical demonstration by writing the County Chemical Co., Ltd., Chemico Works, Birmingham.

Hints and Tips for Motor Cyclists.

By Road Rider.

VALVE SPRING LIFTERS.

301. The motor cyclist who does not regularly carry a valve spring lifter in his toolkit will live to regret it. The removal of a valve is a matter of a few seconds when one is provided with one of these patent devices, and may last a quarter of an hour if the operator is clumsy and lacks a special tool. There are two types of valve spring remover. The more compact sort merely holds the spring compressed up against the bottom of the valve chamber, and with these it is a common annoyance for the valve to rise up into the valve chamber when the lifter is applied, so that the cotter is not cleared of its cup, and cannot be withdrawn. It is a simple matter to hit the valve on the head with a second tool, but care should be taken not to dint the thread of the valve cap seating. On the whole I prefer such devices as the Triumph and Stevenson removers, which hold the valve down, and ensure the cotter being cleared. They are a trifle less portable, but they ensure the immediate clearance of the cotter, after the "burr" on key-way has been filed away.

POCKET TOOLKITS.

302. The name of the pocket toolkits now marketed is legion. Choice should not depend solely on the variety of the tools contained therein, but the weight should also be taken into consideration. I recently put eight kits on the scales, and the weight varied from 14 ozs. to 4½ lbs. Needless to say, the last-named kit is far too heavy for the coat pocket.

BAGS AND CARRIERS.

303. An unsatisfactory point about many tool, luggage, belt, and spare tube cases is the weakness of the straps for their attachment to the carrier. Not only has vibration to be considered, but the weight of the contents exerts a strong leverage. The straps should, therefore, be wide and thick, and they should be threaded through the body of the case, as stitching will not hold. It is very annoying to spend half a guinea on a bag or case, and shortly afterwards to drop it on the road "unbeknownst" through the weakness of its attachments.

HOOTER, BADGE, WATCH, AND SPEEDOMETER CLIPS.

304. The same applies to the screwclips of metallic attachments to the handle-bar. Many of these clips are designed and made by men who never ride themselves, and amongst the minor annoyances of motor cycling the possession of a hooter, etc., which is always working loose, rattling, and sliding down towards the grips to foul the control levers takes a high place. If the clip does not afford a very tight fit on the bar when screwed well home, a wrapping of emery cloth or insulating tape should be inserted between it and the bar, or a tiny grub-screw fixed clean through it into the bar. In addition, when making such a purchase,

condemn any article at once if the screws and clip are not thoroughly substantial.

TESTING SEATS OF A.O.I.V.

305. A sure test of the gastight fit of an automatic inlet valve on its seating is to remove the valve, and fill it with petrol. If no petrol leaks through, the seating may be trusted as compression tight.

AIR LEAKS IN INLET PIPES.

306. Riders are very wont to man-handle their inlet pipe connections, especially on twin-cylinders, where all the joints cannot be got into exact register except by undoing the fastening nuts, etc., at each end of each pipe concerned. So it often happens that one joint is not tightly screwed up, or that a thread has worn, and so the joint is a permanently slack fit, even when fully tightened. The effect of this is to set up air leakages, which have a deleterious effect on running, and more particularly on starting; this is most of all the case when the leak only affects one cylinder, in which case that cylinder will never fire as strongly as the other. This point should be watched, and any existing leakages cured by means of proper joints. Felt washers, or packing may be used temporarily, but be careful they are not drawn into the valve.

POCKET FLASH LAMPS.

307. Every motor cyclist who does much night riding will find a small pocket electric light of frequent service. It is far safer than the headlight when illumination of the carburetter is required during small adjustments, and it is of great help in reading signposts when uncertain of the correct route. In all stoppages at night the machine should be drawn in as close to the hedge as possible to avoid accidents.

BROKEN MUDGUARD STAYS.

308. Mudguard stays when they break usually snap off close to the eye which threads over the wheel spindle. Mere lashing of the eyeless rod invariably comes adrift in a short time, and causes rattle previous to dissolution. It is the simplest thing in the world to make a satisfactory and all but permanent repair. Take a piece of steel wire, some eight inches in length, and bend one end round into an eye with the pliers. Thread the eye over the wheel spindle, and lash the remaining seven inches or so of wire closely to the broken rod with insulating tape. This repair will hold for weeks without rattling. Failing these simple requisites, string will make a fair repair. The spring of the unbroken stay on the far side causes the stayless side of the guard to move outwards and upwards from the tyre. It may be drawn into position by a length of string stretched taut from the arch of the stays to the spindle, and the useless rod can be filed off, or lashed to one of the other stays with tape. Avoid the use of copper wire—it is often brittle, and causes a rattle.

FASTENERS "PULLING THROUGH."

309. A correspondent informs me that he has perfected a device for use in conjunction with ordinary fasteners, designed to obviate annoyance of the fastener bolt tearing or pulling through the ends of the belt. Given a belt of the correct length and tension, I make bold to assert that ninety per cent. of the belt breakages we hear of are due to bad fitting of the fastener, and not to the weakness of the belt. I have not had a belt "pull through" for some years, to the best of my remembrance, unless it was tight, or unless the fastener bolts were inserted at an angle or out of centre. The best preventive of pulling through I know—and it is almost a complete cure—is to use a special punch, with a V orifice in its end, which exactly fits the size of belt employed. With one of these drill punches every bolt hole drilled is bound to be dead central and perfectly vertical. And if the bolt hole drilled in this fashion it is very odd indeed against the bolt ever pulling through.

BROKEN WIRE TO H.B. CONTROLLER.

310. With some makes of handle-bar-controlled carburetter, it is extremely difficult to proceed if a wire comes adrift. This mishap occurred to me lately, and for a time I was nonplussed. The wire to the air slide being broken, so that I could not get a start except by jamming the airslide shut, and then the engine died soon after mounting. I remembered that on a previous occasion I had broken the throttle wire, and for the inconvenience very small after closing the throttle a third open and trolly speed by the air and the spark. This suggested to me that I should transfer the throttle wire to the air slide, and jam the throttle about a third open, which was soon done, and my destination was reached in comfort.

BELT STRENGTH.

311. Leaving slip out of the question, belt troubles are usually caused by stretching of the material. It is curious that, whereas the standard takes place in a longitudinal direction, belt makers very often endeavour to combat it by increasing the cross width of the belt. If I had a ¾ in. belt stretched too rapidly I should not meet the difficulty by fitting a greater belt, but by fitting a belt of greater depth, i.e., measuring more from top to bottom. A good many belts obviously cannot be manufactured of greater depth, because their construction does not allow for flexibility being attained purely by material, and not by construction; there are one or two belts which may be made with increased depth without sacrificing an atom of flexibility, and such a belt would be ideal for a 7-9 h.p. twin, which usually gives trouble with its belt transmission. If I bought such a mount I should get a special belt of ¾ in. cross section, but of increased depth.

A Forecast of the

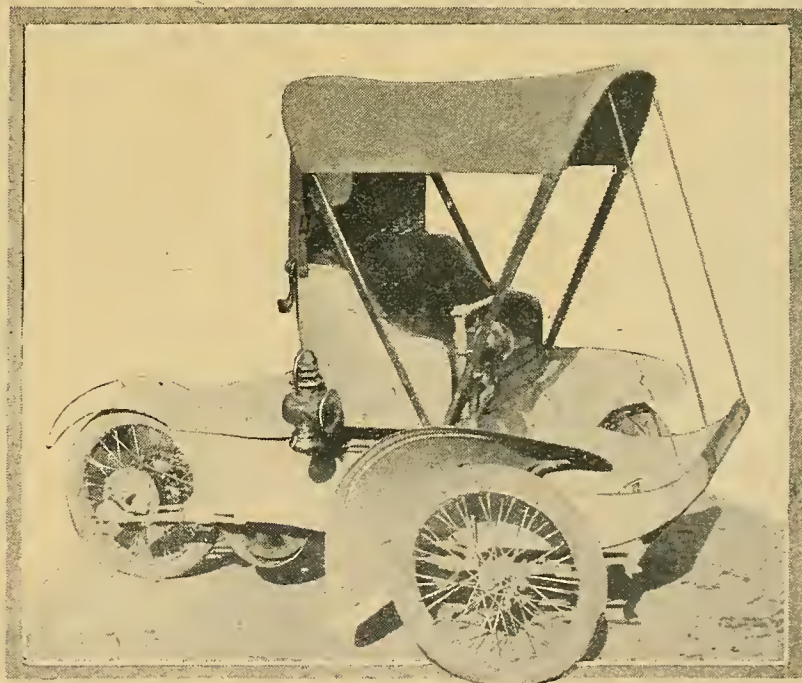
Stanley Show.

The Thirty-third Stanley Show which will be opened at the Royal Agricultural Hall, Islington, N., on November 19th, and remain open until November 27th, will be more representative of motor cycles and their accessories than in any previous year of its history. About 120 firms will exhibit motor cycles, motor cycle tyres, or accessories, that number representing over half the total number of exhibitors. As in previous years, we are enabled by the courtesy of manufacturers to present our readers with some early information as to the improvements and novelties which are being introduced for 1910. This forecast will be continued in the Second Show Issue of "*The Motor Cycle*" which will be published on Monday next, the 15th inst.

AIR SPRINGS, LTD., Craven House, Kingsway, W.C. (No. 42, Main Hall).—Motor bicycles and frames fitted with Harp's patent air springs. For the benefit of those readers who are not conversant with this ingenious device we may mention that it consists of a hollow steel cylinder and plunger filled with compressed air. The former is fixed to the bicycle frame and the latter to that portion which receives the shocks. In other words, in the case of the front forks the cylinder is attached to the forks on which the front wheel is mounted, and the plunger to the frame, and similarly in the case of the rear sprung portion. The weight of the rider is entirely air supported. The stroke of the plunger is two inches. As the air pressure is supplied by an ordinary tyre pump it is easily adjusted to the weight of the rider. The device is absolutely airtight, the packing between the cylinder and plunger being a rolling rubber "mitten" which performs its function without friction. When worn out the mitten can be replaced for a very small sum. The device may be either adapted to a sprung frame bicycle or may be used as a spring saddle-pillar. The A.S.L. motor bicycle, sprung fore and aft, competed successfully in the London to Edinburgh run. As the resiliency and comfort afforded by the air springs are so great much smaller wheels than usual can be used, and the centre of gravity of the machine may be brought much nearer the ground, and in consequence Mr. Harp recommends 24in. wheels, and would prefer wheels of even smaller diameter if the tyres for these could be easily purchased. The exhibits will consist of two A.S.L. motor cycles, one twin and one single (Peugeot engines), and several air spring frames capable of taking any standard engine.

AUTO-CARRIERS, LTD., Martell Road, West Norwood, S.E. (No. 129 Main Hall).—Among the various passenger machines shown on this stand will be the new type of A.C. Sociable, referred to in our report of the last Quarterly Trials. This machine seats comfortably two passengers side by side, but will otherwise retain the well-known A.C. features. A later model still will be the new racing type of A.C. Sociable. The whole machine is built a great deal nearer the ground than the standard roadster, and will be fitted with a Lan-ester type of dashboard. The seats will be low, and behind them there will be a cylindrical petrol tank. Three A.C. industrial tricars will be shown, a complete engine and carburetter mounted on a stand, and a passenger tricar model, the type of A.C. so familiar to our readers. A working model will also be shown of the new A.C. dual ignition, lately invented by John Weller. This device is a form of governor which allows the engine to switch itself over automatically from magneto to accumulator ignition when the revolutions drop below about 200 per minute. On the magneto shaft there is fitted a driving sprocket, the boss of which is hollow. On one side of it a hole is drilled in which there is a ball kept in tension by a light spring. Over the hollow portion there is a plate upon which a small brass roller is mounted. When the revolutions exceed 200 or thereabouts the centrifugal force throws the ball out of contact with the roller and the magneto begins to fire. Should, however,

the speed of the engine drop below about 200 revolutions per minute the centrifugal force is overcome by the tension of the spring and the ball and roller make contact. The roller is, of course, connected to the coil while the ball is earthed. Yet another ingenious device is the A.C. valve. The lower portion of the stem is threaded so that the spring cup or washer may be screwed on. The lower portion of the cup is flanged, and when the valve is in position the cup is screwed up until the spring is compressed sufficiently to allow the cotter to be inserted in its hole. When this is done the cup is again unscrewed, and the flange firmly holds the pin in



The A.C. Sociable which is referred to in the accompanying forecast and will be exhibited at the Stanley Show.

position. In addition to the above, various component parts of the A.C. will be shown, among which we may mention the interesting carburetter, described in *The Motor Cycle* of August 18th, page 612. Our readers will be interested to hear that every A.C. engine is tested for a whole day coupled up to an electrical horse-power testing plant.

BRADBURY AND CO., LTD., Oldham (No. 77, Main Hall).—Bradbury 3½ h.p. motor bicycles will form the most attractive portion of this stand. The machine has been most successful in hill-climbing and reliability events. The 1910 pattern has several improvements, but retains all the special features of the firm's 1909 machine, including the registered pattern frame, which is built into the engine case, giving easy access for repairs, ensuring perfect balance, and dispensing with cradle, nuts, and bolts. The Bradbury is fitted with ball bearing engine, 87 × 87 mm. bore and stroke; m.o. interchangeable valves; high-tension magneto ignition;

A Forecast of the Stanley Show.—

handle-bar control; improved silencer, fitted with cut-out, operated by the foot whilst riding; specially designed tubular carrier, etc. The Bradbury frame is built low, the height from the ground to the top of the seat-pillar lug being only 28in. On the 1910 model Druid spring forks are fitted.

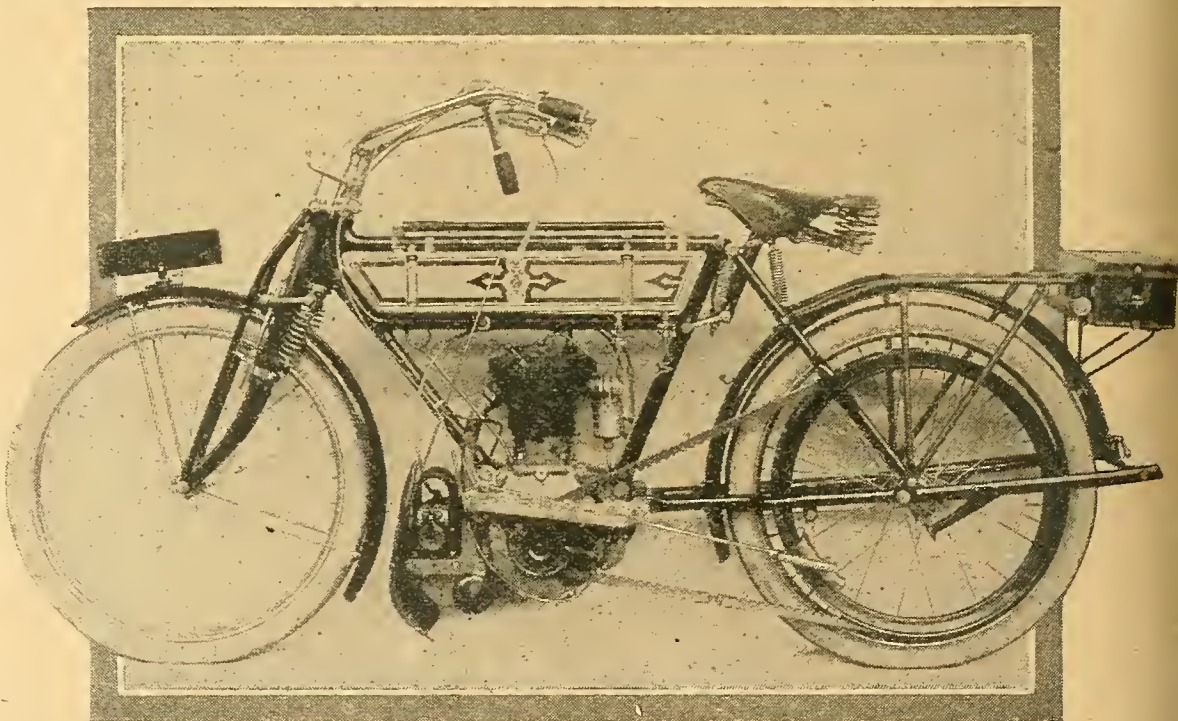
THE CHATER LEA MANUFACTURING CO., Golden Lane, E.C. (No. 228, Gallery).—Mr. Chater Lea is himself a practical motor cyclist, and designs his machines after much experience on the road. This fact, coupled with mechanical abilities of the highest order, and the best material, naturally results in the production of a really first-class mount. Many of our readers are familiar with the now well-known No. 7 model, on which Mr. Chater Lea successfully competed in the London to Edinburgh run. The 1910 model will be exhibited with a 7-8 h.p. J.A.P. engine, with mechanically-operated valves set side by side, Bosch magneto, J.A.P. carburetter, a well-designed, strongly-built frame, a large self-contained, pedal-controlled leather to metal clutch, a three-speed gear box, chain transmission, and linoleum-lined brass-bound footboards of ample dimensions. The petrol tank contains two and one-third gallons of fuel, and is provided with a really sensible filler and a petrol gauge. The oil tank is situated behind the saddle tube, and also has a funnel-shaped filler of ample size. The handle-bars on this and other Chater Lea machines are wide and long, and handle-bar control, very wide mudguards, and a good stand and carrier are supplied. In addition to the J.A.P. engine, the chief innovations are a specially strong back hub; the latest design C.L. spring forks, on which a front rim brake may be used, and to the side plates of which a really substantial lamp bracket is attached; and a new change-speed lever with a particularly neat catch releasing the lever from the slot in the quadrant by a slight downward pressure. No better designed machine for sidecar work has ever been placed on the market. The 2½ h.p. Chater Lea lightweight, fitted with J.A.P. engine, gear-driven magneto (fitted behind the engine), Amac handle-bar controlled carburetter, stand and carrier, weighing but 100 lbs., is a thoroughly practical mount. The standard model No. 6 will be fitted with the new 3½ h.p. Chater Lea engine, 84 × 86 mm., mechanically operated inlet valve, J.A.P. carburetter, Chater Lea spring forks, Bosch magneto, and handle-bar controlled Brown and Barlow carburetter. Another model, named the No. 6, will also be shown, fitted with a 4½ h.p. m.o.v. (side by side) J.A.P. engine. The Chater Lea quickly detachable sidecar fastenings are well known to our readers for their practicability and excellence, and in addition to these the firm has lately introduced a new speedily detachable seat-pillar lug fastening, which on account of its ingenuity should command the closest attention. These devices allow any sidecar to be removed in about half a minute. In addition to the above-mentioned machines, complete sidecars fitted with these fastenings and a special modèle de luxe sidecar with coach-built body will be shown.

COMPONENTS, LTD., Bournbrook (No. 134, Main Hall).—Two new Ariel models, with 85 × 85 mm. ball bearing engines and m.o.i.v. One model is fitted with the Ariel patent variable gear and free engine on the engine-shaft, described in the last issue. The second model will be similar to the first, with the exception that the pulley is of the ordinary adjustable type, and pedalling gear will be fitted to this model. Three of the variable geared machines will be on view and one of the other type.

THE CLYNO ENG. CO., Thrapston (No. 260, Gallery).—The Clyno single-cylinder motor bicycle has a Stevens 3 h.p. engine, 76 × 85 mm., m.o.i.v., Ruthardt magneto ignition, B. and B. handle-bar controlled carburetter, 18in. rigid frame, Chater Lea spring forks, 26in. wheels, 2¼in. tyres, belt transmission, Clyno adjustable pulley (patent applied

for), enabling gears between 4 and 6 to 1, and adjustable stand. The weight of this machine is 135 lbs. The 5-6 h.p. twin-cylinder also has a Stevens engine, 76 × 82 mm., with ball bearings to main shaft. With the exception of 2½in. tyres and no pedalling gear, the specification is the same as the single-cylinder model. The chief points in the above motor cycle are their extreme simplicity and accessibility. The engine, magneto, carburetter, and silencer can all be removed from the frame by unscrewing two bolts.

BAYLISS, THOMAS, AND CO., Excelsior Works, Coventry (No. 66, Main Hall).—It is some years since the Excelsior motor cycles are their extreme simplicity and accessibility, four examples which will be shown may therefore be expected to create considerable interest. The engine is a 3½ h.p., as in the 1909 model, the cylinder being designed with vertical radiator fins on the top of the combustion head, as well as the usual horizontal fins surrounding both combustion head and cylinder, thus providing more radiating surface. The latest Brown and Barlow carburetter, with handle-bar control, is again adopted, as likewise is the Bosch magneto. The machine is equipped with a Druid spring fork, Dunlop studded tyres and Brooks saddle. One of the models is to be equipped with a free engine device. The firm inform us that the Excelsior motor bicycle when reintroduced early in the current year created much interest, and they are more than satisfied with the result of the first year's trading.



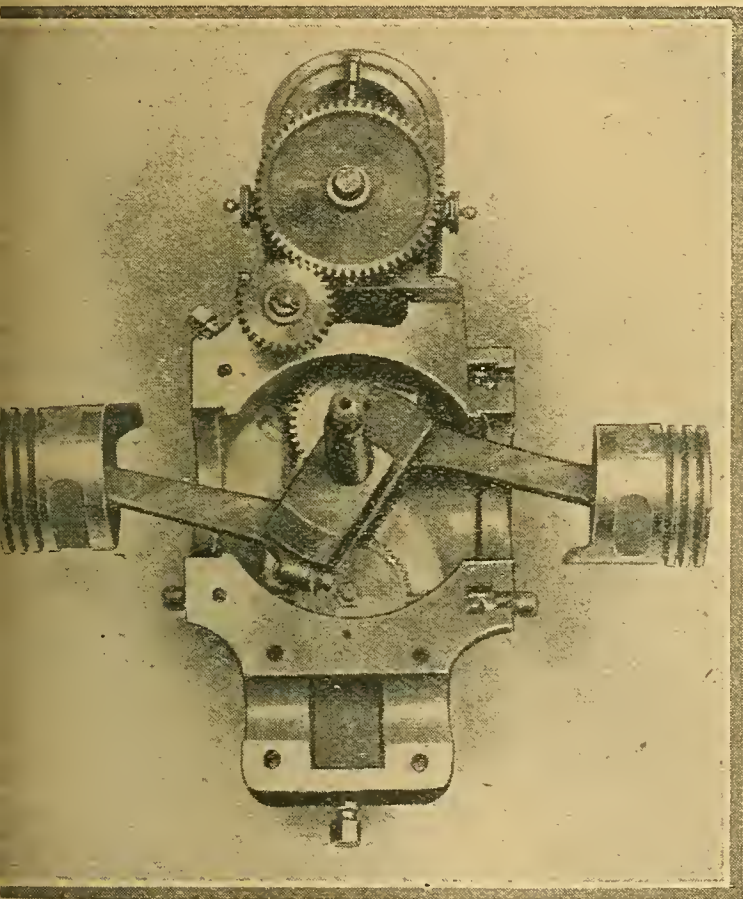
Next year's Ariel model, with free engine and variable pulley. Our experiences with this machine were given in the last issue.

HOBART BIRD AND CO., LTD., Coventry (No. 172, Arcade).—A few years ago Hobart motor cycles attained some amount of popularity, and this make of machine has now been revived, the 1910 models being thoroughly up-to-date machines. The makers pin their faith to the lightweight single-cylinder, the engine measuring 69 by 87 mm., and being rated at 2½ h.p. It is fitted in the frame in an inclined position, and has horizontal radiating fins. The ignition is by Bosch gear-driven magneto, the latter being located behind the engine. An automatic carburetter is used, as also the Watawata belt. The total weight of the motor cycle will be in the neighbourhood of 90 lbs. Two models will be exhibited at the Stanley, one with 26in. wheels and the other with 24in. wheels.

DOUGLAS BROS., Kingswood, Bristol (No. 62, Main Hall).—The Douglas machines will be replete with improvements for 1910, and will well repay a most careful inspection. The engine is now removable without disturbing the tank. Brackets machined quite true are brazed to the frame tube. Holes in these brackets coincide with holes in the engine crank case, through which pass four bolts. By undoing these bolts, engine, magneto, and carburetter all come away together. The cylinders are no longer screwed into the crank case, but are each attached by two bolts and nuts, one at the top and one at the bottom of the crank case. In place of the old unions and nuts for the induction pipe, this

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er now drops on to a recess in each cylinder, and is d down by set screws. To facilitate cleaning out the ine, an oil drain pipe, $\frac{3}{8}$ in. diameter, is fitted to the e of the crank chamber, and a plug is provided at the for the injection of paraffin. Over each inlet valve there ball lubricators for the injection of paraffin to facilitate rting. The engine pulley is adjustable, although an out- e flywheel is used. One flange is pegged to the side of flywheel; the other is screwed on to the flywheel boss h a distance washer between. By changing the distance sher and screwing the loose flange in or out, various ustments may be obtained. The magneto transmission r wheels are now covered with an aluminium cover, and rubber and canvas belts are standard in place of $\frac{5}{8}$ in. h regard to the cycle portion of the Douglas machines, the spring fork has the springs in suspension, not compres- as formerly, it also allows easier access to wheel and ke for cleaning. The new free-wheel cover fitted to rear is a move in the right direction. This consists of a el cap and felt washer fitted to each side of the hub ocket. The flanges of the sprocket are reduced and made er to allow the caps to fit on tightly, and when protected this manner and thoroughly oiled will run for 2,000 miles hout further lubrication. A sprocket so fitted went ough the Six Days' Trials and the Scottish Trials without



The Douglas horizontally opposed engine with cranks set at 180°. The magneto drive shown, now has an aluminium cover.

ntion. A neat bracket on handle-bar for lamp and erator allows both these accessories to be sprung instead eing attached to a rigid part of the fork. The standard ipment includes R.O.M. non-skid tyres, stand and thened luggage carrier, aluminium number plate, tool- with separate compartment for spares, and front wheel d—a combination which will appeal to most motor ists who are on the look-out for a lightweight machine.

THE EAST LONDON RUBBER CO. (Nos. 210 and 211, Gallery). n this stand will be shown for the first time the new ry-Abingdon motor bicycle. It will be fitted with a le-cylinder Abingdon engine of $3\frac{1}{2}$ h.p., bore and stroke 86 mm. The inlet valve will be mechanically operated, ignition will be by Bosch ball bearing magneto, and a 0 model handle-bar controlled Amac carburetter will supply to the engine. Spring forks will be fitted, and 26 in. by . Kerry rubber studded tyres. The transmission will be means of a belt, and the machine's weight unladen will 181 lbs. In addition to the above, the East London ber Co. will be exhibiting the following accessories: A

new improved belt punch fitted with a central adjustable screw to hold the belt in position, thus enabling the hole to be accurately made; the Kerry motor cycle searchlight with separate generator, which is a particularly strong and well-made lamp fitted with a Mangin lens mirror; 1910 models of the best known makes of motor cycle carburetters; and a new combined leather belt and tube carrier, which will be well and substantially made.

HUMBER, LTD., Coventry (No. 97, Main Hall).—When we called at Humber's colossal factory one day last week, we were shown, by the courtesy of G. A. Phillips, all the new models tastefully set out in a spacious showroom, which was really a rehearsal of this big firm's exhibit at the Stanley and Olympia shows. Our interest was wholly centred in two finely finished examples of Humber workmanship, to wit, the two-speed geared and single speed motor bicycles, one with pedals and footrests, the other without pedals but fitted with footboards. First we examined the two-speed model, which outwardly, with the exception of the fork and silencer, is little changed. There are, however, several real improvements in detail; in fact, the whole machine has been carefully gone over and revised throughout. Wherever experience has shown that improvements could be effected they have been made. The result is a motor cycle which will create even greater interest at the show than Humbers did last year, where their return to the ranks of motor cycle makers was heartily welcomed by all. The principal introductions for 1910 are a new spring fork made by Humber, Ltd., under licence from A. Drew. The position of the silencer is changed, and it is no longer fitted in the down tube. It is carried at the end of an extra large exhaust pipe, and is a separate unit. This change we are told, has taken place more with a view to suiting popular taste. The belt pulleys both front and rear have been increased in diameter, and the engine pulley is adjustable. The control has been very much improved in details, particularly the pedals, which operate the change speed hub. The low speed pedal is now arranged in a more comfortable position, and the leverage on the drum brakes by which the change of speed is effected has been increased. The tubular stay connecting each side of the handle-bar is retained, and also the capacious leather toolcase, which fits in the recess formed by the curve of the handle-bar itself. The stand is made wider in the spread of the legs, and the carrier which is attached to the horizontal seat tube, and stayed to the fork ends, is a strong well-made attachment. To the front wheel special mud flaps are fitted. These are made with metal sides and flexible leather extension. They can be raised or lowered on the mudguard, and can be also entirely detached if desired. The bore and stroke of the engine are 83×90 mm., ball bearings are discarded on the connecting rod, but retained on the crankshaft, the magneto is a Bosch, and the carburetter a B. and B. The valve lifter lever is improved. The oiling arrangements on the two-speed model are as before. The pump and oil reservoir are fixed under the right footboard, and the pump is operated by pressure of the foot. The petrol tank is divided, one half being fitted each side of the top tube. This neat arrangement encloses the top tube altogether, and on top of the tank joint there are spring clips to hold the celluloid tyre inflator. Lycett's belts and saddles and $2\frac{1}{4}$ in. Dunlop tyres are fitted. The single speed model has exactly the same specification, excepting that pedalling gear and footrests are provided instead of the change-speed gear and footboards. Owing to the absence of footboards on this model the lubricating oil reservoir and pump are embodied in the right-hand half of the petrol tank, the pump being slightly inclined towards the rider. The finish of these machines is splendid, the standard embellishment being black enamel with usual plated parts and aluminium belt rim and tanks. The tanks are lined broad black and fine light green, which gives an extremely taking and pleasant appearance.

THE F.N. MOTOR AGENCY, 106, Great Portland Street, W. (No. 130, Main Hall).—Nearly all the machines on this stand will be the $2\frac{1}{2}$ h.p. model with two-speed gear and friction clutch. This machine, which was recently referred to in our pages, has made quite a stir in the motor cycling world. Though it has not been easy to get delivery of this type during the present year, we are assured that this popular little motor bicycle can now be obtained from stock. Quite a novelty on the stand will be the new type 500 c.c. four-cylinder. This machine just comes into the 500 c.c. class,

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its actual capacity being 498 c.c. Details of this model are not at present forthcoming, and only one of the type will be on view at the Stanley.

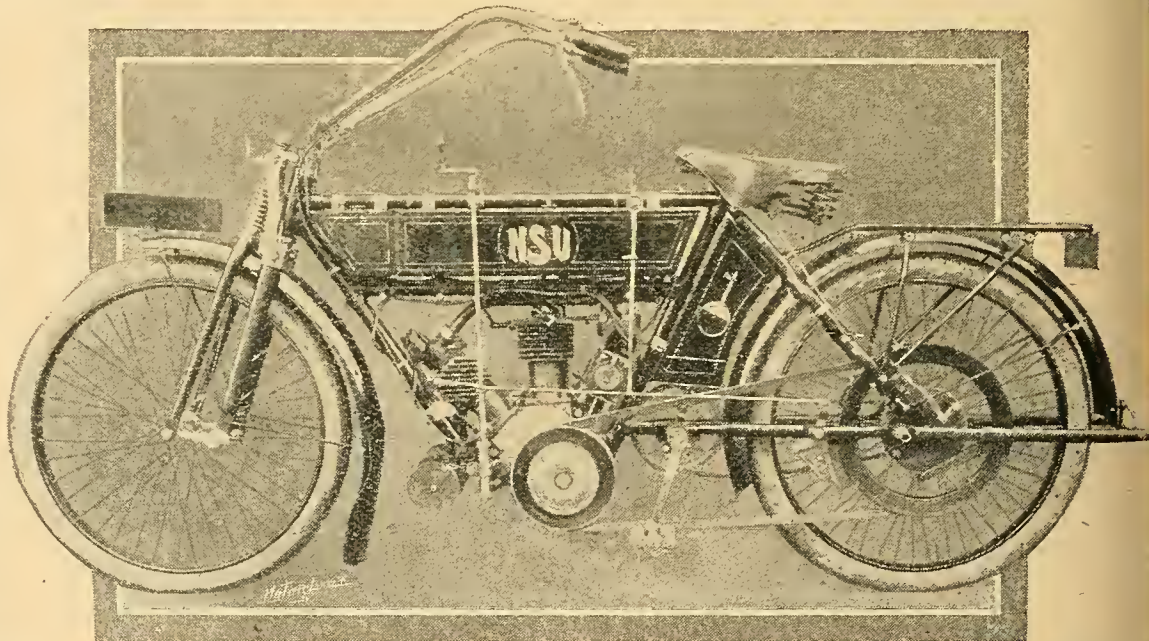
MOTOSACOCHE, LTD., 65, Holborn Viaduct, E.C. (No. 102, Main Hall).—The stand of Motosacocche, Ltd., will present an interesting exhibit to the Stanley Show visitor. The Motosacocche may be referred to as the pioneer of lightweight motor bicycles, as it was the first of its kind ever to compete in open competition on equal terms with more powerful machines. Next year the standard single-cylinder will have a bore and stroke of 62×75 mm., the stroke being 5 mm. longer than last year. There is no separate combustion chamber, as the cylinder is cast in one piece, and there is much more clearance for the belt. The total weight of the machine with stand and fully equipped toolbag is 82 lbs. Another interesting point regarding the new model is that it may be fitted with either the round or V belt transmission, and a rider may employ whichever method he prefers merely by changing the pulleys. With the round belt drive a free engine device may be fitted for a very small extra sum; and another extra which is not an extravagant one is the new adjustable pulley. The fastener on the round belt has been greatly improved, and comprises three hooks instead of the original one. The magneto in the 1910 model will be driven by a train of gear wheels instead of the previous method. Both diamond and low frame machines will be shown. For the advertised price, Motosacocche motor cycles will be sold complete with Druid spring forks, special improved stand, toolbag, tools, and pump. The lady's Motosacocche, fitted with magneto ignition and spring forks, will be the same as the 1909 model. We understand that it has proved most satisfactory, and on account of its light weight it is highly suitable for use by the gentler sex.

THE N.S.U. MOTOR CO., Great Portland Street, W. (No. 264, Gallery).—The N.S.U. Motor Co. will occupy the same stand as before in the Gallery, on which about eighteen of their well-known machines will be open to inspection. At least two new models will make their *début* on the occasion of the Stanley Show, among which we may mention a 4 h.p. single-cylinder, 82×105 mm., illustrated on page 837 last week. Another new model will be the 4 h.p. two-cylinder, 64×85 mm., fitted with geared down engine pulley, thus enabling almost equal size belt pulleys to be used. As in the case of the 4 h.p. model, the magneto is carried behind the rear cylinder. In this case also a large silencer will be fitted and a new type of spring forks, which may be seen in the illustration. The handle-bars upon these two models are merely an experimental type, and will not be finally adopted by the N.S.U. Co. In addition to the above machines, there will be the popular $3\frac{1}{2}$ h.p. model (which has done so well during the present year), the 80×80 mm. model, and the 6 h.p. twin. The $1\frac{1}{4}$ h.p. lightweight model will be greatly improved, and the $2\frac{1}{2}$ h.p. lightweight twin will also be slightly altered in detail. Also both the two-speed gears will be slightly improved. Machines fitted with sidecars and forecars will be shown on this stand; also a tricar specially designed for industrial purposes.

THE MOTO-REVE CO., 138, Gray's Inn Road, W.C. (No. 87, Main Hall).—The well-known twin-cylinder 2 h.p. Moto-Rêve motor bicycle, which has created so favourable an impression since it was first introduced into this country, will be improved in detail for 1910. A new type of carburetter will be fitted, which adds greatly to the flexibility of the engine, and enables the machine to pick up with wonderful rapidity. The handle-bar control will be slightly improved, and a new filter will be fitted. This filter is of large dimensions, and enables all the dirt in the tank to be washed clean away. To do this, it is only necessary to open the drain tap, as all the dirt naturally collects in the bottom of the filter itself. An entirely new model is a lightweight with twin-cylinder

vertical engine driving through a two-speed gear box to chain. The machine is equipped with a torpedo tank, spring forks, footrests, stand, and carrier, and other refinements. We illustrate this well-designed machine on another page and reserve further comment for our show report. Another new model to be shown is a $1\frac{1}{2}$ h.p. single-cylinder, 62×70 mm. As regards the magneto, carburetter, and other details, it will strongly resemble the well-known 2 h.p. model, and many of the parts will be interchangeable with the more powerful type. The Moto-Rêve Co. will also exhibit a specially constructed lady's pedal bicycle exactly the same wheelbase and practically the same dimensions as the Moto-Rêve machine. This bicycle is designed for use with a coupler, and will be much more comfortable to ride under these conditions than the ordinary type of pedal bicycle. Another novelty will be a new pattern lady's motor bicycle, which will be lighter in weight than the usual type of Moto-Rêve.

THE SERVICE CO., LTD., 292-3, High Holborn, W.C., will have three stands—No. 116, Main Hall, on which will be shown Wanderer motor bicycles; No. 114, Main Hall, on which they will show various makes of machines; and No. 214, Gallery, on which accessories and clothing will be exhibited. The $2\frac{1}{2}$ h.p. V twin lightweight Wanderer was briefly described in our last issue. There are two other models which will be exhibited at the show, viz., a $1\frac{1}{2}$ h.p. single-cylinder weighing about 100 lbs., and a slightly larger model of $2\frac{1}{2}$ h.p. bore and stroke 70 by 85 mm. All three machines have spring forks and geared down engine pulleys, capable of being moved eccentrically to take up any slack of the belt whilst riding along. The oil pump in the $1\frac{1}{2}$ h.p. and $2\frac{1}{2}$ h.p. models is situated immediately underneath the oil tank, and is operated by a rod at the end of which a ring is attached, passing right through the tank level with the top tube. Quite near to it is another rod with a ring at the end, which controls the oil tap. On Stand 114 will be



An attractive mount is the twin-cylinder lightweight N.S.U. illustrated above. The geared-down engine pulley is to enable the belt to obtain a better grip of the pulley. A new type of spring fork is fitted to this machine.

shown various types of motor bicycles, two Scott machines, the new A.C. sociable, the new Miller sidecar, in which the seat is placed over the wheel, similar to the attachment which finished in the Six Days' Trials; Miller's latest mud shield fitted to a 1910 Triumph, a Rex de Luxe, a Rex Tourist machine, an L.M.C. with variable speed pulley, a Douglas, and a Moto-Rêve. Upstairs, Stand 214 will be reserved for the Service Company's accessories. These will include the new Albion free engine clutch, various motor cycle lamps, such as the Lucas, Solar, F.R.S., and Service, and the Ever-Ready, C.A.V., and Glare electric lamps. Cowley and Jones speedometers will also be shown, as well as new Bosch and new Simms magnetos. As regards tools, the well-known Footprint tools and spanners will be shown, carbide carriers, the Vulco and Patch-Quick repair outfits, the Service Company's tube and belt carrier, etc., etc. Among the novelties will be seen a new belt which consists of sections of ordinary leather top and bottom riveted through two central layers of chrome leather. This renders the belt

A Forecast of the Stanley Show.—

exceedingly flexible, and from all accounts it wears extremely well. We were recently shown a testimonial from a rider who had covered 10,000 miles with one of these without any trouble, and the belt was still in good condition. At the end of the belt are several eyelets through which the belt hook may be inserted. The Service Company will also show various specimens of their motor cycle clothing, similar to those recently described in the winter riding issue of *The Motor Cycle*.

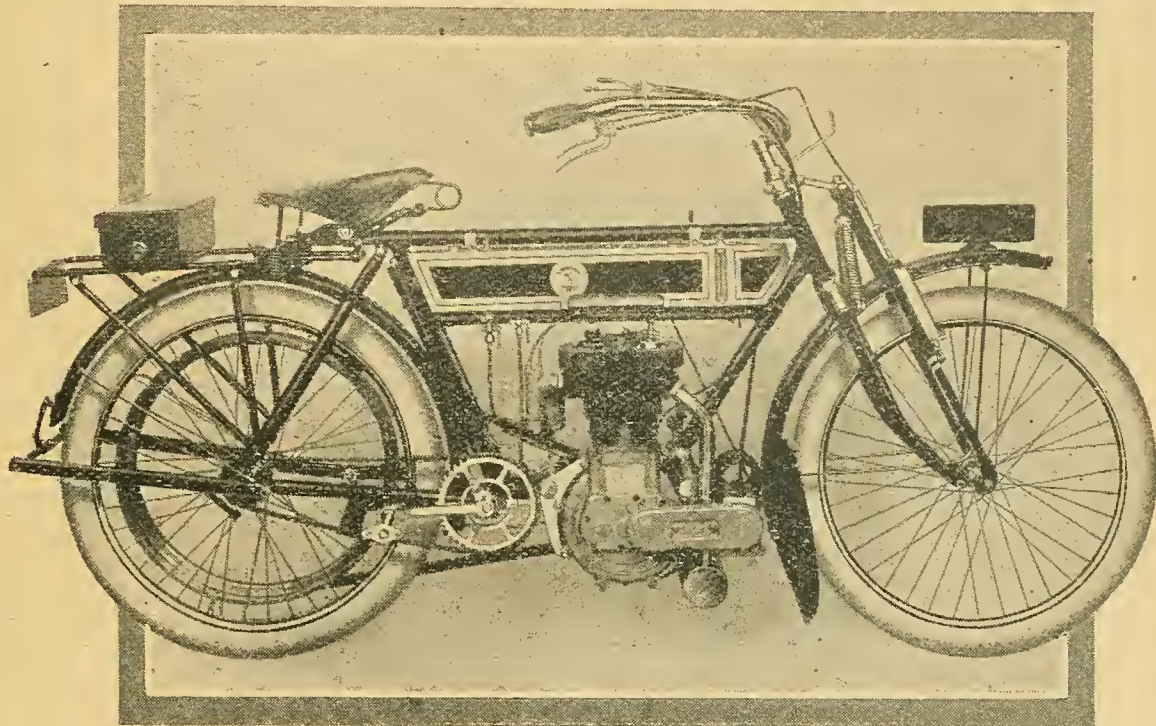
The 1910 Premier Models.

PREMIER CYCLE CO., LTD., Coventry (Stand 78, Main Hall).—Premier motor cycles have gained much deserved popularity during 1909 by reason of their sound design and various successes achieved in competitions. The $3\frac{1}{2}$ h.p. single-cylinder model possesses no novel features, but is substantially constructed on well-tried lines, its specification including chain-driven magneto, Brown and Barlow carburetter, and spring forks. The engine fitted to the 1910 model is a new one of the Premier Co.'s own make, and fitted with ball bearings to the crankshaft and mechanically-operated inlet valve. It is of moderately high compression, and measures 85 by 90 mm. Numerous radiators are cast vertically on the combustion head, permitting a free passage of air which assists in keeping the engine cool. The frame is designed so that the cylinder can be removed without disturbing the crankcase, which is a great point. The design enables a most comfortable riding position by the aid of footrests, and refinements include a large mud flap to screen the magneto, petrol gauge, stand and tubular luggage carrier, and a serviceable tool-roll. The spring forks enable the use of a front rim brake, the second brake being of the ordinary foot-applied belt rim type.

The twin-cylinder $3\frac{3}{4}$ h.p. Premier is in general construction much on the lines of its single-cylinder brother, the chief difference being that it is minus pedalling gear. The engine is of very up-to-date design, the cylinders being set at 45° from the vertical and firing at even intervals, which design, as demonstrated by the article in last week's issue of *The Motor Cycle*, gives very perfect

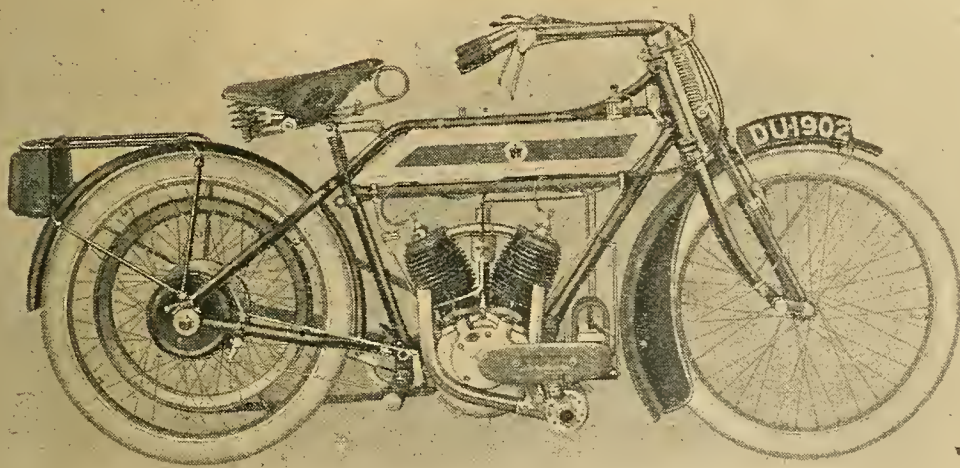
balance; better, in fact, than the ordinary four-cylinder vertical engine. The valves are mechanically operated, and are situated between the cylinders, whilst horizontal radiating fins ensure efficient cooling. The cylinder dimensions are 66 by 80 mm. This engine has a solid forged crankshaft and ball bearings throughout. Ignition is by Simms high-tension magneto with adjustable chain drive. The cylinders are staggered so that the front cylinder does not screen the rear cylinder from cooling draughts. The efficiency and speed of this machine were demonstrated in the Tourist Trophy Race, and we do not hesitate to say that this model will be much in evidence during 1910. An illustration of the twin Premier will appear in our second show number on sale next Monday.

THE REX MOTOR MANUFACTURING CO., LTD., Earlsdon, Coventry (No. 75, Main Hall).—The Rex models consist of four main designs, viz., the De Luxe (two-speed gear), Tourist, Speed King, and Sidette. In addition probably two other



The 1910 model $3\frac{1}{2}$ h.p. single-cylinder 85×90 mm. Premier. For description, see accompanying letterpress.

models will be exhibited fitted with the two-stroke engine described in *The Motor Cycle* of the 3rd inst. The 1910 improvements are numerous. Commencing with the frame, the cradle is discarded, and in its place engine plates are fitted to hold the engine, which, with the carburetter, magneto, and silencer, can be dropped clear of the frame by detaching three bolts. This is accomplished without disturbing the timing of magneto, or any joints except those of the lubricating oil and petrol pipes. The special design of the Rex low frame has been altered at the rear in such a manner that the triangle formed by the chain stays, back stays, and seat-tube has been reduced, yet the seating position is just as low, and the back stays are not so long. This greatly strengthens the frame at a point where strength to withstand the pull of the engine is necessary. An additional stay from the top tube to the top of the ball socket tube enables a longer steering tube to be used than previously. The spring fork is quite new. Its design will be best understood by reference to the accompanying illustration. It will be noticed that the wheel is carried in a separate fork connected to the ends of the ordinary front fork by shackle plates. On the movable portion of the forks the springs are carried well above the wheel where dirt cannot affect their freedom of action. This construction allows a front rim brake to be fitted.



The twin-cylinder two-speed De Luxe Rex. New features of this 1910 model are an automatic lubricator, a new type of spring fork, and an improved design of frame.

A Forecast of the Stanley Show.—

All Tourist and De Luxe frames are alike, and interchangeable from front fork to seat-tube. Beyond the seat-tube the back frames are wider on the De Luxe models to accommodate the two-speed geared hub and free engine clutch. The Rex spring saddle pillar (a most excellent feature) is fitted to all models excepting the Speed Kings. Recognising the demand there is likely to be for sidecars next year, the Rex Co. have designed all their machines, except the Speed King, with special lugs built into the frame for attaching a sidecar, and in addition have designed and made a sidecar which is particularly suitable for their machines. This is coachbuilt, finished dark blue with white lines, and is of the rigid wheel type, but the body is of course sprung. In the lugs are formed large eyes, through which bolts are threaded, a continuation of one of these bolts in front serving as the generator bracket. The handle-bar has been redesigned, and the ends dropped lower. It is also wider, to give greater control at high speed. When the rider is seated the grips fall into the hands in a most natural manner. The foot-rests are large and comfortable. The right one operates the cut-out on silencer by a push and pull movement, which is a convenience, as there is no necessity to remove the foot from the rest for the purpose. The left rest by the same movement of the foot applies the belt rim brake. The front wheel hub has a hollow spindle on which the bearings run. This spindle has a pin passing through it, which secures the wheel in the forks, and, by withdrawing the pin, the wheel drops out. Both front and rear wheel hubs are provided with disc-adjusting ball bearings, the hub shells being turned from a solid steel bar. The Rex engines have not been altered except in one or two minor details. The dimensions of bores and strokes are the same, but the company have returned to the fitting of two rings at the top of the piston instead of one at the top and one at the bottom. A patented improvement to the connecting rod bearings consists of several saw cuts in the end of the rod and the brass which allow oil to reach the crank and gudgeon pins with greater facility. The exhaust valve lifter mechanism now has the lifting levers outside the timing gearcase instead of inside as formerly. The adjustable pulley has a loose flange which screws on the boss. To prevent the locking ring and loose flange becoming jammed, there is a large washer between them which cannot turn on account of several keys cut on its periphery, which engage with slots machined in the boss of the fixed flange. The locking ring is provided with holes in its face for a large spring grip peg spanner. The tanks have large sprung lid filler caps for oil and petrol, petrol float gauge, also oil pumps and sight feed automatic oiler, which feeds the crankcase. This latter feeds from the reservoir by the vacuum created in the crankcase. A needle valve regulated by a screw adjustment allows for a slow or quick feed according to circumstances. Last, but not least, the oiling device used by all T.T. Rex riders is fitted. This, as we have explained in previous issues, is a pipe connecting the crankcase with the gas inlet pipe, so that air mixed with minute globules of oil is constantly pumped from the crankcase into the cylinder above the piston.

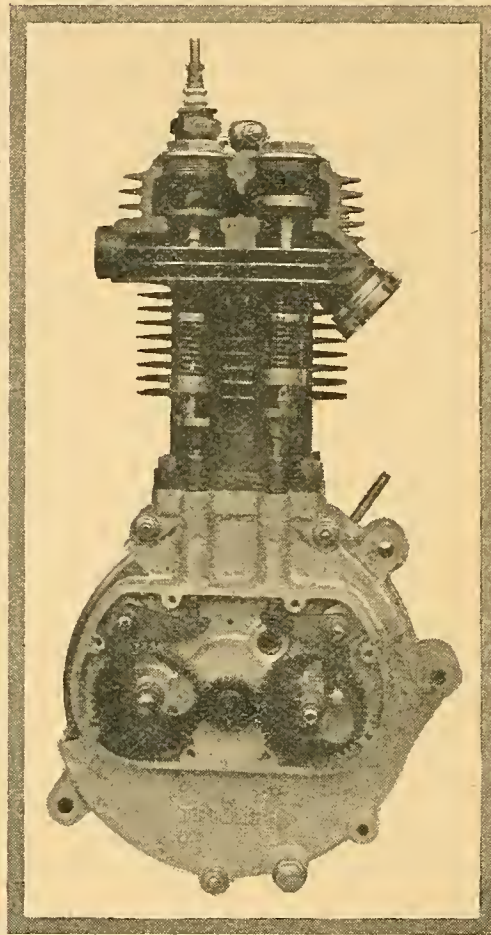
ALLDAYS AND ONIONS, LTD. (No. 113, Main Hall).—A $2\frac{1}{2}$ h.p. lightweight, with engine 70×76 mm., and a.o.i.v. will be exhibited. The Bosch magneto is chain driven, and the new type B. and B. handle-bar controlled carburetter is used. The engine is supported in the frame by struts cast on the crankcase, which drop on to lugs brazed in the frame, and held down by four bolts. The magneto is fixed on to a special bracket at the back of the crankcase. By this arrangement, the engine, magneto, and silencer can be removed bodily from the frame after removing the four holding-down bolts. A torpedo tank is fitted, carrying petrol and oil, and the oil pump is inside the tank. Rigid forks are fitted, a special spring handle-bar of neat design taking up the road shocks. There are two brakes—a front rim brake and a back-peddalling belt rim brake. The stand has an automatic locking device, whilst the back portion of mudguard is fixed to carrier, and this is held on to the frame by four thumbscrews, so that in a few seconds the carrier and mudguard can be removed to facilitate puncture repairing. The total weight of machine is about 110 lbs.

THE WILKINSON SWORD CO., Oakleigh Works, Southfield Road, Acton Green, W., will exhibit on stand No. 73 two 7 h.p. T.A.C. four-cylinder motor bicycles. One will be

equipped as a scouting machine for military use, carrying the full kit necessary, while the other will be fitted with the T.A.C. standard frame, rear springing, spring fork, and wheel steering attachment. Component parts, such as the crankshaft, worm wheel, and gear box, etc., will also be shown. Readers will recollect that the T.A.C. twin and four-cylinder motor bicycles were illustrated in our issues of October 13th and 27th.

The New Model Triumph.

TRIUMPH CYCLE CO., LTD., Coventry (No. 122, Main Hall).—The news that the 1910 pattern Triumph presents no startling alterations from the present year's model will not cause astonishment to our readers, seeing that the machine has been so phenomenally successful. Of detail improvements there are many, but it is in the engine that the chief alterations appear.



The 1910 pattern 85×88 mm. Triumph engine to be shown in section at the Stanley. Observe the extra strong exhaust valve. The timing wheels are cut out to show the contour of the cams.

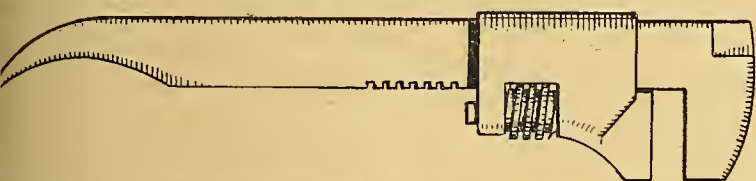
The bore and stroke have been increased to 85×88 mm., as compared with the 1909 84×86 mm. engine. The ratio of compression has been lowered slightly, and the flywheels made heavier. The exhaust valve is extremely strong, the head being double the depth of the inlet valve, as will be seen by the accompanying illustration of a 1910 engine with sections removed. The dome-shaped piston with a ring at top and bottom is retained. The new Triumph engine is no experiment. It has been on the road practically all the year, and was used with great success in the International Tourist Trophy Race, when it proved the fastest of its kind. With regard to improvements in the machine, the Triumph Cycle Co.'s designers have studied and considered the cravings of riders through the

medium of *The Motor Cycle*, and all practical suggestions have been adopted. This is the kind of enterprise by which a machine gains world-wide popularity. On the new model the belt rim brake is mounted independent of the footrest, so that in the event of a fall, which usually results in a bent footrest, the brake is not interfered with. The tapless oil pump is now inclined toward the rider, merely pulling up and pressing down the plunger being all that is necessary to inject a charge of oil into the engine. The cut-out lever has also been improved, and always requires pressing down whether to close or open the outlet holes, the holes on the revolving plate arriving opposite the outlet holes every other time the foot lever is pressed. The handle-bars are of slightly different shape, and enable the rider's hands and wrists to assume a more natural position. The hubs are now rendered waterproof. The whole space of the luggage carrier is available for touring bag, etc., as the toolbags are placed one on each side of the carrier. Much larger tank stoppers will be used on the new model, as also a kick-operated stand—a convenience which will be appreciated by all riders, for it is no easy matter to balance a heavy machine while one bends down at the rear to tighten up the stand fastening. The frame, carburetter, tank, and general arrangement remain as in the existing model. Brooks's spring saddles and Clincher rubber studded non-skid tyres are included in the specification of the 1910 Triumph, an illustration of which appears on page 873.

Forecast of the Stanley Show.—

Some of the Accessories.

E. M. BOWDEN'S PATENTS SYNDICATE, LTD., 29, Baldwin's Gardens, E.C. (No. 123, Main Hall).—Bowden levers for controlling spark advance, carburetter, exhaust lifters, brakes, etc., will be shown. Among the novelties exhibited will be two styles of handle-bars, in which the wires run through the tubes of which the bars are composed. One of these will be the type of handle-bar invented by Professor Sharp, in which the horizontal tubes are built into a bracket on the handle-bar stem. These tubes are open-mouthed at their lower ends, and out of these the controlling wires pass. At the two ends of the bracket are two rings, into which a strong lamp bracket may be fitted. In the handle-bars designed by the Bowden Syndicate, the brake and exhaust levers are bolted on to lugs brazed on to the handle-bars themselves, and in consequence no clips are necessary. At the right-hand end of the handle-bars are the exhaust and front brake levers, while on the left end there is the rear brake lever. The two wires then immediately enter the handle-bars, and issue at a special exit immediately over the handle-bar stem. The carburetter control is operated by means of the latest pattern Bowden twist handles, which are extremely rapid in action, one complete turn moving the lever through a distance of $1\frac{1}{4}$ in. These are very simply constructed, and should, we think, command a ready sale next year. Another novelty will be a pedal-operated rim brake controlled by a rod.



the "Duco" combination spanner—a triple purpose tool for motor cyclists, which will be shown by Brown Brothers, Ltd., Great Eastern St., E.C. The handle forms a cotter pin extractor, while in the head is a cotter pin expander.

BRAMPTON BROS., LTD., Birmingham (No. 276, Gallery).—A complete range of chains, pedals, and hubs. A feature of this exhibit will be the Superb chain for 1910.

J. B. BROOKS AND CO., LTD., Birmingham (No. 230, Gallery).—Specialities on this stand will include Brooks's latest anti-vibratory motor cycle saddles in new and considerably improved models for 1910; anti-vibratory motor cycle seat, which for those riders who like a broad seat has proved the acme of comfort; and touring equipment. Brooks's luggage and toolbags, which are largely used by motor cyclists, have a much improved method of attachment, which eliminates all friction between the carrier and the bag. They have also been considerably strengthened in construction. The patent locking adjustable spanner will again be shown. It precludes all possibility of injuring the nuts.

THE CLYNO ENGINEERING Co., Thrapston (No. 260, Gallery).—The improved Clyno adjustable pulley is made with an inclined plane or cam on the boss of the sliding flange. The sliding flange is carried on the boss of the fixed flange. To adjust the width of the pulley groove, a screw is screwed on the boss, provided with another cam responding with the one on the sliding flange, is screwed up or down. The adjusting collar is now held in position by a pin carried on a circular spring, which is fixed to the boss; the pin engages with a number of holes in the collar. Another accessory is the Clyno adjustable stand. The legs of this stand are tubular and telescopic, which enables them to be altered in length, so causing the machine to stand upright when placed on uneven ground. The stand has knobs on the ends, which prevent the legs sinking into a soft surface.

THE COUNTY CHEMICAL Co., LTD. (No. 268, Gallery).—This firm will again be located in the Gallery as in the past years. All the old and tried Chemico specialities are on view once more, including the Sphinx band, a picture-preventer which is establishing itself in the motor world, Chemico motor bike oil (used by Mr. Tom Dick on his record run from Land's End to John-o'-Groat's), Chemico tyre stopping, Chemico carbide carrier—a hand-leather case to carry a $\frac{1}{2}$ lb. tin of carbide fixed by clips to the frame of the machine.

LEICHHORN AND POPPLEWELL, Coventry House, South Street, E.C. (No. 222, Gallery).—This firm's exhibit will

include a motor cycle lamp fitted with Mangin mirror lens. It is provided with a new self-lighting attachment, which the makers claim is most effective. In addition to the above, other motor cycle lamps and a large variety of horns will be shown.

THE ELEPHANT CHEMICAL Co., Camberwell, S.E. (No. 202, Gallery).—Most motor cyclists know something about the products of this old-established firm. The Elephant and A Rays carbides and oils will be shown in their familiar packages. The tyre stopping, Vulstop, is of special interest, for if used as soon as a cut is found it will keep the wet out and greatly prolong the life of the cover. It is a self-vulcanising compound, and if the directions are followed will amalgamate with the rubber of the cover, making a repair equal to a vulcanised one. For patching tubes Vulsol is recommended. For cylinder lubrication, No. 1 Motorol is an excellent oil; it will not thicken to excess in the winter, and the engine may be started up at once, even on a cold day. The Elephant repair outfits have been improved, and will be shown, together with a number of other useful articles.

ERNEST H. HILL, Beta Works, 56, Broomhall Street, Sheffield (No. 263, Gallery).—A large assortment of tyre inflators in brass and celluloid for hand and foot use; also lamps and other accessories.

LAKE AND ELLIOT, Albion Works, Braintree, Essex (No. 244, Gallery).—An interesting exhibit of accessories and fittings may be expected on this stand. The new Millennium two-speed hub for motor cycles is an epicyclic two-speed gear fitted with a metal to metal high speed clutch. The low gear is brought into operation by applying a brake band, the brake of the gear in question having received special attention. The Millennium Fit-all two-speed gear is one which the makers claim to be a really reliable gear at a moderate price, readily fitted to any engine of ordinary dimensions. The control is by means of rods instead of wires. As regards tools, Lake and Elliot will be showing the Millennium Autogrip spanner, which cannot damage the corners of the nuts, because the greater the force applied the more the Autogrip tightens itself upon the nut. It also possesses the quality of being instantly adjustable. Other items to be looked for will be the Millennium stand for motor cycles, valve reseaters, valve truers, valve lifters, and Midas sets of motor cycle tube spanners. There will also be exhibited a full range of tools for motor cycle repairs.

PETER UNION TYRE Co., 6, Upper St. Martin's Lane, W.C. (No. 231, Gallery).—All types of Peter Union tyres, which have established for themselves an enviable reputation, will be seen on this stand. The chief types on view will be the studded tyre, which has behaved so well for several years; the ordinary tyre, so well known to motor cyclists; and a new pattern of twin-ribbed tyre, built up with stronger fabric, and of superior quality rubber. This tyre possesses excellent anti-skidding qualities, and it is interesting to note that it was used with great success by M. Geiger and M. that it was used with great success by M. Geiger and W.

THE STEWART AND CLARKE MFG. Co., LTD., 11, Denmark Street, Charing Cross Road, W.C. (No. 165).—These well-known vendors of speedometers will be showing a motor cycle instrument at the coming Stanley Show. It will be driven by means of gear wheels from the front wheel, and it is supplied to fit all makes of motor bicycles, whether fitted with spring forks or not. The price will be very moderate. This instrument starts from zero instead of five or ten miles an hour, thus giving an accurate indication of the speed from standstill. It will be guaranteed absolutely for five years, and this guarantee will cover not only durability of the instrument and its component parts, but it is a positive guarantee of accuracy under which the company binds itself to look after the instrument during that period.

J. TAYLOR, 318, Percy Road, Birmingham (No. 245, Gallery).—The following Peugeot engines (for which Mr. Taylor is sole agent) will form the main portion of this exhibit: Single-cylinders with a.o.i.v.— $2\frac{3}{4}$ h.p., 75×75 mm., and $3\frac{1}{2}$ h.p., 80×94 mm. Single-cylinders with m.o.i.v.— $3\frac{1}{2}$ h.p., 84×86 mm. Twin-cylinders with a.o.i.v.— $3\frac{1}{2}$ h.p., 66×70 mm., 5-6 h.p., 75×75 mm., and 7-9 h.p., 80×94 mm.

THE TORMO MANUFACTURING Co., 67-68, Bunhill Row, E.C. (No. 23, Main Hall).—New types of Sarolea engines, the chief feature of these being the new inlet mechanism.

CURRENT CHAT

Time to
Light Lamps

THIS WEEK.

A Forecast of the Stanley Show.
Motor Cycling for Parsons.
The End-to-end Sidecar Record.
Improvements in Design.

Nov. 8..5.20 p.m.

,, 10..5.17 ,,

,, 13..5.13 ,,

,, 15..5.10 ,,

"The Motor Cycle" Show Numbers.

Next week's issue, to be published on Monday, the 15th inst., will form a complete guide to the Stanley Show. Plans of the Agricultural Hall, giving the positions of the exhibitors of motor cycles and accessories, and the numbers of the stands, will enable readers readily to locate the position of any exhibitor with a minimum of trouble and delay. The article forecasting the novelties and improvements in connection with 1910 models will also be continued next week. The following issue, dated November 22nd, will contain a fully illustrated description of the exhibits written by members of our staff who have been in close touch with the motor cycle movement since its inception.

Overdoing It.

Some of the lamps one notices on motor cycles seem unduly large. On the Sevenoaks Road the other night we noted a machine with a projector of the size used on large cars. The combined weight of the lamp and generator must have been excessive. The ordinary bracket would not have supported the weight for five miles.

First Aid Tricar Demonstrations.

At a L.G.B. inquiry at Bromley, Kent, in respect to the new motor fire station, the special committee reported that demonstrations had been given locally by various makers of a motor fire engine and first-aid tricar. These from a practical standpoint were very satisfactory. Tenders for a fire engine and tricar will accordingly be invited.

Pneumatic Tyre Majority Celebration.

H.S.H. Prince Francis of Teck, K.C.V.O., D.S.O., chairman of the R.A.C. and president of the A.C.U., has consented to occupy the chair at the Pneumatic Tyre Majority Celebration banquet to be held at the Hotel Cecil on the 19th inst. Prince Francis has for some time past taken a most practical interest in the welfare of automobilism, especially in the crusade against inconsiderate driving, and in both London and the provinces his speeches at various banquets have been greatly appreciated.

Tunbridge Wells Against Trapping.

At a meeting of local traders at Tunbridge Wells to consider motor speeds in the town, the majority strongly opposed any speed limit on the grounds that it would be against the best interests of the town. The local authorities at Sevenoaks and Bromley are also averse to traps, and find that polite cautions erected in a prominent position are effective. Tradesmen, of course, reap the benefit of this sensible policy.

Fifty Miles' Road Race in Victoria.

The Victorian M.C.C. annual fifty miles road race again proved a most successful affair. There were twenty-four starters out of twenty-seven entrants, and the speeds accomplished

FUTURE EVENTS.

Nov. 12—Essex M.C. one hour race for Du Cros cup at Canning Town track.

„ 12-20—Olympia Motor Exhibition.

„ 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, Islington, N.

„ 22-27—Meeting of the Trade and competitors to consider conditions for the 1910 Tourist Trophy Race.

Jan. 20—Auto Cycle Union annual dinner at the Waldorf Hotel.

were exceptionally fast and easily beat the existing records for the course. The start was from the ten mile post at Campbellfield to a point 22½ miles along the Sydney Road and back to the start, this course having to be covered twice. Starts were allotted to the lower-powered machines up to 48m., the limit man being C. R. Cook



L. Benn (84 Triumph) who won the Victorian Motor Cycle Club's fifty miles race in the record time of 65 minutes.

(Thomas), whilst E. H. Jenkins (T.T. Triumph) was on scratch. The ultimate winner (L. Benn) made fastest time for the first twenty-five miles, H. Cox (who was delayed by a broken sparking plug in the first half) making fastest time for the second twenty-five miles. Benn won by 3m. from Tilburn whose performance was particularly good considering the small engine he used. The average speeds accomplished by the first six were as follows:

	M.P.H.
L. Benn (84 by 86 Triumph)	46.1
H. A. Tilburn (80 by 80 N.S.U.)	44.1
G. Overgaard (84 by 86 Triumph)	41.5
B. Fitzgerald (84 by 86 Triumph)	38.9
E. H. Jenkins (84 by 86 Triumph)	42.2
W. H. Cuddon (80 by 98 Peugeot)	38.9

Fourteen competitors finished, the average speeds ranging from thirty-two miles per hour.

Australasian Records.

During the above race L. Benn created new Australasian motor cycle records. The previous best time for twenty-five miles was 40m. which Benn reduced to 32m. His time of 65m. for fifty miles is also a new Australasia record.

The Auto Cycle Legion.

H. A. Wildy has been appointed Commandant for the London District Command of the Auto Cycle Legion and would be glad if readers who are interested in military motor cycling to the extent of wishing to take an active part will write to him at 3, Threadneedle Street, E.C. In consequence of the success which attended the efforts of the squad on manœuvres, Mr. Wildy is anxious that the War Office, if it should require motor cyclists in the proposed Technical Reserve, should be able to obtain, at any rate, a nucleus from the London area of men who will have gained some idea of what is required.

Auto Cycle Union News.

The Auto Cycle Union has granted a permit to the Essex Motor Club to run off a hour race for the "Du-Cros Cup," which will take place at Canning Town track at 3.30 on Friday afternoon next, the 12th inst.

At a recent meeting of the Auto Cycle Union Competitions Committee it was decided that F. C. Wood, competitor in the October Quarter Trials, who was stated in the judges' report to have lost five marks for making an adjustment at Banbury should instead have three marks deducted on account of his stand and carrier being inefficiently secured. The judges' report on the trial was thus confirmed.

OCCASIONAL COMMENTS

BY "IXION"



Sydney Jones

Thin Oil for Winter Use.

This is the gumming season—the time when the warm engine switched off with a *souçon* of swagger two minutes ago refuses to restart without paraffin injections, and causes the street urchin to exercise his rich and derisive wit at our expense. I insure myself against the gamin by keeping three different vintages of oil permanently on tap. At midsummer I find such a heavy compound as Price's A prevents overheating, and does not gum. About this time in the year I cork up my bin of A until May, and open up a bin of thinner B; towards December I shall cork up the B and rely on the even more watery C; and during these changes I shall (touching wood, of course) never know what it is to be hampered by a gummy engine when starting "from warm."

Headlight Tubing.

Several generators are now designed to occupy a space normally vacant on a motor cycle, namely, between the saddle-pillar tube and the rear mudguard. I use such a generator myself, and two or three times lately I have been hung up by the poor quality of the rubber tubing supplied for coupling this generator to my headlamp. It was ordinary thin red rubber tube of the babies' bottle variety, which perishes rapidly, and is so weak that it is particularly liable to accidental injury. I tried in vain to obtain a long length of the thick ribbed rubber tubing used in making up first-class inflator connections, and in this *impasse* I went to the local gas company's to pay my quarterly bill, and saw there a new inverted mantle incandescent gas reading lamp, coupled to a T piece on the household gas supply by just the very tubing my motor cycle stood in need of. I could not discover what material this flexible metallic tubing was composed of, though the salesman guaranteed that no copper entered into its composition, and that it was as suitable for acetylene gas as for coal gas. I invested in a long length of it, bound it to the tubes of my motor cycle with insulating tape, and coupled it to lamp and generator by short lengths of stout ribbed inflator tubing, so that I do not expect further troubles of this sort.

Packing Acetylene Burners.

I expect most riders know one of the annoyances encountered in night work which make one kick one's self for ever having ventured out in the dark at all. I refer to misfits in acetylene burners. My burner choked up hopelessly the other night. My pricker would not clear the minute orifice at any price, and the maker of my lamp had not sufficient "savvy" to thread either the burner or its holder so that it would screw on to the tyre inflator, as it ought to have done. Luckily I had a spare burner, so I dug it out and screwed it into place. Of course, the thread was a trifle shorter than that on the old one, and when it was screwed home tight the flame persisted in staring fixedly at the side of the lamp, so that little illumination was flung forward, and the Mangin lens was in grievous danger of being cracked. Under

these circumstances the courteous makers would instruct us to "pack the burner with plumber's lead!" But even the "compleat" motor cyclist has seldom got a can of red or white lead in his pocket at midnight ten miles from anywhere, and it does not grow in hedgerows. I tried leaving the burner just so loose that its fan of flame faced forwards, but a jet of flame spurted out round its roots, sooting up things generally and threatening to crack the glass. So I lashed a few turns of insulating tape round a plug of wet mud for a mile or two, and then I saw a light in a cottage window, and got a pat of soap, which packed the burner so that its fan faced forwards without leaking.

Miniature Twins.

Nothing interested me more in the T.T. race than the very fine performance of the little Premier twin, "Jones up." My readers may remember that a year or two ago I emphasised the pleasantness of a rather similar machine with a $3\frac{1}{2}$ h.p. twin engine, as assembled by a local builder into a light frame, and now I see that Mr. Archibald Sharp, the A.C.U. technician, highly applauds the general design of this taking little machine. Of course the Premier twin is far more advanced in design than the other little jigger which I waxed enthusiastic over. Its cylinders are pronouncedly staggered, so that the fore cylinder does not keep the cooling draughts off the rear cylinder, in addition the engine is provided with an outside flywheel. Such a machine possesses the advantages of a big, heavy, overpowered standard twin—namely, extreme smoothness of running and general flexibility, without its disadvantages, viz., weight and clumsiness. There is no reason why this machine should not be a very popular type in the future. It is not easy for a newcomer to fight its way quickly into the front rank nowadays, but the Premier has had to be seriously reckoned with all the year. It has shone in the Quarterlies. Stanley on the single did excellently at Newnham, and had the worst of luck in the Isle of Man, which was rather retrieved by Jones's performance on the twin, and only an error of judgment in last minute preparations robbed the team of success in the Thousand Miles. The Premier Co. are to be heartily congratulated on the success of their machines up-to-date, and unless I am much mistaken they will have a storming good season in 1910.

The Valve-breaking Nuisance.

I can only find one detail in which the machines of to-day are distinctly retrograde as compared with previous years, and this is the frequency with which exhaust valves fracture on some of the best of the single-cylinder types. Three friends of mine, all owning $3\frac{1}{2}$ h.p. machines of different makes, have broken three or four exhaust valves apiece during this year, and two of them have smashed their cylinders as a consequence. It is the demand for a very high efficiency which creates this nuisance. Exhaust valves are mostly made in two pieces with cast iron heads

Occasional Comments.—

to reduce the need for grinding in to a minimum; and the complete valve should be kept as light as possible to assist the attainment of very high engine speeds on occasion. The old De Dion and M.M.C. exhaust valves would run several years without snapping, because they were one piece valves of very stout construction; *per contra*, these valves often needed grinding, and the engines in which they were carried were by no means so efficient as the single cylinders of to-day. The makers' attitude no doubt is that it is worth while occasionally to replace a valve and a cylinder gratis, for the sake of the higher efficiency procured by this mode of design. They construct their orifice to the combustion chamber so that the valve head cannot break the piston or the cylinder unless it splits into several pieces, and they cynically take their chance. Unfortunately, this method results in a distinct lowering of the standard of reliability. And in the last three years I have more than once been stranded on the road for this reason. Here is a little problem which our engineers ought to be able to solve. We require a light valve, which will seldom require grinding in, and which cannot under any circumstances smash the cylinder or piston. Who will be the first to produce such a valve? I do not think I have ever enlarged on this point before, and that means I have allowed the industry three years in which to tackle the problem. Nowadays hundreds of riders are growing tired of broken valves, and I venture to prophesy that any firm who conquers this defect will become increasingly popular.

Springing.

I think it is in respect of springing that improvements are most urgently needed. No spring frame has yet evinced such a combination of neatness, light weight, low price, and efficiency as to make it widely popular, though there are a lot of Bat frames on the road again just now. There are still only about three spring forks which in any sense deserve their name, and the majority of motor cycles convey a good deal of vibration to their riders on bad roads. It is true we can ride 400 miles in a day over our better roads without feeling any ill effects, but I have a high respect for the motor bicycle, and shall not be content until it is as comfortable as a car over bad surfaces. This it emphatically is not, at present, and

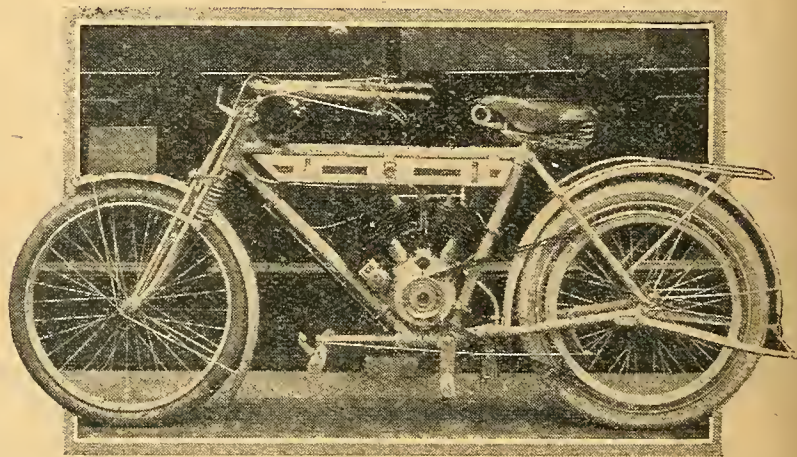
there seems little enterprise in this direction. Several machines are disfigured in my eyes by spring forks which are absolute mockeries and impositions; and their riders, methinks, only put up with them because they have never steered with a first class fork. Motor cyclists are at present a hardy breed, they will put up with a lot of real discomfort, and lie about it afterwards as manfully as an angler. I regard motor cycling as a sport which will extend into less athletic sections of the community than it taps at present, and if that is to come about, springing will have to be vastly improved. I put a 'varsity athlete of some repute on one of the best machines of the day last week, and, tough youngster as he was, he grumbled a good deal about its discomfort, the explanation being that this particular make is disfigured by an exceptionally inefficient spring fork. However, the real good forks are steadily gaining ground, as their merits become better known, and so the firms who remain content with inefficient substitutes will soon find their hands forced. Simultaneously, if there is no clamour for spring frames, increasing business is being done in machines fitted with spring saddle-pillar mountings and extra big saddles.

The Position of Toolbags.

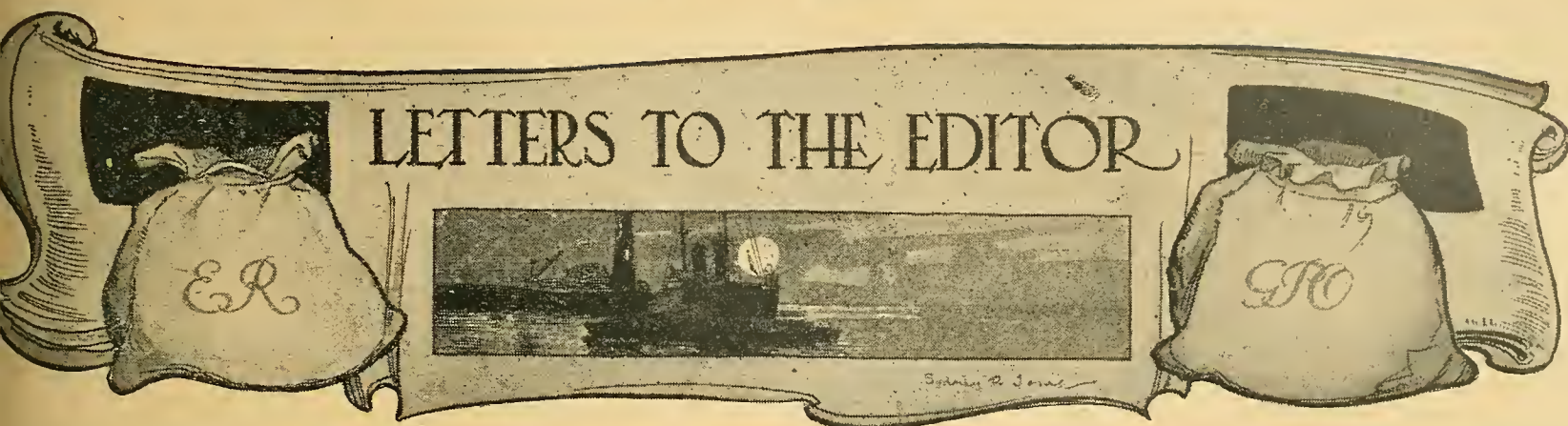
A naval officer writes complaining of the positions adopted by many makers for the toolbag. He says, with some justice, that when he buys a machine for touring purposes he wants all the space on the carrier for personal baggage. He might have added that if a bag is either strapped to the cantle of the saddle or fixed on top of the carrier, its front edge generally jars the rider's tailbone if he tries to sit back on the saddle. As there are several excellent alternatives, I hope makers generally will alter this detail before the Stanley Show. The Rex people now utilise a space otherwise wasted by fitting a special roll-up bag between the underside of the tail of their carriers and the back mudguard. I see no objection to this. The Indian machines I have seen in this country have the bags riveted to a special platform on the top tube, which is, perhaps, even more ideal. At any rate makers should understand that long distance riders require the whole of the carrier for their touring bags, and desire to see the tool-holders placed elsewhere. He has to scrap the toolbag provided and buy another. If an owner wants to keep his carrier for a touring bag, which will fit elsewhere.

A DAINY LITTLE MOTOR BICYCLE.

The Moto-Rêve Company has recently built specially to the order of a well-known Bristol merchant a 2 h.p. lightweight Moto-Rêve motor bicycle with 24in. wheels. The result of this order has been the evolution of one of the daintiest little motor bicycles we have ever had the pleasure of inspecting. With the exception of the engine, almost everything was built specially to order. The measurements of the frame are: Wheelbase, 48in.; seat tube, 18½in.; top tube, 26⅜in.; front tube, 23⅝in. The tyres are a Michelin studded back tyre and a 2in. basket pattern Continental in front. The machine is finished in grey and lined green. Two pairs of footrests are fitted. The Moto-Rêve Co., Ltd., is now installed at new showrooms, repair works, and stores at Acton Vale, close to the Napier Works.



A special Moto-Rêve lightweight supplied to a Bristol merchant.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Handicapping at Brooklands.

[4350.]—With reference to the article in *The Motor Cycle* regarding the handicapping at Brooklands, I should be obliged if you would give space to this letter.

I entered a standard touring Triumph (not a T.T. model) in one of the events on June 30th. It was the first time I had raced at Brooklands, and when I arrived there I found that I had got 1m 45s. from scratch. So had Barnes; so did McNab.

I found, to my astonishment, that I had to concede a few seconds start to a 6 h.p. N.S.U. (which was second) and about ten seconds to a 5 h.p. Rex.

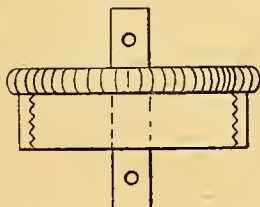
All the T.T. Triumphs except Fenn's (which was more severely handicapped) and two other special Triumphs got a start; that is to say, they got 15s. from the only standard Triumph entered.

I am not airing a personal grievance, but merely representing a state of things that I consider ought not to exist, and a state of things, which if continued will bar the amateur who enters for sport.

J. FORGAN-POTTS.

Tank Filler Caps.

[4351.]—I am a rider of a 1909 Rex. As delivered, the filler caps for oil and petrol tanks allowed some of the contents to escape through air hole when completely filled, particularly the petrol. After several experiments this was overcome by the following simple method: The original air hole I soldered up, then drilled a small hole through the centre of the cap and passed a short piece (about 1/2 in. long) of 3/16 in. copper tubing through this hole, having each end soldered up. Two 1/16 in. holes were then drilled at right angles—one on top and one at bottom. The copper tubing is soldered to underside of cap. This arrangement allows tanks to be filled right to the brim without spilling taking place.



C. E. WHEELER.

In the 1910 Rex models the fillers will have a large orifice fitted with a sprung lid, which allows air to enter yet prevents the escape of petrol and oil.—Ed.]

Replies to the Taxation Query.

[4352.]—In your issue of October 27th you publish a reply to a taxation query. The writer says that "when these taxes were Imperial and were paid into the Exchequer, the Board of Inland Revenue made a regulation of their own exempting from duty any carriage laid by and not used at any time during the year." The writer also contends that this is not binding on the local officials.

I wish to point out that the same declaration forms No. 1 and No. 2—whole-year and part-year licences respectively—are still in use and are still supplied from Somerset House. Both these forms clearly set forth under the head of exemptions No. 4: "Licences are not required for carriages and motors kept but not used at any time within the year." If this means anything at all it means what it says, and I hold that no one can be compelled to pay for a licence for a carriage or motor which is not used, so long as these exemptions are embodied on the declaration forms.

ONE WHO ISSUES LICENCES.

[4353.]—I^r your correspondent, "JS 92," is correct on the point of law, that the mere possession of a motor cycle (apart from use) renders one liable to taxation, all I can say is it is cruelly unjust. But, to my mind, an interesting point might be raised in defence, in case of a prosecution, where one had been proved to be an owner, but had not made himself liable by using it. The point arises on the definition of a motor cycle. I maintain that the definition is a vehicle with three or less wheels capable of being propelled on the road by its own mechanical power. If this is not the case, any accumulation of mechanical parts that resembled a motor cycle, that might be entirely useless as such, might be construed a motor cycle, and be liable to taxation.

To make my meaning clearer, a machine without an engine would certainly not be a motor cycle, but many other parts could be missing or out of order that would make it equally useless, and, in the legal sense of the word, not a motor cycle.

I maintain that the authorities would have to prove that the owner's machine is capable of being driven by its own mechanical power. One has only to remove the sparking plug to make this impossible. If my argument is not correct, and it is a fact, as your correspondent points out, that mere possession renders one liable, then those who happen to own some old crotch they do not use will be in a dilemma unless they want to pay 20s. tax next year for it. To sell or even give away may be difficult, and breaking up would not rid him of the motor cycle, unless the law could define the number of pieces it would have to be broken into before it would no longer be considered a motor cycle by the authorities.

H. PORTER.

A User's Experiences with the New Lightweight F.N.

[4354.]—It may perhaps interest you to hear from a rider of the new F.N. single-cylinder gear-driven motor cycle. I have been riding one for the last five weeks in all weathers, and on very hilly roads, and have so far had only one stoppage caused by screen on air inlet getting choked with dust. I have now a small brush to clean it. On the top gear I find it capable of taking any reasonable hill at a fair speed, and one has always the satisfaction of knowing that when one comes to a very bad hill with sharp corners to round the machine will get to the top. I can even get off on a hill and restart without much exertion. It is wonderfully easily started. One seldom has to run except when the engine is cold, when I generally put in high gear, mount and pedal a bit, and the engine starts off. I also find the oil drip lubrication saves the worry of thinking about the pump, and altogether I am very pleased with it and think it will be suitable for the country doctor or middle-aged person like myself who wants something that will carry him in all weathers and up every hill at a reasonable speed. As to vibration, this does not trouble me; in fact, I do not think there is much, but as I have never ridden a motor bicycle before, I cannot make any comparisons. As to durability, time only can decide, but it looks as if with good care, good oil, and no misuse of the change-speed mechanism, it ought to last a reasonable time. Neglect would, of course, have a more disastrous result than with a belt drive.

M. STEDMAN.

Hill Climbing.

[4355.]-I wonder if the following particulars of a remarkable hill will be of interest to your readers. I came across it while staying in Oban, N.B., during July, and was so struck by the appalling gradient that I determined to climb it, and this I eventually succeeded in doing.

The hill rejoices in the name of the Craigard Bray, and is about 250 yards long. There is no possibility of a run at it, the only access being from the street at the bottom, which runs at right angles to it; as the gradient commences at once, the start is by no means an easy one.

The first twenty yards has, as nearly as I could measure, a rise of 1 in 15, the next fifty yards 1 in 10, twenty of 1 in 7, and the next ten with the awful rise of 1 in 3; the gradient eases to about 1 in 8 for fifty yards, becoming after that increasingly easier till the summit is reached. The steepest part occurs at a bend.

This hill, exercising a powerful fascination for me, I made repeated clean ascents of. The machine ridden was a Triumph, standard in every respect except pedals, which had been replaced by footrests. J. FORGAN-POTTS.

The London-Edinburgh Run for Old-pattern Motor Cycles.

[4356.]-I was delighted to see what I had long been looking for, i.e., a suggestion (which looks likely to mature) for a long-distance race (or jog if your like) on an old make of machine. A capital idea! I think it might be run in two sections, viz., up to 2 h.p., and over that a separate section. I would suggest that engine and carburetter should be guaranteed by maker (failing which a competent judge to decide) to have been made previous to 1905. If I can get away from business I should be glad to enter my old crock—about the most inconsistent old crock one could imagine—now will not go ten miles with the wind, and next day would give a modern $3\frac{1}{2}$ h.p. a good shaking up against a stiff breeze; and I have a friend who swears he gets 35 m.p.h. out of his 2 h.p. of ancient memory. I do not believe him, but he is a friend, so I do not contradict. Anyhow, kindly give the necessary particulars, and I for one will do my utmost to join in. Many thanks for the many valuable hints contained weekly in your most valuable paper; they are invaluable to one who, in the time of increased taxation, is compelled to sign himself OLD CROCK.

P.S.—After reading "Anode's" letter, I feel there ought to be a speed limit in the suggested competition!

The End-to-end Record.

[4357.]-A curious aspect of the discussion is that none of the writers seem to have noticed that *The Motor Cycle* has hall-marked the last few attempts by sealing the cylinders and certain other portions of the machines. Surely, if things are as "Own Bat" would have us believe, *The Motor Cycle* would not have sealed the machines or published any details of the rides. Personally, I have sufficient faith in our representative journal to think it would not have done so if it thought it was against the interests of the sport. This alone is, I think, sufficient answer to any critics of what any real sportsman must consider a very fine performance. I do not advocate for one moment that motor cyclists generally should break the law, but I really do not see where perhaps ten or a dozen properly organised attempts on the End-to-end record during the course of a year can do any real harm. The record is the only one attempted in England and Scotland, and as the greater part is over thinly populated or deserted country, it is difficult to see where there is cause for complaint. "Own Bat" must have a queer idea of "conclusive termination" in allocating to himself "complete vindication." I am sure motor cyclists generally have abstained from writing because they considered "Own Bat's" attempts to belittle a great effort as beneath their notice.

HAROLD KARSLAKE.

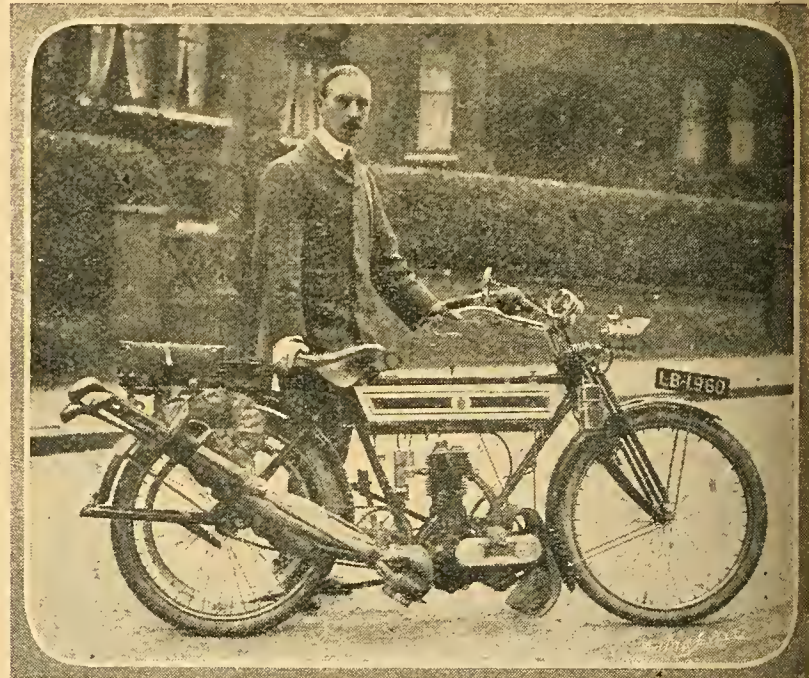
[4358.]-I think Mr. Bentley's letter an admirable reply to "Own Bat," and could only have suggested one better way of dealing with "Own Bat's" letter, and that is, treating it with the contempt that it deserves by taking no notice of it. I have never been able to have a try for the record myself (though should very much like to), so am quite unprejudiced. The combined ideas of "Own Bat" and W. E. Holmes that a rider, when attempting to break a record,

should carry food and petrol with him, must have a certain amount of sleep (I presume "Own Bat" and W. E. Holmes would decide as to the amount), and make no arrangements to prevent him missing the route, are ridiculous. The aspirant would, I suppose, be allowed to arrange for a time-keeper at each end and checkers *en route*—but perhaps the latter are unnecessary! What tickles me most is the second paragraph of Mr. Holmes's letter. In addition to stating that hundreds of motor cyclists could equal the performances of Messrs. Bentley and Hart-Davies, given proper weapons and organisation, why did he not add the proviso that had they the same amount of pluck, endurance, and experience? Other readers may understand what your correspondents mean, but I admit that I do not. The suggestion that a rider, in attempting to break a record, should not endeavour to avoid any delay puzzles me. If it had been the "Irish" End-to-end I could have understood it. No, "Own Bat" and W. E. Holmes, try to find some topic more worthy of the space you are utilising in *The Motor Cycle*. F. H. MULLETT.

[Other letters couched in much the same strain as the above have been received, but those published will suffice.—Ed.]

A Method of Carrying Golf Clubs.

[4359.]-I have frequently been asked how I carry golf clubs on my motor bicycle. I found in practice that strapping them to the handle-bars and down the front fork did not answer, as the first bad shock quickly put one or other of the straps out of action. The most comfortable way to carry



F. Mead's method of carrying golf clubs on a motor bicycle. See accompanying letter.

them, to my mind, is to strap the top of the bag to the back of the carrier with what I may call the main strap on the bag, pass the second strap on the bag round the back stay for additional safety and also to keep the clubs from rattling, place the bottom of the bag on the pedal and strap securely to the crank. I enclose a photograph which makes it quite clear. I hope this method may be of use to some of your golfing readers.

FRANK MEAD.

The Lessons of the Tourist Trophy Race.

[4360.]-I was much interested in letter 4328, signed Benjamin Constant. My machine can be driven on top speed at quite a slow pace, and that without jerking. I practically always start on second turn of handle, or by walking with low gear in. Most hills I take on top, but am not troubled by what comes along owing to second speed, and my weight is fourteen stones. It is not a flier, but I average legal limit with ease without going any further. Belt troubles I know not, neither chain, although my previous mount was a free engine Humber (1905) and my present is a Phelon and Moore (1908). L 490.

[4361.]-The remarks on "The Lessons of the Tourist Trophy Race," by Benjamin Constant, are so much to the point and of such general interest that I feel sure he

would not mind giving his reasons for the various points he mentions as detrimental features of the long stroke engines. He says the modern high compression long stroke engine is not ideal for touring, and is not flexible enough. Would Mr. Constant kindly give a reason for this? He states, "It is difficult to start." Personally, I cannot see why, or why a long stroke is detrimental to tyres and engine bearings. I can understand an abnormally high compression engine causing excessive vibration under certain conditions, but I should be interested to learn why a long stroke should accentuate vibration. Will Mr. Constant also enlighten me as to the reason why a long stroke engine would not run slowly? Why should it not run as slowly as a short stroke?

This is a fairly long list of queries, resulting from my desire to obtain data of the matter proving the superiority of the one or other type of engine.

JAS. L. NORTON.

Belts on Lightweights.

[4362.]—In the issue of October 13th I see you describe the new copper sewn belt fitted to the $1\frac{1}{4}$ h.p. N.S.U. lightweight. To quote your words, "it is in reality (to use an Hibernian expression) a round V belt."

The copper sewn belt may or may not be superior to the twisted belt. I, as a rider of a $1\frac{1}{4}$ h.p. N.S.U., have tried both, and my experience, in common with that of most other lightweight riders whom I have met, is that the belt is the least satisfactory part of an excellent type of machine, so I should have been better pleased to read that the N.S.U. Co. were fitting a genuine V belt instead of a round one.

I used to think that a round belt was fitted because the distance from the pulley to the belt rim was too short to enable the V belt to encircle the pulley sufficiently so as to grip it, but this can hardly be, as when measuring a Moto-Reve recently I found that the distance in that case was, if anything, less, and since this machine is 2 h.p. I take it that the pull on the belt must be considerably greater, though no doubt more even. Further, the pulleys on both machines are practically equal in diameter, the lower gear in the case of the N.S.U. being obtained by a slight increase in diameter of the rear belt rim; hence I think we may say that the N.S.U. pulley is not too small for a really flexible V belt.

The geared down pulley is possibly the solution of the difficulty, but in any case I certainly think that the advent of a better belt for the $1\frac{1}{4}$ h.p. lightweight would be hailed with joy by many riders, and if you can find space in your paper for bringing forward this subject, perhaps we may not have so long to wait.

W. H. D.

Lubrication.

[4363.]—Having at various times seen letters enquiring for a satisfactory automatic lubricator, I am rather surprised that more readers have not given their experiences of the J.A.P. automatic lubricator. I have kept quiet until I had given the device a fair trial, as I know from experience gained that all motor cycle accessories are not what they seem at first sight. My experience dates from the time a man was considered about fit for a lunatic asylum if he bestrode a De Dion tricycle; this was before petrol and lubricating oil tanks were thought of. At that time I used to dismount every twenty miles or so and measure out a dose of oil from a tin carried in the toolbag and pour it into the crank case. This was certainly positive lubrication, if not automatic. Having this year, apparently like many others, become tired of the pump method and its attendant evils and risks, I decided to fit a J.A.P. automatic lubricator to my 7-9 h.p. twin Peugeot engine. Since fitting this and having the correct adjustment of feed, lubrication has never caused me a moment's thought in 2,027 miles riding. When starting for a ride of whatever length, I simply give the feed screw one turn and my lubrication is perfect. I can thoroughly recommend this to anyone in search of a satisfactory automatic lubricator, and the J.A.P. deserves to be better known.

J. G. BROWN.

[4364.]—In letter 4294, October 6th, H. B. Willoughby asks for a practical definition of oil level in the crankcase. Might I ask him to note the inspection window in the bottom of the crankcase of the $1\frac{1}{4}$ h.p. F.N. I rode one of these machines two years ago, and found the advantage of being able to see the amount of oil in the crankcase by merely dismounting and allowing the machine to stand for

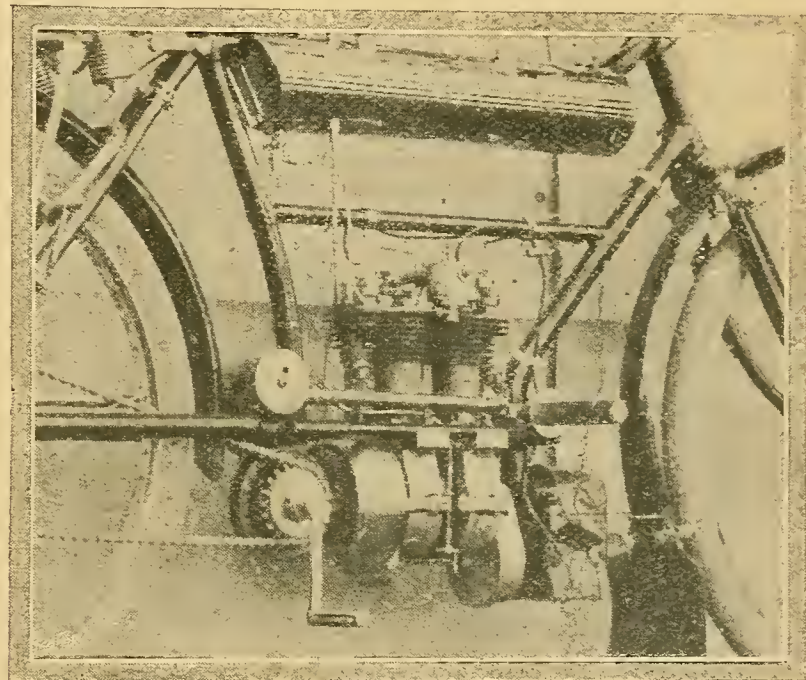
a minute or so. Of course, as he suggests, the oil level cannot be seen when the engine is running, the oil then being splashed about by the flywheels. This device enabled me to go through a year's riding without any trouble or anxiety from over or under lubrication, as by dismounting or when remounting after a stop, I could see at a glance the level of the oil in the crankcase.

J. THORNE.

M.O.I.V. versus A.O.I.V.

[4365.]—At the beginning of this year a discussion took place in your columns concerning the relative merits of m.o.i.v. and a.o.i.v., more especially on twin-cylinder machines. Would you allow me to point out briefly what a marvellous success has crowned the efforts of those makers who have turned out m.o.i.v. twins this year? Last autumn there was scarcely a decent m.o.i.v. twin on the market; now there are plenty, and look at their performances.

Mr. W. H. Wells, I remember, was at the time of the discussion very much in favour of a.o.i.v. Is it not proof



An entirely new model Moto-Reve. The twin-cylinder vertical engine is of $2\frac{1}{4}$ h.p. and the transmission is by chain through a two-speed gear box.

positive of the superiority of the other variety that such a quondam staunch advocate of a.o.i.v. now regularly rides a m.o.i.v. twin?

Then again, all hill-climbs of importance have been won by m.o.i.v. twins, when there were any good ones entered; also, on the track, practically all races have been won by them. It may be noted in passing that the average a.o.i.v. 5 h.p. twin, when put on the track, has perforce to smell the exhaust of the average fast $3\frac{1}{2}$ h.p. m.o.i.v. single-cylinder. Sometimes even a 7-9 h.p. a.o.i.v. twin does likewise. This sort of thing is apt to make one think, and then smile at the twin's "efficiency." However, now there are some m.o.i.v. twins about—may many more come as soon as possible—good performances are put up everywhere. What a marvel was performed in the T.T., for instance, by two m.o.i.v. twins and several m.o.i.v. singles. The automatic twins were nowhere. One is forced to think that few makers will dare to stick to a.o.i.v. twins in a year or two if they desire to sell any machines.

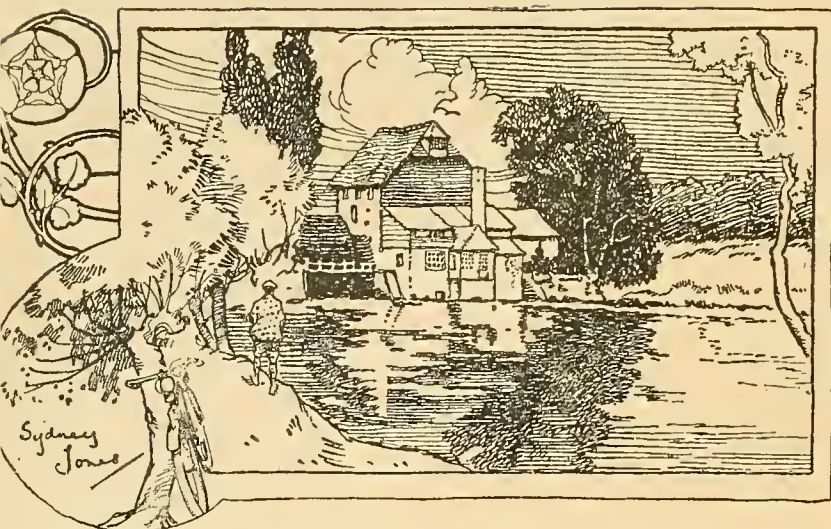
M.O.I.V.

SUMMARY OF OTHER CORRESPONDENCE.

John Bentham wishes to thank the motorist who so kindly assisted him on October 31st, at Nostell.

EXPERIENCES WANTED.

"Humber" would like to have the experiences of a private owner who possesses a $3\frac{1}{2}$ h.p. two-speed Humber (1903). He particularly wishes to know: (1) The weight; (2) has the engine a high compression? (3) is it light on tyres? (4) its maximum speed and hill-climbing capabilities; (5) is the silencer which forms part of the down tube a success?



MOTOR CYCLING FOR PARSONS.

BY ONE OF THEM.

You cannot drive a motor cycle and think of your next Sunday's sermon or that recalcitrant member of your flock at one and the same time. This alone is a great feature.

Again, as the cleric has no fixed working hours, his recreations are necessarily irregular. If he takes up cricket or football as a health restorer, he can only play, perhaps, one Saturday in three with any certainty. As a result, he faces his arduous match only half trained, in poor physical condition. Hence we see the clergy give up these fiercer sports shortly after ordination.

A Solitary Hobby.

Again, the parson's hobby must be one that he can pursue single-handed. The holidays of laymen are times in which he can interview the adult men of his congregation, and he cannot afford regularly to devote them to sport. Monday is often his holiday, instead of the Saturday so cherished by the layman. On Monday he will frequently fail to find anyone to play golf or tennis with him, while games requiring a larger minimum of players are out of the question. Here again motor cycling scores, as far and away the most satisfying solitary hobby.

Sit Still and Absorb Oxygen.

Again, the parson is like the postman. When he gets a day off he is fairly tired physically. His hours of study have exhausted him more than a corresponding number of hours of manual labour. He has also taxed his physique by much walking in the course of visitation, and it is hard to say whether tramping a big country parish is more exhausting than continual stone pavements, or not—both are trying; while his physique is further reduced by the long hours spent at meetings in ill-ventilated rooms, by the strain of speaking in a church that is scandalous from the acoustic point of view. In fact, when the parson's weekly or fortnightly day off arrives, he is generally in a state of requiring a lot of fresh air, yet physically unfit to seek it by walking, cycling, or playing games.

Now consider the motor cycle in the light of these requirements. It empties the mind absolutely. It is essentially a solitary sport; no companions are needed, especially as its range—a circle of 100 miles' radius in a twelve hours' holiday—is ample to supply an objective for a ride in the shape of a place of interest or a visit to friends or relations; it simply stuffs the rider with pure oxygen, creating breezes on a sultry day when none are supplied by Nature, and it makes absolutely no tax on the rider's physical powers, if he does not exceed a reasonable distance or speed. I personally find that a 150 mile ride on my machine does me quite as much good as a week at Brighton, and I ascribe the fact to three reasons:

1. Absence of exertion.
2. Concentrated essence of fresh air.
3. Complete change of mental occupation.

THE motor cycle will probably never make a serious appeal to those dignitaries of the Established Church whose official garb is so peculiarly suited to the sport, and who share with rooms the privilege of being the only Englishmen who are compelled always to wear gaiters; nor, possibly, will the self-propelled cycle always seem suited to the dignity of the important town rector or squarson. But in the Established Church alone there are about 1,000 junior clergy, while in other churches there are men who have very big areas to work, and who waste a lot of time toilsomely tramping over hill and dale to visit their respective flocks. Probably all clergy and ministers whose dignity does not limit them to a more rapidly conveyance would find a motor cycle of great assistance in their work, to begin with; even if their district is small and compact, they are always travelling considerable distances to meetings, to fulfil preaching engagements, to visit libraries, etc., etc., and, while the motor cycle is always a much cheaper conveyance than the railway or a cab, it is also an infinitely pleasanter means of locomotion in ordinary weather.

The Motor Cycle as a Health-giver.

Most probably, however, all religious ministers who have a lot of travelling to do have considered the motor cycle as an aid to work, and only need its economy and reliability to be a little further demonstrated in order to purchase, at any rate, a second-hand machine, now procurable at about twice the cost of the pedal cycle which most of them use. I will therefore concentrate my remarks more especially on the value of a motor cycle as a health-giver to the younger clergy.

Change of Mental Occupation.

The cleric's work differs in two main respects from the work of junior men in other professions. One is that there is no cessation of responsibility. The junior man in a business house can treat every week's work as a separate item; when Saturday afternoon arrives, or he takes his August holiday, he can forget all about his work, because it is finished—the responsibility does not run on. With a cleric—however unimportant and junior a man he may be—the responsibility runs on from day to day, week to week, year to year, and is only interrupted by a change of cure. Consequently it is essential to an efficient clerical recreation that it shall perforce empty the cleric's mind of his work and continuing responsibility. Tamer pursuits than motor cycling achieve this in a measure; but there are few other hobbies that absolutely *compel* the enthusiast to think of nothing in the world outside what he is doing.

No one realises the superiority of British manufactures better than motor cyclists. When the best of British manufactures is at hand what need to look further?

The

DUNLOP

RUBBER STUDDED

Motor Cycle Tyre

is the British tyre at hand for the winter riding cyclist who wants a tyre that performs the service it is offered for; a non-skidding, puncture free, worry saving service that can always be depended on.

THE DUNLOP PNEUMATIC TYRE CO., LTD., ASTON, BIRMINGHAM; ALMA STREET, COVENTRY.

Branches—London, Nottingham, Manchester, Newcastle, Norwich, Bristol, Leeds, Glasgow, Dublin, Belfast.

NOTE—Tyres from which the Dunlop Co.'s private marks have been removed are not guaranteed.

BOOK

this number
at once.

87

**STANLEY
SHOW.**



A word in your ear.

The marvellous way in which the Lightweight motor cycle has proved its possibilities during the past season has caused it to find favour in many new quarters. You will, therefore, be interested to learn that the

MOTO REVE

Exhibit at the Show will disclose some new machines embodying features hitherto considered unattainable on a Lightweight. No motor cyclist can afford to miss

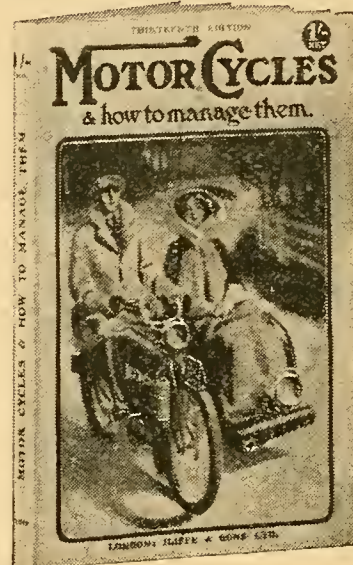
STAND No. 87.

THE MOTO-REVE CO., LTD.

Works: ACTON VALE, LONDON, W.

Showrooms: 138-142, Gray's Inn Road, London, W.C.

Read . . .



New 13th Edition Just Out.

MAKE yourself thoroughly master of your machine—a careful study of this book will help you to become a competent judge in selection, and expert in “tuning up,” running, and repairs.

It contains chapters on choosing the machine, how it works, management and repairs, ignition, spring forks, various parts and functions, driving, motor cycle law, Etc., Etc. Illustrated.

Price ONE SHILLING

or

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Iliffe & Sons Ltd.,
20, Tudor St., London, E.C.

Motor Cycling for Parsons.—

Each of these three benefits, as shown above, is a special need of the ministerial profession, when earnestly undertaken.

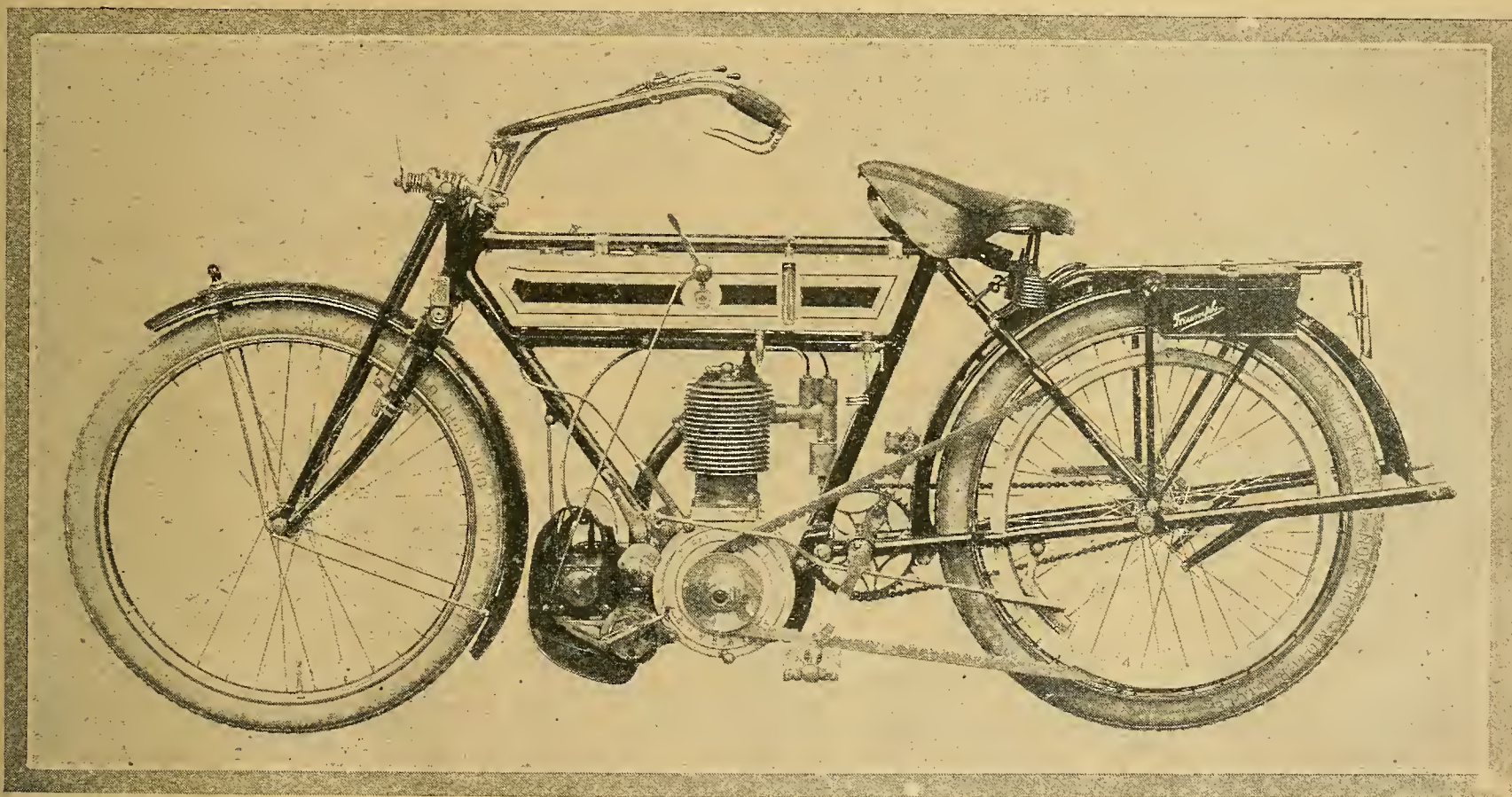
There remains the vexed question of expense. Few parsons will exceed 3,000 miles per annum, unless they make enormous tours during their summer holidays, as the late Mr. Oakeley and Mr. B. H. Davies always do. With the aid of a skilled friend's advice a good second-hand machine can be obtained for £20-£25. The running of such a machine for 3,000 miles per annum will cost about the sum detailed below:

Licences	...	...	...	...	...	£1	5	0
Petrol	...	...	...	...	...	2	0	0
Oil	...	...	...	...	...	0	10	0
Small repairs and replacements	...	...	...	...	...	1	0	0
						£4	15	0

There must be added to the above certain regular and more costly replacements. A pair of tyres will run 3,000 miles on a single-cylinder; a leather belt will give slightly more trouble than a rubber, but will outlive it; and so forth. After nearly ten years regular prolonged experience of hard riding, I allow a sum of £2 per 1,000 miles to cover all expenses and replacements, and it is very, very seldom that this sum is exceeded in any given 1,000 miles, and when it is, matters are invariably levelled up by a reduced expenditure on the next 1,000 miles.

Technical Knowledge.

So far as mechanical knowledge goes, modern machines only average about one stoppage, apart from ill-luck with tyres and belts, in each 1,000 miles, and with a couple of shilling handbooks from the office of this paper, the novice will be able to cope with any mechanical emergency.



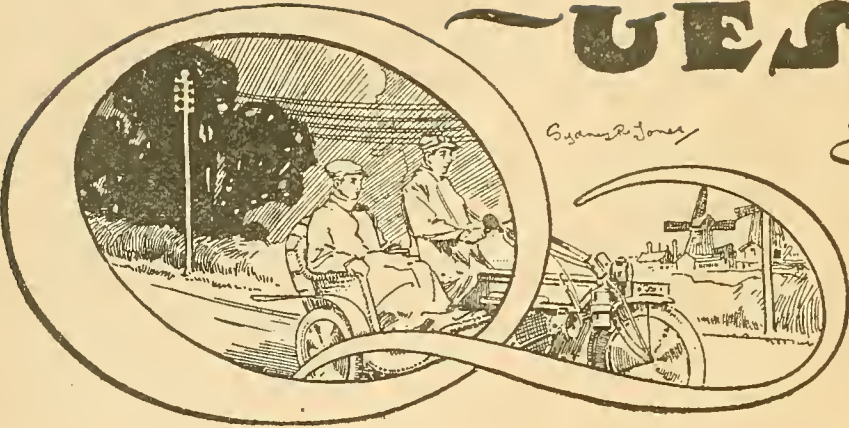
The standard pattern 3 1/2 h.p. Triumph for 1910. The bore and stroke are 85 x 83 mm. The detail improvements are referred to on page 864.

A PETROL DIFFICULTY.

ON many occasions lately, complaints have reached us from readers who have experienced difficulty in obtaining petrol from garages in small quantities, and not infrequently riders have been compelled to take threequarters of a gallon and pay for two gallons, which, in our opinion, is neither just nor reasonable. The matter has been brought all the more closely home to us, as similar treatment was meted out to us at a very well-known London garage only a few weeks ago. From the motor cyclist's point of view there is no excuse whatever for behaviour of this kind. It is absolutely no hardship for a man to break into a tin, as the remainder of the petrol can always be used for the cars belonging to the garage. There is, of course, the view of the garage owner to be taken into consideration, who

thinks it is not worth his while to break into a sealed tin of petrol for the sake of a few pence, as it hardly pays for the man's time in fetching the tin, opening it, and pouring in the spirit. There is perhaps something in this, but we can hardly believe that any man will find attention to small details to be unprofitable in his business. As regards a remedy, in the first place the petrol companies, many of whom sell petrol in one-gallon tins, might see that the latter are disseminated about the country, and, secondly, the Auto Cycle Union might influence the parent body to grant no repair certificate to garage owners who refuse to treat motor cyclists properly in this respect. It is quite time something was done, as there is nothing more exasperating than to have to pay for petrol which is not used.

QUESTIONS AND REPLIES



A selection of questions of general interest received from our readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Gear and Speed.

?

(1.) What gear would you advise with a 5 h.p. twin Peugeot? I have a Roc two-speed in back wheel and 7in. adjustable pulley, and the district I wish to use it in is North Wales. (2.) Also please say what lift of inlet valve you consider best for touring? (3.) What speed should machine do on track, geared 3 to 1, magneto ignition?—S. M.

(1.) We should imagine about $4\frac{1}{2}$ to 1 top gear would suit for touring in North Wales. (2.) The opening of the inlet valves should be about $\frac{1}{8}$ in. (3.) Speed on track, geared 3 to 1, from fifty to fifty-five miles per hour, depending on weight and condition of machine and rider's weight. It does not follow that a 3 to 1 gear would give higher speed than a 4 to 1 gear ratio. As a matter of fact, we believe you would find the reverse to be the case with your particular mount, which is fitted with a fast running engine.

Horse-power Rating.

?

I notice that a number of machines on the market of different bore and stroke are all rated under the same horse-power. For instance, I see 84×86 mm., 85×76 mm., 82×89 mm., 84×88 mm., 82×88 mm., 85×85 mm., 83×90 mm., 80×90 mm., 87×87 mm., two $3\frac{1}{2}$ h.p. of one make 85×85 mm., the other 85×90 mm., and two others—one measuring 80×80 mm., the other 85×85 mm.—all called $3\frac{1}{2}$ h.p. Two makers using the same bore and stroke as one of those mentioned above as $3\frac{1}{2}$ h.p. (the 85×85 mm.) call theirs 4 h.p. Which is right? The above is, of course, very misleading to an intending buyer, especially if he is contemplating getting a sidecar with it, as the little extra power makes such a difference. Can you in any way explain this?—H. L. C.

We are not at all surprised at your remarks. This sort of thing has been going on ever since motor cycling and motoring existed, and until some definite system of rating is decided upon it is likely to be continued. What you may take it to mean is, that firms state only the approximate horse-power of their engines, and although some engines undoubtedly give more power than others of exactly the same dimensions, it is always well to ascertain the bore and stroke, or cubic capacity, before deciding upon a new mount.

Low Registration Numbers.

?

Will you kindly tell me where I can get low numbers for my motor cycle, such as L 24, etc.?—R.K.

Low numbers are now most difficult to obtain. You might try some of the Irish counties, such as Tipperary (South), where the numbers go up to 48 for motor bicycles; Sligo, 90; Monaghan, 54; Queens County, 95; Waterford, 52; and Westmeath, 84.

Reducing Petrol Consumption.

?

The engine of my 1905 Rex overheats. It has accumulator ignition, and is fitted with Longuemare carburetter, timing correct, geared $5\frac{1}{2}$ to 1. I am troubled with excessive consumption of petrol. When I first had the machine it would do about seventy miles to the gallon, but now it will only do fifty to sixty miles. As the compression was poor, I fitted new piston rings, and have since run about 300 miles, but they are not bedded down yet, as I can hear the charge escaping past them. When the engine is cold, I can only stand on the pedal for eight seconds, and when hot forty seconds. I can average 28 m.p.h. for several miles, and climb a hill 1 in 10 at a fair speed without overheating the engine. I think the fault lies chiefly in the carburetter, as I can only give half extra air, and then engine starts to misfire. Please tell me the number of spray and chimney to start experimenting with. I have a No. 5 spray and No. 16 chimney, and only a month ago I could give all extra air and half gas, but still the consumption was high. Now the levers are reversed, as even with full gas I cannot give more than half extra air.—L. H. J.

The first operation in attempting to reduce petrol consumption is to test all feed pipe unions, and afterwards the level of the spirit in the jet. If petrol drips from the carburetter when the machine is standing or running, the petrol is being wasted. Should the level of the spirit rise to the top of the jet orifice or brim over, it is almost certain that the needle valve is leaking and requires grinding in (crocus powder is the best grinding material to use), or the level is too high. In the latter case the weight on the needle valve should be moved a fraction further away from the needle point. As regards position of levers, your carburetter seems to be set right at present;

it should be just possible to make the engine misfire by opening the air lever fully. You must bear in mind that an engine will take more air in summer than in cold weather, owing to better vaporisation of the petrol. Good compression is necessary for a very low petrol consumption, and you may improve your engine by carefully grinding the valves on to their seatings.

Licences and Registration Fees.

?

I have just returned from the Middle East (Federated Malay States), where motor cycling is very popular now.

I have ridden several makes of machines, and purpose buying a Triumph in the New Year to take back with me, but as I should like to use it over here for a month or two, I would be glad if you would inform me in regard to registration fees and licence, etc. I shall probably be returning end of June next. Must I pay a full year's fees, etc.?—J.G.H.

The following licences will be necessary: Inland Revenue licence 7s. 6d. to the end of the present year and £1 next year, obtainable from any post office. Unfortunately, you will have to pay full fees for using the machine only a few weeks during the year. Driving licence 5s., obtainable from the L.C.C. Offices, Spring Gardens, Trafalgar Square, S.W. Registration 5s., obtainable from the same place.

Tyres for Sidecar Work.

?

I notice you recommend tyres well up to the work they have to do. I have a Montgomery sidecar with Triumph and Nala gear, and everything is satisfactory except the tyre on back wheel of bicycle. The one I have now is a rubber-studded pattern only recently fitted, and after having covered about sixty miles the centre studs are level with the tread. My last was worn through in 250 miles. What pattern do you recommend as a suitable tyre for the purpose without altering the rim and frame?—T.J.A.

We see no likelihood of your curing tyre troubles unless you are willing to fit another rim to your machine. The $2\frac{1}{4}$ in. tyre was only intended for solo riding, and is not sufficiently strong for use with an extra passenger and the sidecar attachment. A $2\frac{1}{2}$ in. extra strong tyre is necessary for passenger work, and should last for about two thousand miles.

A Disputed Account.

Will you kindly inform me if a repairer has the right to detain a machine on which he has done work, for the price thereof (£3 10s.), £2 15s.

having been tendered to him and the remainder being in dispute?—LITIGANT.

We submitted your letter to our legal adviser, who says: "A repairer has a right to detain a machine on which he has done work until his reasonable charges are paid. A tender is not legal unless it is unconditional. Your correspondent tendered the £2 15s. on condition that the repairer would accept it in full discharge of the £3 10s. he claimed to be his due. The repairer was quite right in refusing this if he wished his bill tested by the court. The only way for your correspondent to get immediate delivery of the machine is to pay the full amount claimed under protest, and to let the repairer understand that he will be called upon to repay the balance. It would be best for this to be done in writing, and the letter sent by registered post or delivered in the presence of a witness. I expect delivery would be the best plan, so that the machine could be obtained at the same time. With regard to tender, it must be made in cash, and no change required. If a receipt is asked for, it should be made out all ready for signing."

Sidecars v. Tricars.

(1.) Kindly let me know which of the three passenger machines, i.e., tricar, flexible sidecar and motor cycle, rigid sidecar and motor cycle, is the safest and easiest to ride under all conditions; that is—(a) in traffic; (b) round corners (both empty and

with passenger); (c) empty, and with passenger (general riding); (d) on slippery roads—assuming that in each case a two-speed gear and free engine be fitted. (2.) I frequently see it stated that a tricar costs more to run and gives more trouble than a sidecar and motor bicycle. I can understand this in the case of a heavy tricar; but does the same apply to a motor cycle and forecar (which is practically a light tricar)? Given a $3\frac{1}{2}$ h.p. engine, fitted with two-speed gear and $\frac{7}{8}$ in. belt drive, would it be equally efficient with a light forecar and a sidecar?—E. J. B.

(1.) Of the two, the easiest to ride under the conditions mentioned would be either the rigid sidecar or a tricar, except as regards when driving with the passenger's seat empty, in which case the tricar would be more satisfactory. (2.) There will be very little difference in the cost of upkeep of a light tricar and a motor bicycle and sidecar of equal power. Power and weight determine the running costs. Probably of the two the light tricar would be the more efficient, but the sidecar would be more sociable, and it is also an advantage to be able to use the bicycle separately.

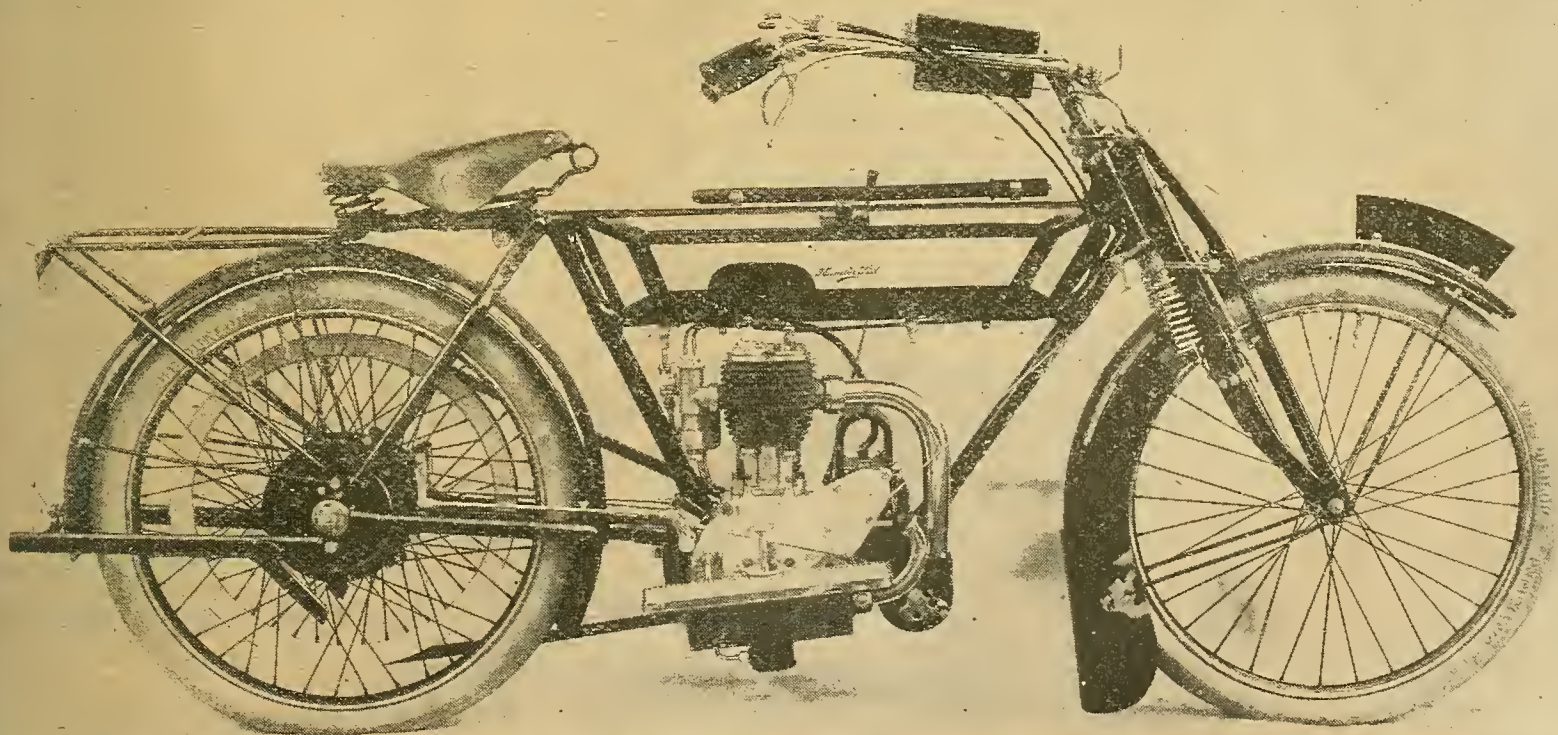
READERS' REPLIES.**A Tip for Truing Platinum Contacts.**

I have not seen mentioned in "Hints and Tips" how to put platinum studs in order after pitting without waste of platinum. Gently hammering with a pushing movement of the hammer towards the burnt out cavity in the platinum will fold the metal by small waves till it is level, and the stud will last three times as long. I showed this tip to an operator at a Marconi station recently, and as he seemed so

manifestly delighted, I offer it you for the benefit of *The Motor Cycle*, which I always read from start to finish, and from which I have received tips valued at £'s sterling.—A. H. WATTS.

Cures for Sluggish Starting.

I may be able to help "J. E. W." if you will allow me to supplement your advice as to starting a $3\frac{1}{2}$ h.p. N.S.U. motor bicycle. At first I had similar difficulty with my pedal-started tricar, which I now get away with ease and certainty. As you say, he should most certainly not fit dual ignition, but stick to magneto. The bottom air should be reduced with caution, though a little less will suffice in severe weather than is needed in summer time. I can only move the circular shutters by using a large pair of gas pliers, as I have not been able to loosen the central screws on my carburetter. If desired some of the openings may be temporarily plugged for starting on a frosty morning. Petrol may be injected into the cylinder. Except when the engine is quite hot, starting should be carried out as follows: Inject paraffin at compression tap, and free piston by pedalling on the stand or wheeling machine slowly along with exhaust valve raised; then fully advance the spark lever, shut off top air, fully open the throttle, hold up the needle valve of the carburetter till petrol runs out of bottom air holes, after which make the usual running mount. When seated, first adjust the spark lever, but do not hurry to alter the throttle and air levers. If a great reduction of speed before the engine is warm brings on misfiring, this may be met by at once fully advancing the spark and fully opening the throttle for a few moments.—CHARLES J. LUCAS.



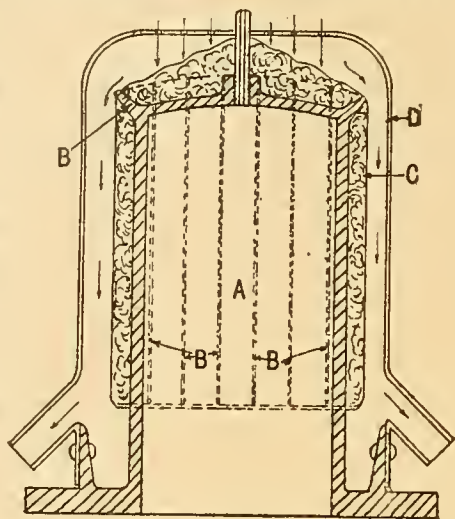
The new model two-speed Humber to be exhibited at the Stanley Show. The specification of this machine includes the new pattern Brown and Barlow carburetter, Druid spring forks, Bosch ball bearing magneto, and handle starting.

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

A "Diathermanous" Cooling Medium!

This invention consists in employing, for the cooling of the cylinder, a substance which has greater power of absorption and diffusion of heat than has air or water. The inventor states that the substance most efficiently fulfilling these requirements is chloride of sodium or rock salt. The cylinder A is provided with ribs and flanges B, forming recesses, to which is applied, in the form of a thick paste, chemically pure chloride of sodium mixed with water. The water is then evaporated by running the engine for a short time, and when the crust of salt is at a temperature



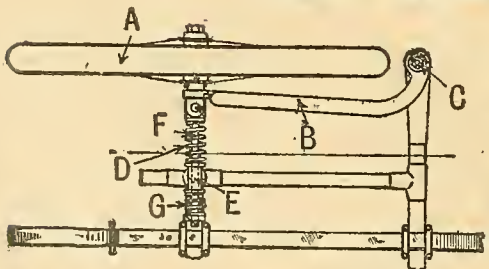
between 100° and 120° Fahr., it is saturated with alcohol or petrol, the spirit being then evaporated by again running the engine. This leaves a solid coat of salt firmly adhering to the cylinder, which coat may be increased in thickness at the cylinder head. A dome D is mounted over the cylinder, through which air is drawn in the direction of the arrows. It is stated that the coat of chloride of sodium possesses great power of absorption and diffusion of heat, by which means very efficient cooling of the cylinder is obtained. —E. H. Morgan, No. 20,685, 1908.

A Chater Lea Spring Fork.

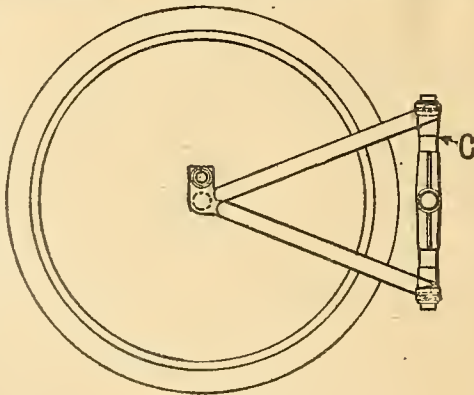
The usual fork A carries at its lower end a pair of swing links B. A second fork C bridges the wheel, and carries at its lower end the wheel spindle, which also passes through the swing links B. The fork C is extended upwardly in the form of a central tubular stem D, which passes through a pivoted guide block E carried in a pair of side plates F secured to the head at the top and bottom respectively. The springs are arranged around the stem D, the guide block E forming the central abutment. —W. Chater Lea, No. 27,797, 1908.

A Castor Wheel Side Carriage.

The sidecar wheel A is secured to trailing arms B, carried by a spindle mounted in bearings C. To prevent excessive wobbling of the wheel A, a stem D is pivoted to the trailing arms and passes

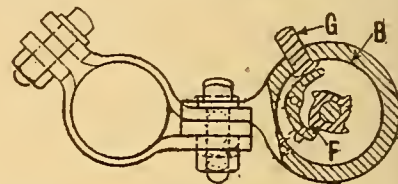
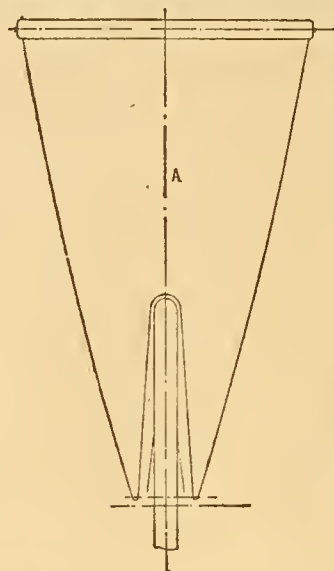


through a swivelling bracket E, springs F and G being interposed, one between the outer trailing arm and the swivelling bracket E, and the other between the inner trailing arm and the bracket which carries the C spring, on which the carriage is supported. —W. Montgomery, No. 22,808, 1908.



A Weather Screen.

A flexible screen A is adapted to extend from near the handle-bar down to the front wheel spindle. Secured to the handle-bar by means of a pair of clips is a cylinder B, in which is a sleeve C upon which the screen is adapted to roll. Between the sleeve C and the fixed spindle D is a long spring E



which is wound up as the screen is unrolled, and which winds up the screen when out of use. To prevent accidental rolling up of the screen a ratchet and pawl device F is arranged at one end of the sleeve C, the pawl being

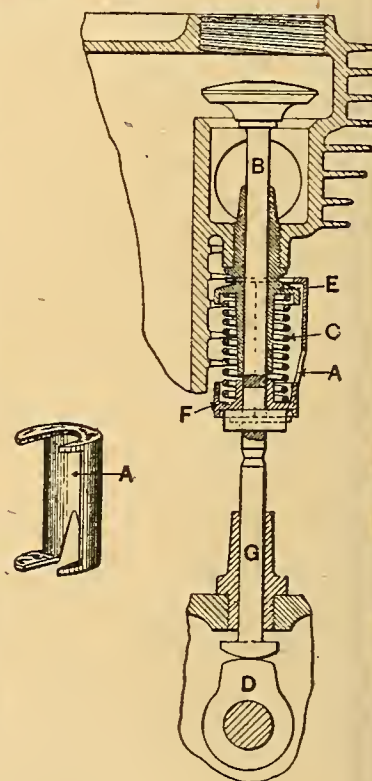
moved out of operation when desired by means of a push-button G. —H. C. Ward, No. 21,622, 1908.



button G. —H. C. Ward, No. 21,622, 1908.

A Valve-removing Device.

This comprises a device A of the shape shown, and which is used as illustrated in the larger figure. To remove the valve B the engine-shaft is turned until the valve is lifted from its seat, and the valve spring C compressed by the cam D. The device A is now applied to embrace a fixed portion of the engine E, and the valve washer F. The engine is now turned to allow the tappet G to fall when the valve B may be pushed down by hand and the cotter removed, permitting of complete removal of the valve. The valve spring and washer are, in the meantime, securely held in position by the device A, so that replacement of the valve may be effected with a minimum of trouble and delay. —Triumph Cycle Co., Ltd., and A. G. Franklin, No. 26,100, 1908.



SPECIAL SHOW NUMBERS of

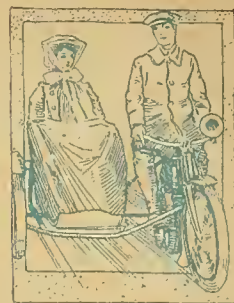
THE MOTOR CYCLE

"THE MOTOR CYCLE" for next week—on sale Monday—will form a complete guide to the Stanley Show. Plans indicating the positions of exhibitors will prove a useful feature.

The following issue, dated Monday, November 22nd, will contain a fully illustrated description of the motor cycles and accessories on exhibition.



THE MOTOR CYCLE SUPPLEMENT



This Week's Special Feature

CAMBRIDGE UNIVERSITY M.C.C.

THIS organisation—some members of which are portrayed in the illustrations forming the special feature of this supplement—was formed at the beginning of 1907. All members of the University possessing motor cycles are eligible to become members of the club, which is quite separate and distinct from the Cambridge Automobile Club. The subscription is 15s. per term, or £2 2s. a year. The club's headquarters are at the Cambrian Automobile Co.'s garage. Some time ago arrangements were entered into with the company to store and keep the motor cycles clean to the satisfaction of every member using the garage. The subscription, including all garage fees, is 35s. per term. A special club machine badge is used by the members, the design of which is embodied in the border around the photograph on the next page. In the club's rooms at the Prince of Wales Hotel all motor papers are provided. Club runs take place most Saturdays, and a large

number of sporting competitions are arranged by the club each year, and they are usually well supported. In petrol consumption trials and hill-climbing competitions the members have proved themselves most skilful in tuning up their machines. For instance, the winner of a 1908 petrol consumption test—N. H. Joy—travelled at the rate of 167.79 miles to the gallon. The club has twice chartered the Brooklands track for competitive events, the inter-University race meeting in May last attracting a great deal of interest. Cambridge were successful in winning this "battle of the blues" on motor cycles, gaining seven points against the six of Oxford.

The present officers of the C.U.M.C.C. are: J. M. Oakey, president; A. H. Moreing, hon. sec.; and E. D. Dickson, hon. treasurer. The hon. press secretary is J. M. Oakey, Trinity College, to whom we are indebted for the excellent photographs reproduced.



A FEW OWNERS OF VINDEC AND V.S. MOTOR CYCLES IN THE CAMBRIDGE UNIVERSITY MOTOR CYCLE CLUB.

On the path in the background.

G. Seth-Smith
(5 h.p. two-speed V.S.)

V. F. M. Oliver
(7 h.p. V.S.)

Standing on the road.

F. P. Dickson
(7 h.p. V.S.)

J. M. Oakey
(5 h.p. two-speed Vindec).

E. D. Dickson
(5 h.p. two-speed Vindec).

C.H. Stephenson
(7 h.p. two-speed V.S.)



A.C.U. STAND AT THE STANLEY.

The directors of the Stanley Show, Ltd., have again placed a space at the disposal of the Auto Cycle Union for the purpose of offices, etc., at the forthcoming show. The stand will be No. 283a, and will be situated on the ground floor in the Gilbey Hall.

* * *

"THE MOTOR CYCLE" AT THE SHOW.

The Motor Cycle has chartered two stands at the forthcoming Stanley Show. One, numbered 158, will be situated in the Arcade Entrance. This stand will be for the sale of the show numbers of *The Motor Cycle* and motor cycle handbooks only, such as "Motor Cycles and How to Manage Them" and "Hints and Tips for Motor Cyclists." The editorial office will be in the Main Hall, No. 136, near the entrance on the Gilbey Hall side. We shall be pleased for motor cyclists who intend visiting the show to have letters addressed to them care of this stand.

* * *

THE ENFIELD LIGHTWEIGHT.

As we have already mentioned, the Enfield Cycle Co., Ltd., Redditch, will exhibit a new pattern lightweight motor bicycle at the Stanley Show, on stand No. 12. The Enfield lightweight is fitted with a 2½ h.p. twin-cylinder V type engine, magneto ignition, V belt drive, and spring forks. The frame is designed for a long wheelbase ensuring great comfort to the rider. The total weight of the machine fully equipped for the road is under 100 lbs. This machine should certainly be inspected by all visitors to the show.

* * *

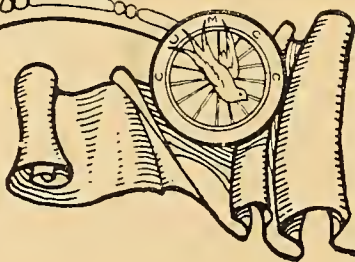
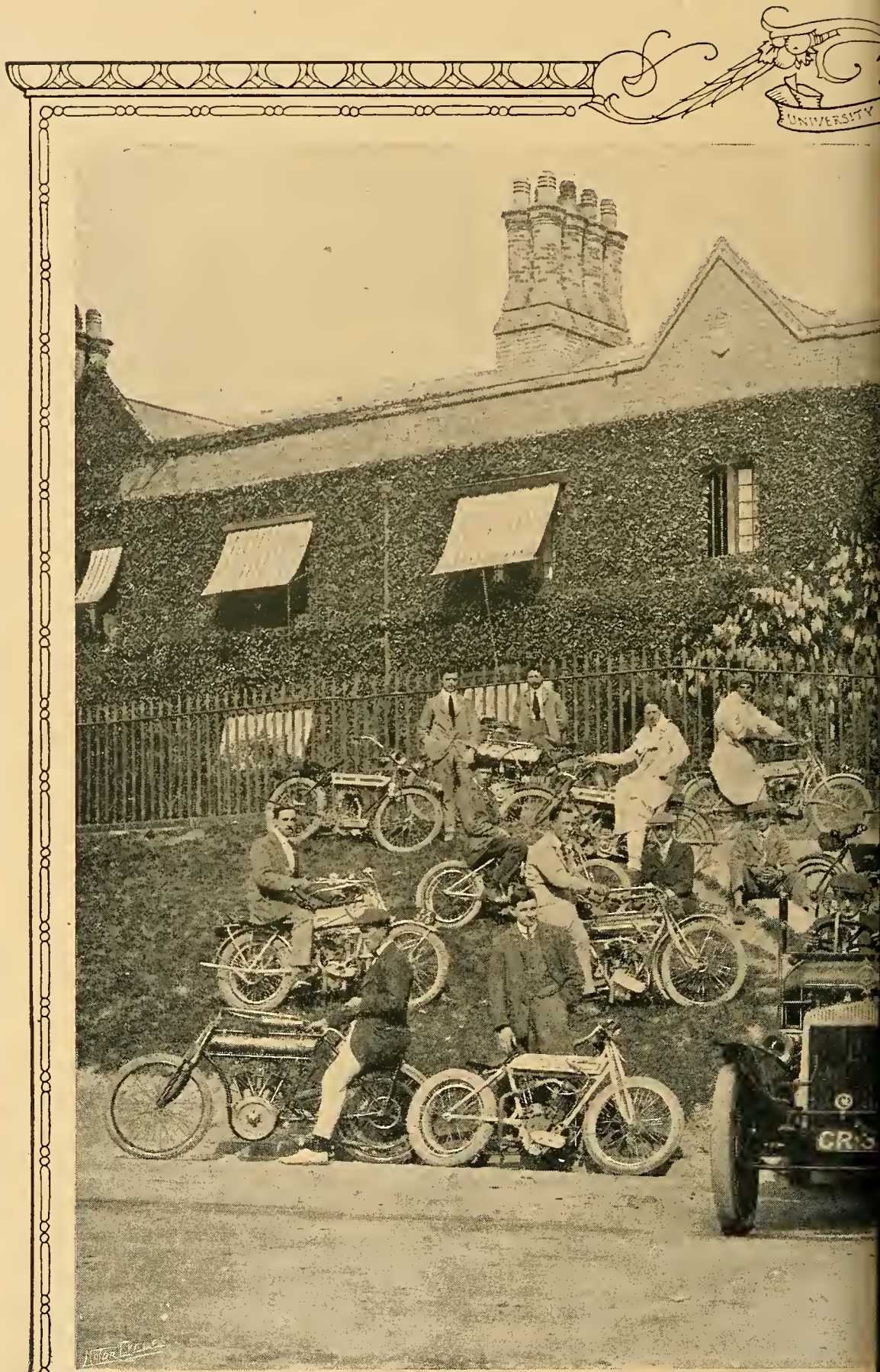
BENZOL AS FUEL.

With reference to "F.R.'s" query in last week's issue *re* "Benzol as Fuel," "C.B. 246" writes: "I and a few friends purchased a quantity about two years ago, and the only reason we gave up using it was that as soon as we got away from our district on long journeys we had to replenish with petrol, and, of course, the carburettors had been altered to suit benzol. Consequently, the result of using alternately one kind of fuel and then another was not satisfactory. Then again, in cold weather starting the engine was a task, but once warmed up the running was perfectly satisfactory."

* * *

A.C.U. ANNUAL DINNER.

The annual dinner of the Auto Cycle Union is fixed for Thursday, January 20th, at the Waldorf Hotel, Strand. During the evening the prizes won in competition during the year will be presented to their respective winners. The A.C.U. Committee hopes to see more representatives present from the provincial clubs, and requests hon. secretaries to bring the date to the notice of their club members. An entertainment will be provided as in past years.



A group of some
CAMBRIDGE UNIVER



Members of the
MOTOR CYCLE CLUB

ACCEPTANCES OF A CHALLENGE.

H. C. Tromp Van Diggelen's offer in the last issue of *The Motor Cycle* to match his 2½ h.p. Wanderer "against any 3 h.p. tourist machine in England, and also against fifty per cent. of 3½ h.p. singles and 5 h.p. twins," has, as we anticipated, immediately drawn forth acceptances. W. W. Genn writes as follows: "I have not a 3 h.p. machine at present, but I have a 2¾ h.p. Eland roadster which I should be very pleased to match against Mr. Van Diggelen's Wanderer. I take it that he means a speed match. Will Mr. Van Diggelen please say when and where he will be willing to ride?"

* * *

A. T. Stanton writes: "It is quite amusing to read Mr. H. C. Tromp van Diggelen's extraordinary challenge in the last issue of our 'soul refresher,' *The Motor Cycle*. I have seen a little Wanderer go 'all out' at Brooklands, and, whilst agreeing that it can 'hop along,' I feel confident that there are many machines of 2½ h.p. and 3 h.p. in England that are quite as fast, and many that are faster. Regarding Mr. Diggelen's challenge to ride against fifty per cent. of 3½ h.p. singles and 5 h.p. twins, which fifty per cent. does he mean? Those that are sadly out of tune? Mr. Diggelen has made a very broad statement, and I for one should like him to boil it down a bit and name one or two makes of single and twin-cylinder machines of 3½ and 5 h.p. I have little doubt that a well-tuned 3½ or 5 h.p. would pass the Wanderer in a great hurry. I can quite understand the challenger's enthusiasm over his little mount, as a similar one won a handicap race at Brooklands in which there were 3½ h.p. singles and 5 h.p. twins, but I fear he would not have made the challenge had he taken into consideration the state of the weather and the track, parts of which were under water."

* * *

Geo. Brough says: "Mr. H. C. Tromp von Diggelen's challenge is due, no doubt, to the success of his machine in the third race at Brooklands on Saturday, October 16th. He evidently forgets that the first four or five machines were disqualified for exceeding their handicap time by more than five per cent. Obviously it would be unfair to match a 3½ h.p. machine against a 2½ h.p., but if Mr. Diggelen cares to procure a 3½ h.p. machine of this make, I shall be pleased to race him for any distance on Brooklands on the same machine (3½ h.p. Brough) that I used at the above-mentioned meeting."

[It would appear that Mr. Van Diggelen could not do better than adopt the suggestion of a correspondent, viz., to make a "race meeting" of it, as there are so many motor cyclists willing to accept his challenge!—Ed.]

CLUB NEWS.

Motor Cycling Club.

This evening (Monday), a smoking concert is to be held at Frascati's Restaurant. This promises to be a most enjoyable affair. Members are invited to take friends, and the concert is absolutely free.

The M.C.C. annual dinner and distribution of prizes will be held at the Trocadero Restaurant on Saturday, the 11th prox., at 6.30 p.m. The president, Charles Jarrott, will preside, and Mrs. Jarrott will distribute the prizes offered in competition during the year.

Oldham and District M.C.

The first item of the winter programme took the form of a dinner and smoking concert at headquarters, Café Monico, on the 3rd inst., when over forty members and friends spent a very enjoyable evening. The gathering was presided over by the president, T. C. Crowder, and between the intervals of toasts, songs and recitations were rendered. Votes of thanks to the chairman and entertainers brought a most enjoyable evening to a close. The club purposes holding a whist drive on December 1st, when a large gathering of members and friends is expected. A special meeting is called for Wednesday this week.

Leith M.C.

At a meeting held on Thursday, the 28th ult., at which a large and enthusiastic body of motor cyclists collected, it was decided to form a club in Leith and district, the club to be called the Leith Motor Club. Only three officials were elected at this meeting, but others will be proposed at a later date.

The officials elected were J. Farnach, convener of meetings (until a proper captain was elected), J. Alexander, hon. treasurer, and George Gunn, hon. secretary. A room to be used as the headquarters of the club was kindly arranged for by the proprietor of the Commercial Hotel.

Essex M.C.

The one hour race for the Du Cros Trophy will take place at Canning Town Track on Friday next at 3.30 p.m. Members and all motor cyclists are invited to be present. There will be no charge for admission.

The annual dinner provisionally fixed to be held on Saturday, December 11th, has now been definitely fixed to take place on Saturday, January 15th, 1910. Further particulars will be announced shortly.

Will the winner of the paperchase please communicate with the secretary?

Glasgow M.C.C.

On Saturday last (6th inst.) a hill-climb was held on Pease-weep, Gleniffer Braes, Paisley. There were three classes for motor cycles, and the weather being fine and the hill in good condition, it was perhaps only natural that records for the hill were beaten. The course was lined by a large number of enthusiastic spectators. The police were most courteous, and kept the course clear of other traffic.

The results on formula were:

CLASS I., single-cylinder touring machines (unlimited).—1, A. Alexander (3½ h.p. Rex); 2, R. Morrison (3½ h.p. Matchless-J.A.P.); 3, R. Jones (3½ h.p. Premier); 4, E. Hunter (3½ h.p. Triumph).

CLASS II., multi cylinders (unlimited).—1, Results on formula: 1, D. Baddeley (5 h.p. Indian); 2, J. Alexander (5 h.p. Rex); 3, A. McDuff (5 h.p. Vindec); 4, W. Henderson (twin Bat); 5, W. Dean (7-9 h.p. Peugeot).

CLASS III., scratch class (singles up to 500 cc., twins up to 750 cc.)—1, D. Baddeley (5 h.p. Indian); 2, A. Alexander (3½ h.p. Rex); 3, J. Alexander (5 h.p. Rex); 4, R. Morrison (3½ h.p. Matchless-J.A.P.)

D. Baddeley and A. Alexander beat the twin and single-cylinder records for the hill. The speed of the former equalled forty-two miles per hour and the latter thirty-nine miles per hour.

AN ECHO OF THE T.T. RACE.

It will be remembered that in the issue of *The Motor Cycle* for October 13th, J. Leno wrote explaining the circumstances which led to his unfortunate collision with Leslie C. Munro during practice for the Tourist Trophy Race. His letter threw a different light on the affair. Apparently to Mr. Leno much sympathy is due, for at first he was blamed generally

for a contravention of the rules. More, however, is likely to be heard of the matter, as it has been taken up by the local centre of the Auto Cycle Union on the request of the club to which Mr. Leno belongs, and many points were discussed regarding the affair at a meeting held last Thursday evening.

THE 1910 SINGER LIGHTWEIGHT.

Motor cyclists, particularly those who have had experience of Singer and Co.'s excellent productions, will welcome the news that this old-established firm will exhibit two or three examples of a new pattern lightweight motor bicycle at the Stanley. The name of the new machine is the Moto-Velo, and it has a single-cylinder engine 62 x 70 mm. bore and stroke, with Bosch high tension magneto. The frame is specially designed with a long wheelbase, the bottom tube

being curved and the engine slightly inclined forward. A spring fork is fitted, and the wheels are 26in. diameter with 1½in. light motor cycle tyres. The transmission is by belt, and there is a jockey pulley to adjust the tension of the belt. The control is entirely from the handle-bar, and the equipment includes two brakes, an efficient stand, and a petrol reservoir with a capacity for 100 miles. The weight complete is said to be 84 lbs.

UNLIGHTED LORRY CLAIMS ANOTHER VICTIM.

We sincerely regret to have to record another accident, which might have been averted had the Universal Lighting Bill ever become law, in which Alexander Percy Walker, of Irvine, was fatally injured on the evening of the 29th ult., within a few hundred yards of his residence. While returning from the Bogside Golf Clubhouse on the Kilwinning road, riding his 5 h.p. Vindec motor bicycle, in an effort to avoid a rough part of the roadway, his machine collided with the rear of an unlit lorry, which was proceeding in the opposite direction, and Mr. Walker was thrown heavily to the ground. He was conveyed in an unconscious condition to his home at Castlepark, where he died about an hour later.

Mr. Walker was a lieutenant in the 2nd Lowland Brigade Royal Field Artillery Territorials, a keen golfer, an enthusiastic motor cyclist, being a prominent member of the Ayr and District Motor Club, and one of the chief prize winners this year in the various club competitions. The funeral took on the 2nd inst. in the Irvine churchyard, and the service in the parish church was largely attended by deceased's personal friends. Deputations from the golf club and the motor club, representatives from his regiment in uniform, the local Lodge of Free Masons, and also many employees of Messrs. Walker and Co. (of which concern Mr. A. P. Walker was manager) being present.

Motor BICYCLES

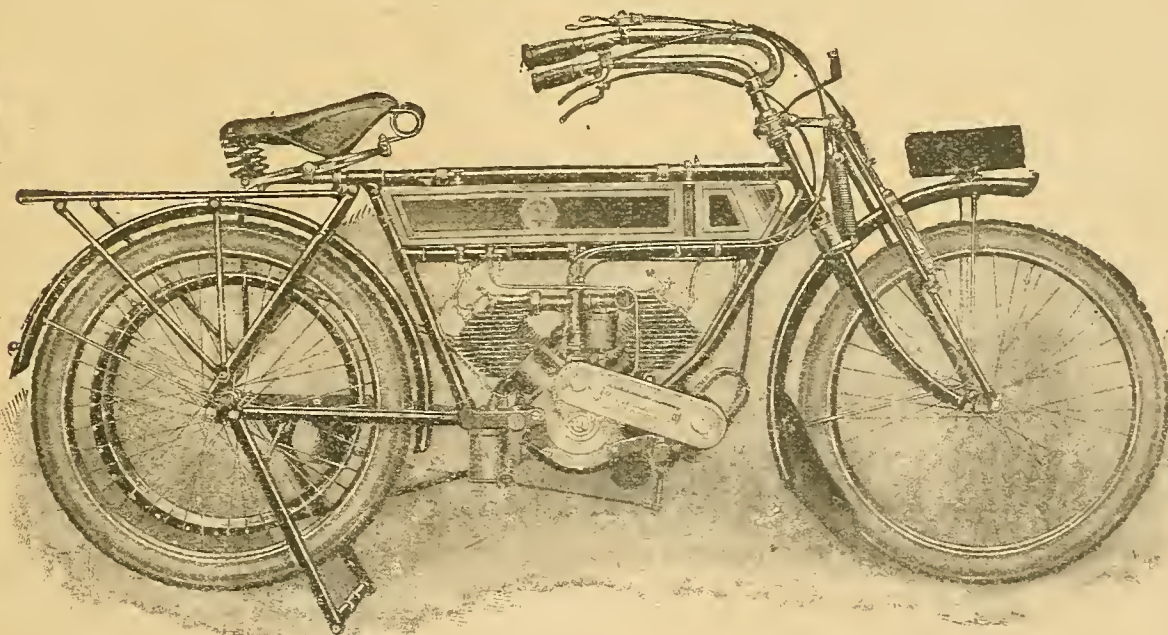


"BETTER THAN THE BEST"

Single-cylinder Motor Cycle
can possibly be, is the

PREMIER Twin-Cylinder MOTOR BICYCLE.

It is designed to meet the needs of far-riding motor cyclists who desire a machine of the utmost reliability and speed power. The even firing, perfect balance, absence of vibration and ease of control are qualities which will recommend themselves to every motor cyclist.



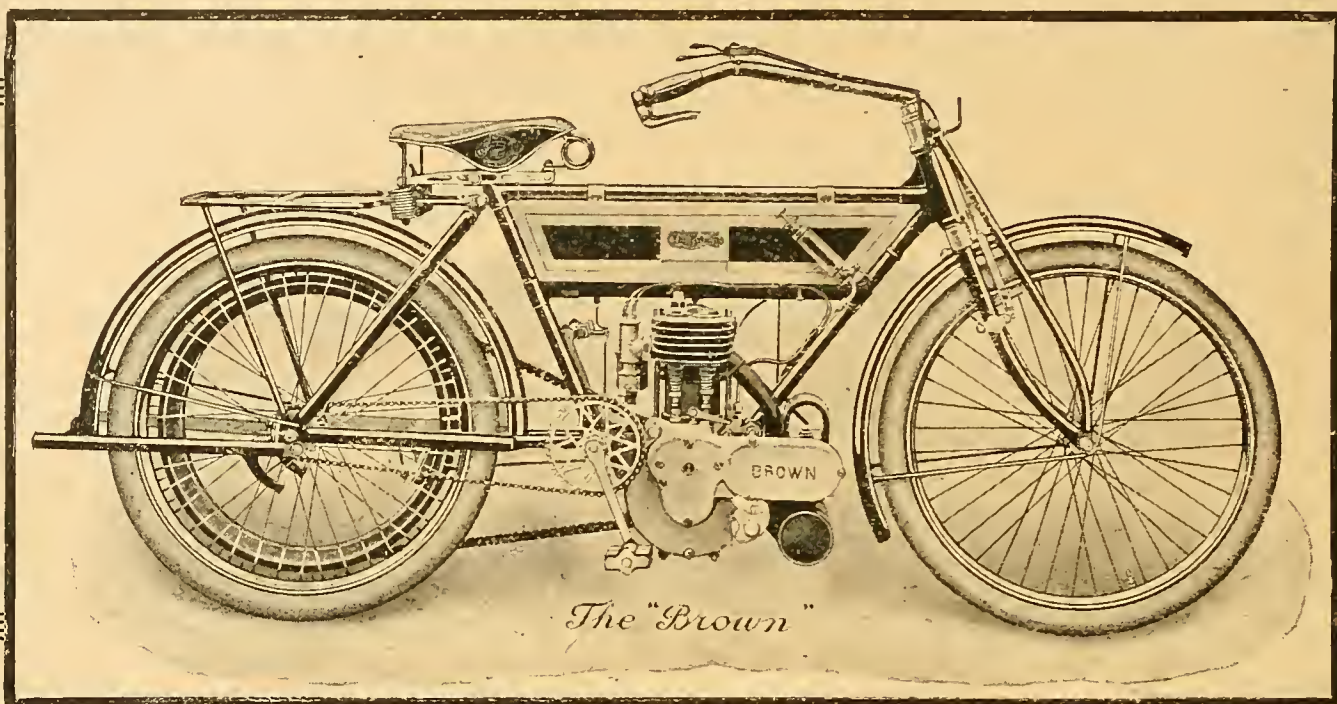
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The "Brown"

The 1910 'Brown'

3½ h.p. 85 x 85 m/m Motor Bicycle.

Every motor cyclist interested in seeing the very latest advance in motor cycle construction should arrange to visit our stand, and examine the new model illustrated above. In no other instance are so many desirable features found embodied in one machine—innovations in design, in engine construction, in minor fitments, etc.—such as will be approved by the most critical rider.

Spring Forks of an entirely new type

will be the standard fitment for this model. Ball-bearing engine, chain drive for magneto, adjustable pulley—not to mention a number of other improvements, you will be able to discover for yourself.

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you should write us for full particulars of our special offer, whereby you can obtain a brand new motor bicycle of proved reliability at an hitherto unheard-of price.

£28 for a 3½ h.p. motor cycle. A few 5½ h.p. twins at £42.

This offer refers to a few 1908 models of Brown motor cycles we are clearing to provide further room. It is open for a limited period only, and will be withdrawn immediately they are sold.

Write us to day, and we will send you full specification of the machines referred to.

THE MOTOR CYCLE

Vol. 7. No. 347. CONTENTS. Nov. 15th, 1909.

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Attempts on World's M.C. Records.

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M.O.I.V. ON TWIN-CYLINDERS.

By ROY LINDSAY.

I HAVE been somewhat amused at the correspondence appearing in *The Motor Cycle* at various times during the year upon the ancient question of mechanical versus automatic inlet valves for twin-cylinder engines. Someone has revived the controversy again and again, and the discussion is the more amazing when one remembers that so far back as 1902 the same problem was definitely solved. The amusing side of the controversy is presented by those gentlemen interested in the sale of motor cycles with twin-cylinders and a.o.i.v. who, by an extraordinary method of roundabout reasoning, endeavour to convince the public that the co-ordination of movements between the piston and carburetter in a single-cylinder must be altogether different if one or more cylinders are added to the engine. Certain track performances have been quoted in support of this absurdity, but anyone acquainted with the requirements of an engine built only for speed purposes will know an automatic inlet valve (this includes the plural) can be forced to do one of several things under a particular fixed set of conditions. I assert this with the more confidence because my experience with internal combustion engines dates back for some twenty years with the stationary type, and for and a trifle over twelve years with those employed for self-propelled vehicles. Not the slightest reliance can be placed upon track performances as a means of comparison, because the personal equation—the skill of the rider (who is, in most cases, the one who does the tuning-up process)—is a factor of equal importance with every detail of the power plant.

Yet it is worth while shortly to consider the functioning of an automatic valve on a speed bicycle, otherwise the subject is likely to be obscured by side issues that have no real bearing on actual facts.

What is the Object of a Track Race?

A simple query this; and as simply answered by saying the man who rides his machine first across the finishing line is the winner. Another and more important result with some people is the amount of free advertising that usually follows for trade owned machines—one of the side issues that can be left to the good judgment of the purchasing public. Speed, and nothing else, is the essential and sufficing requirement, to which all else must be subservient. The weight is cut down to the minimum that will just give a margin of safety and no more, petrol consumption is a negligible factor, tyres are the lightest that will stand up for the duration of the contest, and the engine can be kept flooded with oil and smoking vigorously just short of sooting the plugs. I am quite aware that the same requirements apply irrespective of the type of valve fitted to the engine, but I give them because it is wished to place the discussion on a fair basis. From the moment the spark first ignites the charge until the conclusion of the race the pistons must reciprocate at their greatest lineal speed. On an ideal track, such as Brooklands, there is no necessity to throttle down at bad corners and humour the engine to recover speed, and if the carburetter be properly adjusted to give the maximum power at maximum piston speed the

M.O.I.V. on Twin-cylinders.—

driver's sole thought is to sit tight and steer. Ease of starting is non-important, and it is here that the average trade rider who makes his living wholly or partly out of the business of winning events scores so enormously over the majority of amateurs on engines with automatic valves.

The Key to Success on the Track

Any man aspiring to track racing honours must not only be athletically fit, but must also be fairly proficient as an acrobat, for without this latter accomplishment the "running" start is impossible on an automatic valve engine. Where machines are about evenly matched, and pushing off is prohibited, everything depends upon the manner in which the competitors get off the mark, and a keen observer cannot fail to notice the importance that all the better known racing men attach to this point. The higher the gear and the higher the compression, the more difficult does it become with m.o. valves, and the difficulties are materially increased with automatic valves. Why this should happen with a.o.i.v. is very easily explained. Great piston speed involves opening and closing of the valves in a very minute fraction of time, and unless the valve springs are at a particular tension (the weight required to compress the spring is quite immaterial to the argument), the valves will fail to close on the compression strokes, with the consequence that a part of the charge of gas will be blown back into the carburetter. This can only be overcome by so proportioning a spring that it will not allow the valve to open until the vacuum created by its corresponding piston is sufficiently below atmospheric pressure to over-balance the two opposing forces, and it is obvious that with a spring so arranged there must be a critical point of piston speed when the valve will cease to function properly. It is a physical impossibility for a spring to be manufactured with a varying amount of tension, for if this were the case the m.o.i.v. would have found its way to the scrap heap very soon after its introduction. Remembering that a track racing machine must possess an abnormal gear ratio between engine and rear wheel—as compared with a touring mount—it necessarily follows that below a certain speed in miles per hour no gas can be admitted against the strong spring tension. Therefore the machine must be given initial impulse, somehow or another, by the rider up to that mileage speed before the valves will commence to respond.

Some Timed Tests in Starting.

With the aid of a stop watch and known distances on some of the London racing tracks I have taken the trouble to discover what this minimum of speed must be with men who use twin engines having automatic valves, and I find it to be round about ten miles per hour. Imagine what this means when with 180 lbs. to push along, a man has to strain his heart to its uttermost by simultaneously running as if competing in a sprint race, control the balance of the machine, and then select the right moment to release the exhaust valve lifter and vault into the saddle.

The Minerva Company were the first to apply mechanical inlet valves to motor bicycle engines, and the lead they set has been universally followed. At one time the Minerva Co. pretty well possessed a monopoly in the supplying of engines to the trade, but with opposi-

tion growing in every direction, it was necessary to retain and increase the business then held by so improving the engines that competitors would be left far behind. It is within the writer's knowledge that very exhaustive experiments were undertaken, and these were so conclusive that this enterprising firm had no hesitation in definitely discarding automatic valves. The first engines of the new type were exhibited to the public at the Stanley Show in November, 1902. Some people would have us believe that the construction is mechanically incorrect. Perhaps there may still be a doubt in the minds of critical enquirers, but confirmation is obtainable from practically every motor car manufacturer in Europe and America, who, with so few exceptions that they are negligible, employ mechanically operated inlet valves on all their engines large and small.

Early Experiments with Mechanical Inlet Valves.

Going back to an earlier period, the first recorded instance of the use of mechanical inlet valves for internal combustion engines was made by the German Daimler Company in February, 1902, for their Mercedes cars, and so much interest was aroused in France by the innovation that the firm of Peugeot carried through experiments so conclusive that they also ceased to fit automatic valves to their car engines. It is worth while recalling the results so attained, as they appear to be quite unknown to present-day motorists.

Facts concerning Automatic Inlet Valves.

These experiments were founded upon those of Professor Vernon Boys, who, wishing to determine the speed of projectiles fired from big guns, utilised induction coils in combination with photographic plates. Without going into details it is sufficient for the purpose to state that very fine wires were stretched across the path of the projectile as it left the gun, these wires being connected up to the primary circuits of the coils, the latter being placed in light-tight boxes at various intervals of distance. As the wires were broken in turn the sparks produced at the terminals of the secondary circuits of the coils illuminated the glass plates in the various cameras, and simultaneously with the imprinting of the image of each spark on its respective photographic plate, marks were made on narrow paper tapes that were moved at a known speed. By scaling off the positions of the marks on the tapes and making certain calculations the speed of the projectiles was determined to be 654 yards per second.

The first set of the Peugeot experiments were arranged to discover when an automatic inlet valve commenced to open and when it closed. The results, which were not published until June, 1903, were startling, for they showed that an automatic valve never closes completely until the piston has started.

On the Upward Compression Stroke,

that the time when the valve closes is dependent upon the tension of the spring and the piston speed, and that (of far more importance) the maximum power capable of being developed at normal speed cannot be given off unless the valve spring is very much stronger than would ever be used for an engine under normal circumstances. Various weights of valves and different spring tensions were tried until the best combination was found with an extremely light valve which was given a minute opening, together with a spring capable of

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- Engine.** Increased to 85 x 88 mm. bore and stroke, improved pattern valves, lower compression, improved variable pulley allowing a greater reduction of gear, heavier rimmed flywheels.
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Triumph well known special features such as Ball Bearing Engine, Patent Carburetter and Handle-bar Control, Patent Spring Forks, Variable Pulley, are being retained in the 1910 Model.

You are cordially invited to see our new models at the Stanley Show, Stand No. 122.

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1910

**Stanley
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Telegrams: "Pneupeter, London."

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Telephone: 5338 Central.

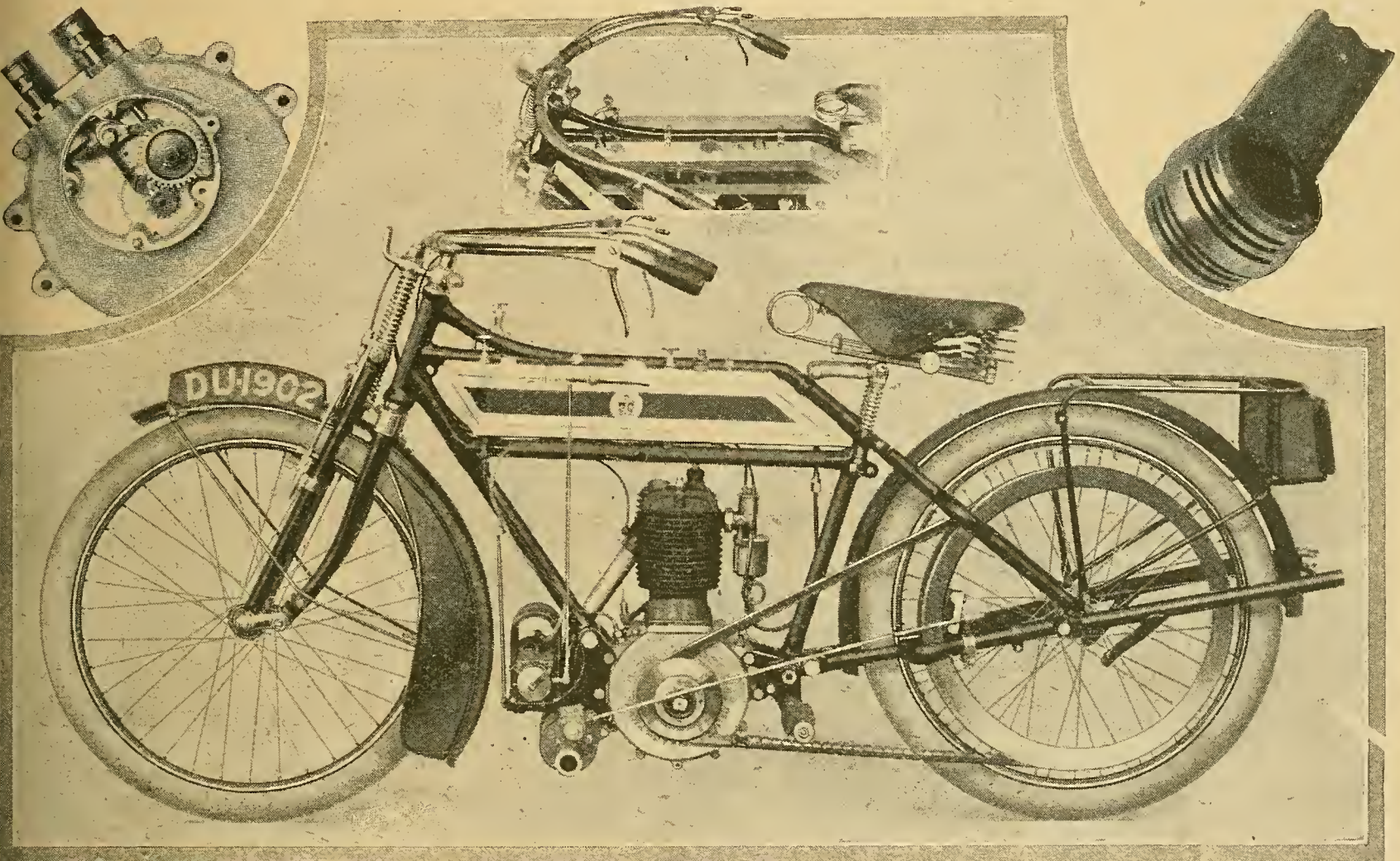
Telegrams: "Pneupeter, Birmingham."

I.O.V. on Twin-cylinders.—

permitting the valve to remain open after the piston had passed beyond the middle of the suction stroke. But this was only right for a particular number of revolutions per minute, anything above or below tending either to make the valve "chatter" and cause a blow back into the carburetter or fail to open the valve at all until the piston had travelled downwards for nearly half the length of the stroke. Another interesting point was also brought out, viz., that a carburetter required to be set differently whenever the spring tension of the valve was varied, and also that a carburetter

which would work well with an automatic valve, strangely enough, did not produce efficient results with a mechanical valve.

A single-cylinder engine, 102 mm. bore, was then tested on the brake, with automatic and mechanical valves, at various speeds as follows: Automatic valves.—1,000 r.p.m., 4.5 h.p.; 1,250 r.p.m., 5.6 h.p.; 1,400 r.p.m., 4.9 h.p. Mechanical valve at the same respective speeds.—4.9 h.p., 6.2 h.p., and 6.8 h.p. Therefore, the two types were about the same at the lowest speed, but the mechanical valve was nearly forty per cent. better at the highest speed. *Verb. sap.*



The 3 1/2 h.p. 84 1/2 x 89 mm. Rex with new type spring fork and spring seat. Inset from left to right: (1) Showing the simple timing gear, (2) shape of handle-bars and fittings on tank, (3) sawcuts in the connecting rod and brass ensuring perfect lubrication of the bearing.

Reviving Exhausted Dry Cells.

The *Scientific American* asserts that an exhausted dry cell can be completely restored to full strength by proper treatment.

The method of treatment follows the usual process of supplying new electrolyte to take the place of that which has been exhausted. All that is necessary is to drill a couple of holes in the top of the cell and pour in first one ounce of acid, and after it has thoroughly soaked in an ounce of water. When this, too, has soaked in, the two holes should be closed with ordinary sealing wax. The holes should be drilled on opposite sides of the cell about midway between the carbon and zinc elements. One hole should be about 3/16 in. in diameter, and should extend to within 1 1/2 in. of the bottom of the cell. The other hole, which need be only 1/16 in. in diameter, should be but 3 in. deep.

The acid used is the C.P. variety, which is

chemical parlance for full strength. It is very strong, and therefore must not be allowed to come in contact with the hands or clothing. It is poured into the battery by means of a small glass funnel.

Slow Running with Big Twins.

Every owner of a 7-9 h.p. engine knows how difficult it is to obtain really slow running for traffic purposes, more especially if a high gear is employed and the ignition is by magneto. We were recently examining a big twin engine, and noticed it was fitted with two separate exhaust valve lifters. One of them worked both valves in the ordinary way; the other merely cut out the rear cylinder. So when the owner wishes to travel at a single figure mileage per hour he cuts out his rear cylinder and runs on the front cylinder alone, which enables him to drive his twin as slowly as a single-cylinder.

OCCASIONAL COMMENTS.

BY "IXION"

Magneto Position.

As my readers are aware, I have always alleged that the standard modern magneto position is not ideal. Carried just in front of the crank case, it is exposed to wet and dirt, and if it needs attention the rider has to kneel or squat on the road, irrespective of its cleanliness. I was therefore extremely pleased with some crank case castings shown me the other day. They are being prepared for the 1910 engine of a certain machine which acquired a certain amount of fame and popularity this year. The crank case is extended backwards to form a small platform behind the cylinder, on a level with the bottom of the cylinder, and on this platform the magneto is to be mounted, being driven by a dustproof gearing enclosed completely in an aluminium case. The *tout ensemble* is extremely neat and compact, and I hope its exhibition at the Stanley will induce other makers to mend their ways.

Hand-applied Patches.

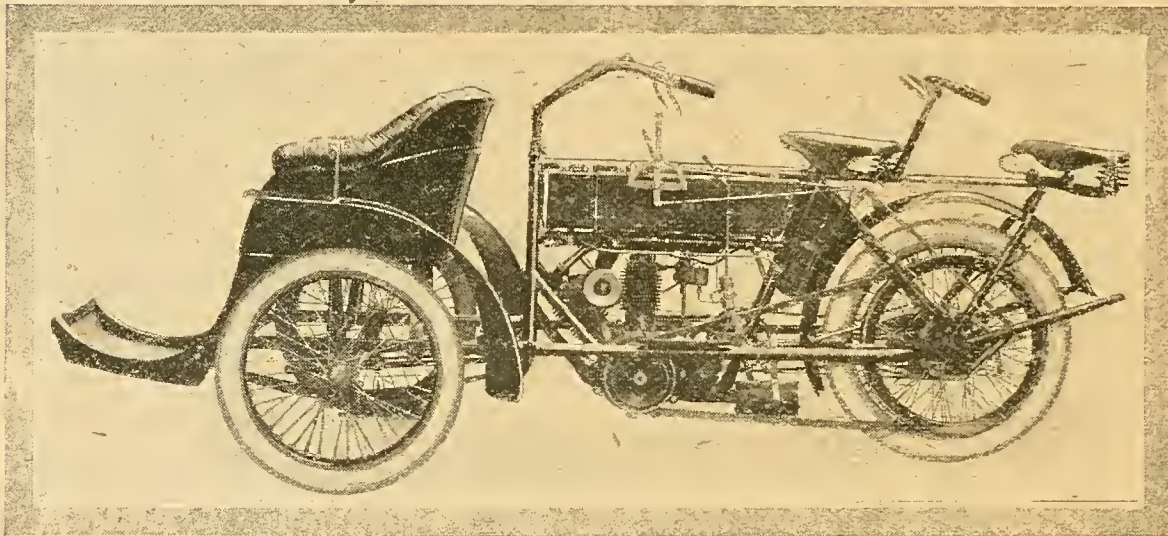
Mr. Surridge, 58, George Street, Camberwell, has sent me a section of an old inner tube to which he has applied one of his Holdtite patches, by hand, and without the aid of heat. He defied me to remove it

the rubber of the tube simply split, and came away with the patch. This patch, like one or two others could name, must be absolutely reliable for motor cycle purposes when applied cold by the roadside.

Coaster Hubs.

In the past one demerit of most chain-driven machines has been found in the brakes. We have already grown so familiar with the power and reliability of the belt rim shoe type of smash-averters that we have forgotten the worries of the past—the frayed wires, lost nuts, worn shoes, stripped spokes, etc., etc. of the average motor cycle brake prior to the introduction of the belt-rim shoe, which is now almost universally standard. But the chain-driven machines of to-day are debarred from employing this best of all possible brakes, and though sundry chain-driven machines possess very admirable brakes, as I have always noticed, I wonder whether some simpler, more reliable and more weather-proof brake than the wheel rim type is not available, even for chain-drivers. I was studying my copies of the Yankee motor cycling journals in a idle moment the other day, and I noticed that nearly all their machines are fitted with coaster hubs. I asked

an enthusiast who has ridden for several years in the States on a European machine whether any trouble was experienced with the coaster hub brakes. I asked sympathetically, because I once had one on an early lightweight and thrice it seized up before I had the indecency to sell it (for I give the confession, reader, I know I ought to have scrapped it; but in those days if I scrapped my old machine it meant no new one). He said they had experienced just the same troubles that we ran up against in the days when the first coaster hubs were imported. How well I remember my own giving me a free-wheel both ways



N.S.U. twin-cylinder two-speed tri-car, with attachment over back wheel for extra passenger. This machine will be included among the N.S.U. Co.'s exhibits at next week's Show.

by any means short of naphtha or petrol, and I must say his challenge was justified. The patch is a circular one, and at first I entirely failed to get a bit of its edge turned up anywhere round the circumference, so completely was the patch incorporated with the rubber of the tube. In fact, I came to the conclusion that it had, perhaps, been vulcanised into position, and so I took a sharp knife and cut the tube and patch right across, only to find that there were no traces of vulcanisation; the substance of the patch had not been melted into the substance of the tube, but the two were clearly separated by a layer of some dark solution, which sticks closer than a brother. I then took my knife again, and forcibly turned up part of the edge of the patch, which I seized with a large pair of pliers in the attempt to peel it off. I found I could haul it off the tube with the exercise of considerable force, but that in doing so it was neither the solution nor the patch which gave way. Both were indissolubly incorporated with the tube, and when force was applied,

and no brake either way on the Hindhead about 1898. But—he was careful to add—those days were long since over, and the American motor cycle coaster hubs are now every bit as reliable as their smaller duplicates on a first-class push bicycle. Well, surely here we have an ideal main brake for chain-driven motor cycles, a long way superior to the wheel-rim type, which an average novice is sure to misuse, or a external band brake, which is usually partly on for most of the machine's running time, and seldom on enough when you want it badly. If any reader can claim prolonged experience with a modern motor cycle coaster hub, I shall be glad to have his views.

American Endurance Run Novelties.

I have just been reading a detailed account of a big American "endurance run" or reliability trial, and I noticed two main features differentiating the event from ours. One was the system of time penalties. In our trials a rider loses one mark per minute when he

Say!
 Please reserve your
 decision until you have
 examined me at the Show.
 I'm full of points—
 proved practical—which
 I will detail next week.

Yours,

Indian Motorcycles

HENDEE MANUFACTURING CO.

IN SCOTLAND!

Nov. 6th. GLASGOW M.C.C. HILL-CLIMB.

CLASS II.—Multi-cylinders of unlimited capacity.

FIRST on formula .. INDIAN (638 c.c.)

CLASS III.—Scratch class (Singles up to 500; Twins up to 750).

FIRST again .. INDIAN (638 c.c.)

Also RECORD for the Hill—42 MILES per HOUR.

On a standard machine.

STANLEY SHOW,
 STAND 132.

'Phone at the Show—1114 City.

THE INDIAN

See this Saddle

at the **STANLEY SHOW**, Stand
—No. 230, Gallery.—

There it will be on view, together with every other model of the

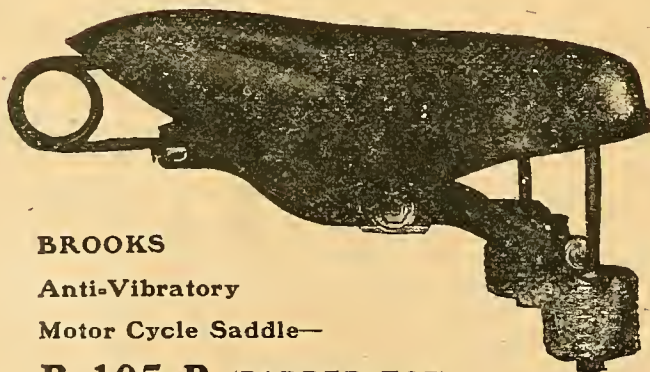
BROOKS ANTI-VIBRATORY SADDLES and SEATS.

There you can closely inspect that unique and exclusive feature—the **BROOKS PATENT COMPOUND SPRINGS**—the springs that absorb vibration within themselves and entirely eliminate all tendency to bounce—the springs which make possible perfect pleasure—perfect comfort—perfect health. There you can see also the **BROOKS Equipment Specialities**—a comprehensive range which covers every possible requirement of Motor Cyclists. If not at the Stanley, write to

**J. B. Brooks & Co., Ltd.,
BIRMINGHAM,**

for Saddle Manual, and
learn more about them.

Address your communication to
Department
B. 45.



BROOKS
Anti-Vibratory
Motor Cycle Saddle—
B 105 P (PADDED TOP).



Occasional Comments.—

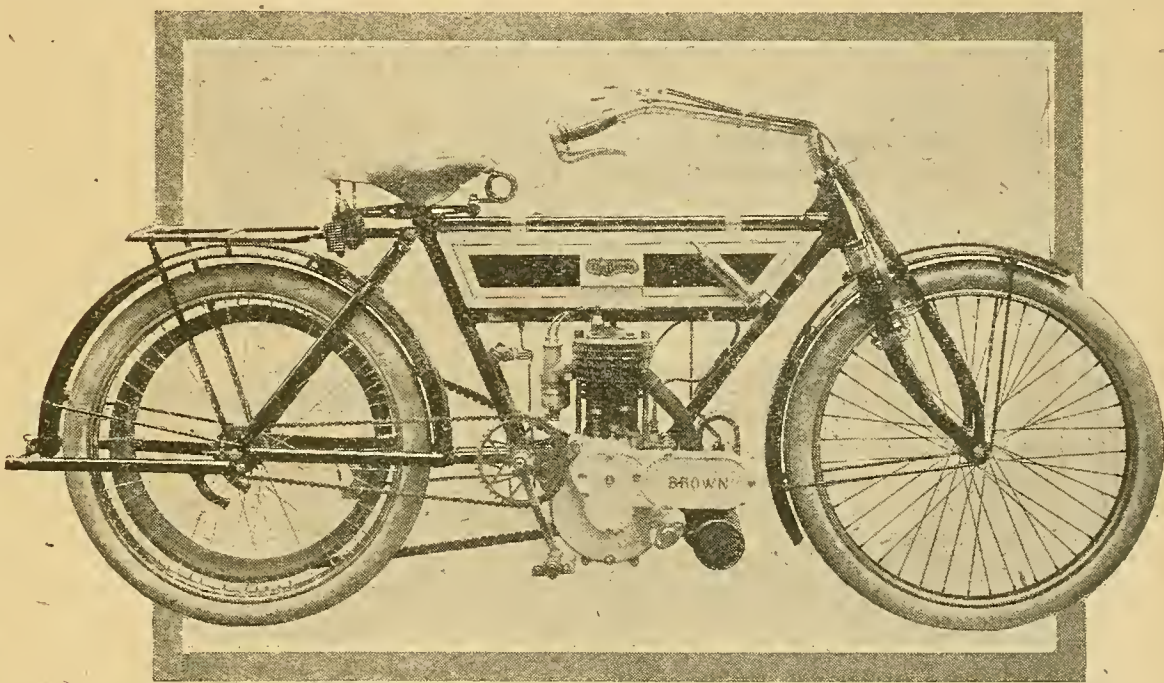
is late at a control. In America a rider loses one mark per minute for the first half hour he is late, and two marks for every minute exceeding half an hour. This is undoubtedly an improvement, because it differentiates those who suffer serious troubles from those who have only trivial mishaps. One rider in this year's Six Days broke two belt fasteners on one short section. This was a pure error of judgment—he had trusted his fate to the makers of a bad accessory, and no one would wish to see a good machine heavily penalised for such a mishap. He would be, perhaps, fifteen minutes late, and under both systems would lose fifteen marks. Another rider had a serious magneto trouble, but, being a smart mechanic, he was only forty minutes late at the next control. Under our system he would lose forty marks, under the American system he would be mulcted of eighty marks—a fairer penalty. The other novelty I am less enthusiastic about. The big tyre companies sent a car full of spare covers and tubes, with two or three good tyre hands on board, in the wake of the competitors. The customers of course pay in the long run for the heavy expense of running three or four years, with the cream of the companies' staff on board, over a thousand miles course, and it is the general public who must decide whether they think such expense is justified. The American idea is as far as possible to delete all penalties and failures solely due to tyres, and to make the results of their run depend on the machine alone. I think if a rider is outed from our trials, or penalised therein, by tyre troubles pure and simple, it is his own fault. He has an ample time margin under the old rules for either substituting a butt-ended tube, or mending the puncture with a best quality patch and quick-drying solutions, and so I should be very sorry to see a fleet of tyre-carrying cars going through an A.C.U. trial to nurse the competitors. The only real hard luck is when a cover gives out hopelessly. Such incidents did occur in our last Six Days. One or two men on a certain make of tyre had to replace their rear covers, owing to the non-skid treads stripping off, but they were able to reach Shrewsbury and make the replacements under official observation without being penalised. Two others, I fancy, lost marks with a second make of tyre because the inside of the fabric chafed and punctured the tube; but this was because the men were ill-advised enough to fit a type of cover which had only just come on the market and had not been properly tested by its makers. Nor do I think that an expenditure of several hundred pounds can be justified when it only benefits one or two makes of machines. The American tyre cars displayed a very sporting spirit, as they assisted all competitors without exception, no matter what make of tyre it was that caused trouble. This is so unusual that it is worthy of special comment.

Air By-passes.

I have once or twice remarked on the advantage of possessing a pure air by-pass to one's carburetter, so that when the throttle is shut in descending hills cold air is fed to the engine, and it is cooled, while no oil is sucked up past the piston rings. It is interesting to notice that more than one maker of carburetters has provided for a by-pass in his 1910 models. The B. and B., for instance, may be had with a slit cut in the wall of the mixing chamber just above the union of the inlet pipe. The slide of the throttle valve keeps this slit covered in all positions of the throttle lever save that of "shut." When the throttle passes the "shut" position further movement opens the air by-pass and pure air enters the cylinder.

Handle-bar Clips.

I complained in a recent issue that the clips of many accessories which are attached to the handle-bar, especially hooters, do not afford sufficient grip, and



Valve side of the 1910 pattern 3½ h.p. Brown. The engine dimensions are 85×85 mm., and the mainshaft runs on ball bearings. Spring forks will be fitted as standard.

that these accessories are continually sliding about and working loose. A rider on the staff of the Para Rubber Co. recommends the use of a special rubber solution manufactured by his firm. They have produced it in answer to a demand by building contractors for a solution with a fierce grip, proof against atmospheric action, for pointing glazed ware, and attaching iron pipes to other materials, etc. It is sold in a liquid form, and takes nearly half an hour to dry. He kindly sent me a sample bottle, and up to the present I have found it very suitable for motor cycling purposes. If applied to the handle-bar and the inside of a hooter clip, it takes half an hour or so to set, and the clip may then be bolted home, after which it appears to afford as good a grip as brazing. At the same time, it is easily removed by rubbing with a rag dipped in petrol, and I am inclined to think it is just what we have been looking for.

Siemens Bros., Ltd., dealers in electrical accessories, dry cells, etc., have removed their supplies department and showrooms to 39, Upper Thames Street, E.C.

CURRENT CHAT

Time to Light Lamps

SPECIAL FEATURES.

Forecast and Guide to the Show.
(Second Instalment.)M.O.I.V. on Twin Cylinders.
Four Page Coloured Supplement.

Nov. 15..5.10 p.m.

,, 17..5.7 ,,

,, 20..5.3 ,,

,, 22..5.1 ,,

"The Motor Cycle" Show Report Next Monday.

Next week's issue, on sale everywhere on Monday, will contain a full description of the Stanley Show exhibits of motor cycles and their component parts. Numerous photographs of 1910 models and sketches of interesting novelties in design will accompany the report.

A.C.U. Council Meeting.

The next council meeting of the A.C.U. will take place at 112, Piccadilly, W., at 5.30 p.m. on Saturday, November 27th.

The Conditions of the 1910 T.T. Race.

The meeting of the motor cycle trade and competitors with the A.C.U. Committee to consider the conditions of the 1910 Tourist Trophy Race will be held at the Agricultural Hall on Tuesday, November 23rd, at 7 p.m.

M.C.C. Annual Show Run.

The annual show run of the Motor Cycling Club will be held on Sunday, November 21st, to the Salisbury Hotel (Old Sal), Barnet. All those interested in the motor cycle movement will be heartily welcome.

A Guide to the Show.

The numbered plans of the Agricultural Hall, which have been found so useful to Stanley Show visitors during the last few years, are again included in the current issue. Much time and trouble will be saved by consulting pages 886-7.

The 1909 T.T.

It is interesting to note that the technical judges of the A.C.U. who examined the measurements of the first eleven competitors' machines in the Tourist Trophy Race found that all the engines were slightly under the stated size. The micrometer with which A. Sharp accomplished these measurements has been certified by the National Physical Laboratory to be correct within 10000 of an inch.

R.A.C. Associates and Olympia.

By the courtesy of the Society of Motor Manufacturers and Traders, Associates of the R.A.C., including, of course, members of the A.C.U. and its affiliated clubs, will have the advantage of admission to the Olympia Motor Exhibition, now open, on any day at half-price, tickets at the reduced rates being obtainable at the Associates' headquarters, 112, Piccadilly, either by personal application between the hours of 10 a.m. and 6 p.m., or by letter, or at Stand No. 2 in the exhibition on personal request. These tickets, of course, will be non-transferable.

New South Wales Motor Cycle Trials.

On Monday, October 4th (Eight Hour Day), there were two motor cycle reliability trials held in New South Wales, both finishing in Sydney. The Sydney Motor Cycle Club held one, open to amateurs affiliated to the N.S.W. Cyclists' Union, from Taverner's Hill, Sydney, to Lawson and back, 105 miles. A. S. Jones (2 h.p. Moto-Rêve), 11 points, won from E. N. Fyson (5 h.p. Rex), 12 points; F. Flew (5 h.p. Vindec), 14 points, third. The results of the other, promoted by the Motor Cycle Club of New South Wales, from Sydney to Goulburn, 131 miles (first day, Saturday), and back (on Monday) had not been announced when the mail closed. However, our Sydney correspondent understood that J. E. Yee and F. S. Roberts (four-cylinder F.N.'s) were the leaders, and very close together.

FUTURE EVENTS.

Nov. 12-20—Olympia Motor Exhibition.

,, 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, Islington, N.

,, 23—Meeting of the Trade and competitors to consider conditions for the 1910 Tourist Trophy Race.

Dec. 11—M.C.C. annual dinner and distribution of prizes at the Trocadero Restaurant.

Jan. 20—Auto Cycle Union annual dinner at the Waldorf Hotel.

A Reasonable View of Footpath Riding.

At Linlithgow last week, Dr. George Bartholomew, a well-known Winchburgh motor cyclist, was charged with riding on the footpath between Duntarvie and Winchburgh, an offence which he admitted. The Fiscal, in prosecuting, admitted that the road between these places was in a very bad state of repair, but that, from the police point of view, the offence was one which could not be ignored. Dr. Bartholomew held that the road was dangerous to ride upon, there being holes deep enough to drown a dog in, to drop into which meant a bad fall. He had already damaged his machine to the extent of £5 in attempting to negotiate the road. Under the circumstances the Bench merely imposed a modified penalty of 2s. 6d. The attention of the authorities should certainly be called to the state of this road, and the Scottish A.C. may perhaps move in the matter.

Imports of Motor Cycles and Parts.

Imports of motor cycles and parts during October show a considerable increase, the figures being £3,569 in 1907, £3,438 in 1908, and £6,235 last month. The figures representing the imports during the ten months ended 31st October were:

	1907.	1908.	1909.
Motor cycles—			
£45,788	£34,442	£35,364	
Parts thereof—			
£25,650	£23,564	£24,027	
£71,438	£58,006	£59,391	

The British Exports.

The exports of British-made motor cycles are still in the ascendant, and the year's figures will easily prove a record. During October, 1907, the value of our exports was £6,059, in 1908 £6,562, and in 1909 £11,847.

During the ten months ended 31st October, the Board of Trade returns give the following export figures:

	1907.	1908.	1909.
Complete motor cycles—			
£22,740	£27,576	£46,945	
Parts thereof—			
£22,835	£17,079	£26,722	
£45,575	£44,655	£73,667	

British South Africa's share of the 1909 exports was £8,688.

Re-exports.

£19,117 worth of foreign-made motor cycles and parts have been re-exported from this country during the ten months ended 31st October, 1909.

International Motoring.

The Motor Cars (International Circulation) Bill introduced by the President of the Local Government Board, is designed to give effect to the Convention which was drawn up at the International Conference convened by the French Government last month. The Bill provides that Orders in Council may be made for the grant and authentication of international driving certificates, and for modifying the provisions of the Motor Car Act, 1903, relating to the registration of motor cars and cycles, and the licensing of drivers making a temporary visit to this country. The Motor Union was represented at the Paris Conference, and has worked hard to secure these increased touring facilities. British motor cyclists visiting France, if already in possession of the international-driving certificate, will not be required to hold the French licence, and no fresh registration will be necessary if the letters "G.B." denoting country of origin are carried.

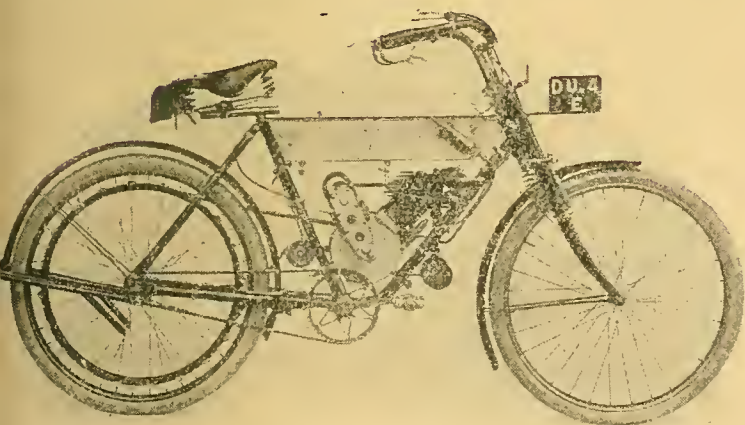
Easy to mount.
Easy to learn.
Easy to drive.
Easy in cost.

The New Lightweight

SINGER

Motor Bicycle

“MOTO-VELO.”



1 $\frac{1}{4}$ h.p.; Bosch High Tension Magneto; Round Belt with Jockey Pulley, or V Belt with Direct Drive; Two Brakes; Excellent Stand; Weight complete, 84 lbs.; Price £33; Speeds 5 to 25 miles per hour; Consumption 140 miles per gallon.

The “Moto-Velo” makes its first appearance at the Stanley Show. It is no experiment, but is a machine of proved excellence, having an engine of the highest quality, built on strictly interchangeable lines. You mount it like an ordinary bicycle; there is no need to “chase” the machine, and no gymnastics are required. The engine can be detached in five minutes, and the machine becomes a comfortable pedal-bicycle. It appeals to cyclists of all ages, and it offers a splendid opportunity to Agents who recognise the great possibilities of business in a high class light-weight motor.

Stand No. 120, Stanley Show.

SINGER & Co. (1909) Ltd., Coventry. London Depot, 17, Holborn Viaduct, E.C.

In answering this advertisement it is desirable to mention “The Motor Cycle.”

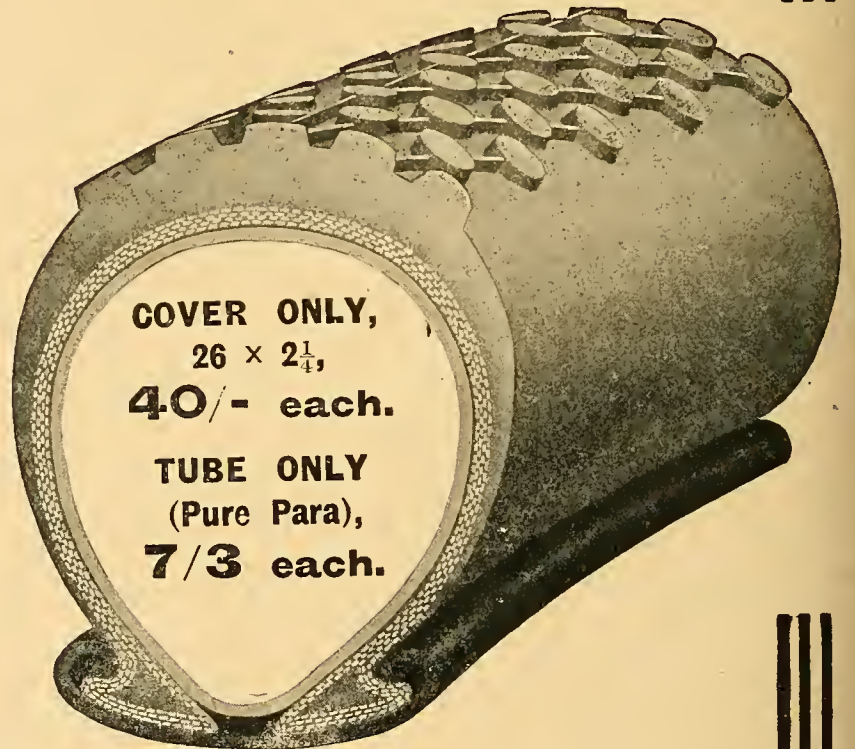
THE NEW GOODRICH

**THIS TYRE HAS BEEN
SPECIALLY DESIGNED
FOR WINTER RIDING.**

**HEAVY
TREAD**

**ITS DESIGN,
ITS QUALITY
OF RUBBER,
ITS PERFECT
BALANCE AND
PROPORTION,
MAKE IT
THE**

**STAND
292
OLYMPIA.**



**COVER ONLY,
26 x 2 $\frac{1}{4}$,
40/- each.**

**TUBE ONLY
(Pure Para),
7/3 each.**

**FASTEST, SAFEST & STRONGEST
TYRE IN THE WORLD.**

MOTOR CYCLE TYRE

MANUFACTURED ONLY BY THE B.F. GOODRICH CO., LTD., 7, SNOW HILL, E.C.

In answering this advertisement it is desirable to mention "The Motor Cycle."

A Forecast and

Guide to the Show.

SECOND

INSTALMENT.

In last week's issue appeared the first instalment of the Forecast of the Stanley Show, which will be opened on Friday next, by Sir Albert K. Rollit. This week we continue the Forecast, which deals with some further improvements in connection with the motor cycles to be exhibited. In addition, we have prepared two plans of the show, by courtesy of the Stanley Show secretary, Mr. E. A. Lamb. These will be found on pages 886 and 887, and it will be noticed that all the stands on which motor cycles and accessories will be shown are named, a key to each plan being included. With the aid of this Guide, show visitors will be able to locate all the motor cycle stands with a minimum of trouble and delay. Next Monday, the 22nd inst., we shall publish a fully illustrated description of the motor cycles and accessories after personally inspecting and examining them.

THE ABINGDON - ECCO, LTD., Birmingham (No. 115), will show a new pattern single-cylinder $3\frac{1}{2}$ h.p. touring motor cycle, with a novel type of spring fork, which has a plunger working in a cylinder in front of the steering head.

THE ARNO MOTOR CO., LTD., Coventry (No. 133, Main Hall).—This firm will exhibit their new touring model, fitted with a $3\frac{1}{2}$ h.p. ball bearing engine, 84×89 mm., m.o.i.v., new type B. and B. carburetter, Simms magneto, chain or gear driven, to order. The magneto is placed behind the cylinder on a bracket which is cast with the crankcase. The engine is held in the frame by lugs cast on the crankcase, and can be removed bodily with magneto and silencer from the frame by releasing four bolts. Pedalling gear is fitted, and also large sloping footplates made of aluminium, which provide a most comfortable riding position. The lubricating oil pump is inside and at the back of tank, allowing easy access to the handle whilst riding. There are two brakes, viz., a foot-operated belt rim brake and a Bowden band brake on back hub operated from the handle-bar. A speedometer will also be on view, which is similar to the touring machine, except that the wheelbase is shorter. A lady's model with a 3 h.p. engine will also be shown; this has some good points as regards frame design.

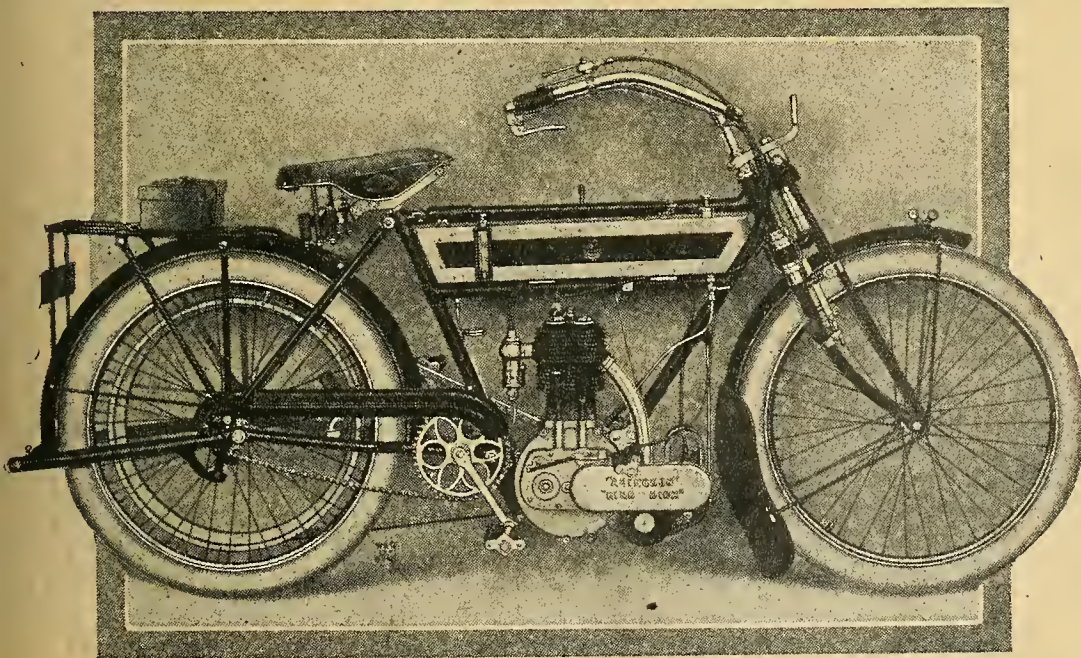
THE BAT MOTOR MFG. CO., Kingswood Road, Penge, S.E. (No. 96, Main Hall).—The exhibit of the Bat Company will be an imposing one, since no fewer than one dozen machines will be staged. All these will be fitted with the Bat patent spring frame, which has proved its excellence during many years. The particular form of frame the company has

adopted as standard for next year is the T.T. model which has proved itself of sufficient strength for all purposes, and, at the same time, enables some 15 lbs. or 20 lbs. to be saved in weight, and also affords a low riding position. For 1910 there will be three models—a $3\frac{1}{2}$ -4 h.p. single-cylinder, 85 by 85 mm.; a 7-8 h.p. twin 85 by 85 mm., a machine which has been strikingly successful this year in competitions; and a totally new model, a 5-6 h.p. twin with side by side mechanically operated valves, bore and stroke 76 by 85 mm. J.A.P. engines will be fitted in every case as well as their carburetters and automatic lubricators, and the latest type of Bosch ball bearing magneto, which will, as previously, be carried immediately above the engine and driven by means of bevel gearing, the shaft of which is mounted on ball bearings. Naturally, the magneto is amply protected and the bevel gearing is enclosed in a grease box. The Bat rigid type of sidecar will be shown fitted to a twin provided with a P. and M. two-speed gear and free engine. A point about the sidecar is that it is fitted with a luggage grid underneath the seat upon which a small quantity of luggage can be carried. Bat motor bicycles have always been popular, but their excellent performances in the Six Days' Trials and other competitions will enable them to climb several rungs higher on the ladder of success.

BAYLISS, THOMAS, AND CO., Excelsior Works, Coventry (No. 66, Main Hall).—Owing to a printer's error last week, the first three lines of the paragraph describing the exhibit of Messrs. Bayliss, Thomas, and Co., read somewhat strangely. The paragraph should have read as follows: "It is some years since the Excelsior motor cycle was exhibited at the Stanley Show. The four examples which will be shown may therefore be expected to create considerable interest."

J. T. BROWN AND SONS, Reading (No. 106, Main Hall).—The $3\frac{1}{2}$ h.p. Midget Bicar for 1910 will be much improved in detail, and all models will be fitted with a new variable gear (no end thrust) with means for the adjustment of the belt to suit the gear ratio while riding. A geared-up handle is provided for starting purposes. A spring-actuated stand and magneto are provided, and all the usual control levers will be fitted on the handle-bar. The Midget Bicar has a specially constructed frame made of sheet steel.

H. COLLIER AND SONS, LTD., Herbert Road, Plumstead, S.E. (No. 104, Main Hall).—It may be expected that Collier and Sons will have an exhibit which in interest will be second to none at the Stanley Show. On their stand will be seen the identical machine which won the Tourist Trophy, the fame of which was cast abroad throughout the length and breadth of the Empire; in fact, it is interesting to note

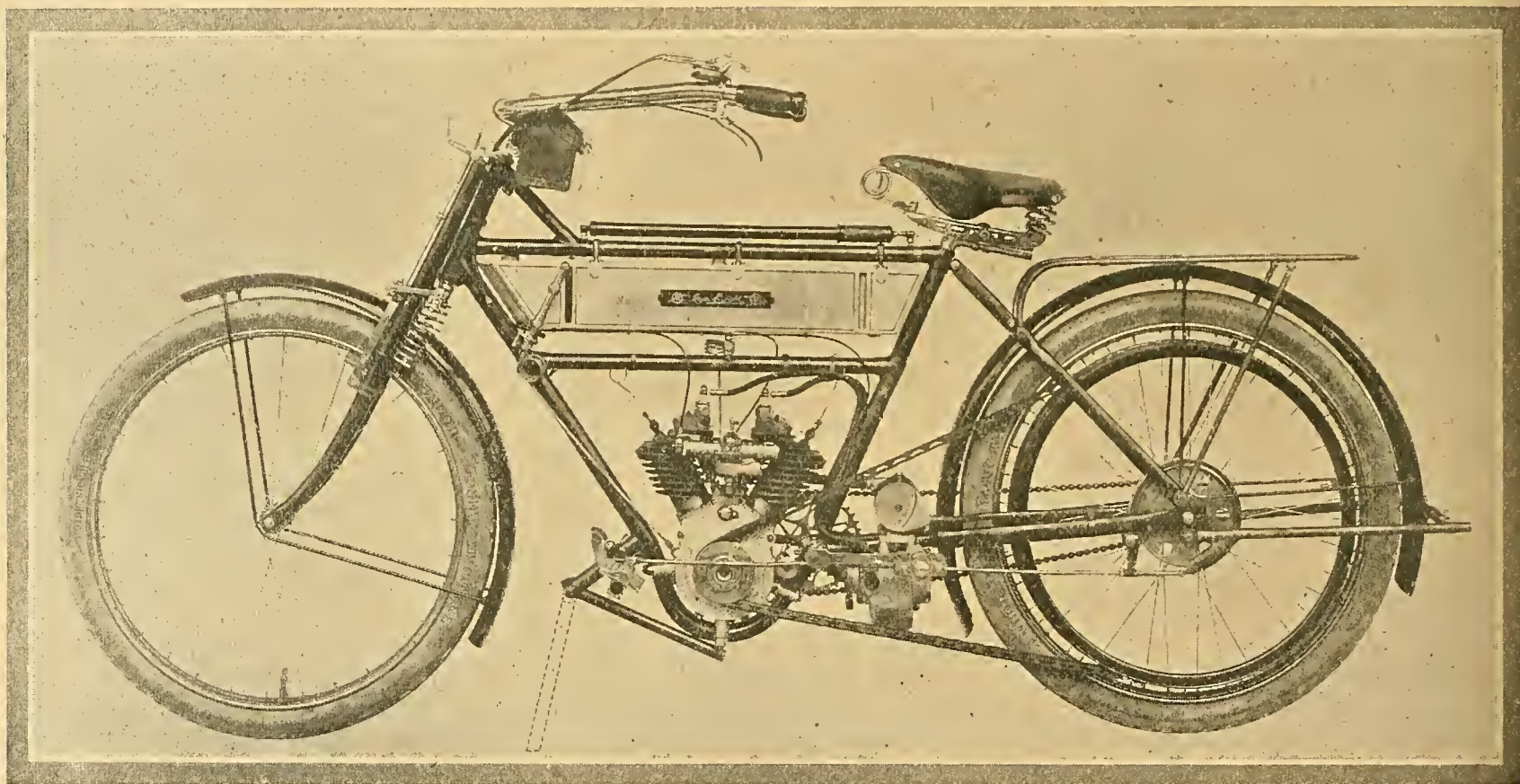


The Kerry-Abingdon $3\frac{1}{2}$ h.p. motor bicycle, to be exhibited at the Stanley Show by the East London Rubber Co. A description of this machine was published on page 861 last week.

Forecast and Guide to the Show.—

that very shortly before the race Mr. Collier, sen., received letters from New Zealand in the New World, and Holland in the Old World, from customers asking to be communicated with the moment the result of the Tourist Trophy Race was known. The exhibit will comprise two machines fitted with sidecars, one with a Lowen two-wheeled sidecar and J.A.P. engine, and the other a Mills-Fulford sidecar and 5 h.p. Peugeot engine. The first-named combination will be provided with Collier and Sons' new two-speed gear, which will be exhibited for the first time. The gear is one of the best forms of epicyclic gears we have seen. The teeth of the dog clutches are large, and are engaged against the pressure of a spring so that they release automatically the instant the lever is moved. Both the road wheel brake and the gear brake are fitted inside one another, so that as little space as possible is taken up, and both are of ample dimensions. These brakes are of the internal expanding type. The control pedal is distinctly interesting, and only one pedal is used to control the two speeds and neutral position. This year, Matchless motor bicycles, chiefly on account of their excellent performances during this year, have undergone no striking alterations, but all machines will be fitted with a transverse tube across the handle-bars to which

the front tyre or making adjustments to the bearing. The rear part of the frame is fitted with a neat and well-designed tubular stand and luggage carrier. The wheels are 26in. diameter, with 2in. Dunlop tyres, and a modified form of the Druid spring fork is provided. The engine is an extremely neat type with V cylinders, and the machine is so designed that both cylinders can be removed without taking the engine out of the frame. Both inlet and exhaust valves are mechanically operated, and are fitted between the cylinders. The magneto, which is gear driven, is fastened just behind the bottom bracket underneath the chain stays. It is a Bosch magneto fitted with a special driving mechanism, the contact of the magneto being fixed. To advance and retard the point of ignition there is a lever on the handle-bar which controls a particular form of gearing in the transmission mechanism, so that no matter in what position the advance may be the maximum spark is obtained. The whole of the magneto transmission is enclosed in a watertight aluminium case. The transmission is by V-belt. The model we saw was fitted with a Watawata, but either rubber or leather belts can be supplied to order. The carburetter is semi-automatic and has two jets, one to feed each cylinder, the control of the throttle being connected to the handle-bar. The exhaust pipes lead into a neat cylindrical silencer,



The new Enfield lightweight, with twin-cylinder 2½ h.p. V-type engine and mechanically-operated inlet valves. A pedal operated belt rim brake will be substituted for the band brake shown in the illustration. A front wheel support is provided on this machine (see dotted lines).

speedometers, watches, etc., may be attached. The Matchless lady's motor bicycle will also be shown fitted with a 2½ h.p. magneto ignited J.A.P. engine. The belt is amply protected by means of a guard. Machines will be shown fitted with 2½ h.p., 3½ h.p., 5 h.p., 6 h.p., 7 h.p., and 8 h.p. J.A.P. engines; also a complete Tourist Trophy model, and a machine propelled by a 3½ h.p. White and Poppe engine, which is now provided with a ball bearing crankshaft and fixed instead of detachable valve seatings. Matchless machines will be fitted with either Brown and Barlow or J.A.P. carburetters. The spring forks of these machines are especially worthy of attention, as with them a front brake can be used.

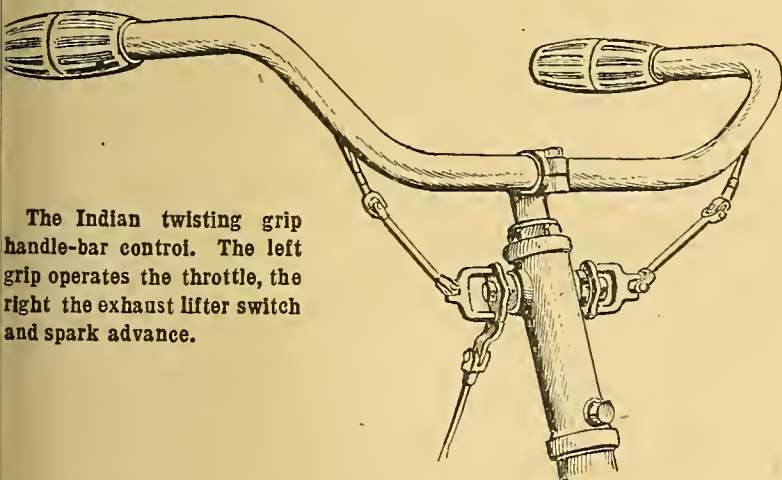
ENFIELD CYCLE CO., LTD., Redditch (No. 6, Main Hall).—As will be seen on reference to the illustration, the Enfield motor cycle for 1910 is a twin-cylinder lightweight. The frame has a double top rail with long ball head stayed to the top-most rail. The bottom tube is curved to take the crank case and attached to the down tube is another tube carrying foot-rests. Pivoted on the same tube is a strut, which when turned downwards acts as a stand and supports the front wheel clear of the ground for the purpose of repairing a puncture in

the final exit for the gases being through a pipe leading from the silencer and attached to the left side of the chain stays. The two inlet pipes and the two exhaust pipes are held on to the cylinders by one dog, and undoing one nut enables all pipes, also carburetter, to be entirely removed, thus enabling easy access to the valves. The camshafts are placed across the crank case above the flywheels, and are supported on each side in separate bearings. The petrol tank is fitted between the top and bottom tubes of the frame and holds sufficient fuel for about 100 miles. There are also compartments for about one pint of lubricating oil and a small quantity of paraffin. On one side of the tank there is a small paraffin pump for injecting paraffin into the cylinders to facilitate starting. On the other side of the tank is a lubricating pump. Both are neatly constructed and match the general appearance of this lightweight model. There are two brakes, one pedal operated belt rim brake, and the other a hand-applied front rim brake. The standard equipment includes a Brooks motor cycle saddle, tool-bag, etc., and when fully equipped this well thought out machine weighs 104 lbs. Six examples of the Enfield motor bicycle will be on view.

Pre-cast and Guide to the Show.—

THE CORAH MOTOR Co., King's Norton (No. 85, Main Hall), will exhibit three models of single-cylinder motor bicycles. The first will have a $3\frac{1}{2}$ h.p. J.A.P. engine, m.o.i.v., and belt drive, the second will have the same type engine, but will be chain driven in conjunction with a Phelon and Moore two-speed gear. Simms magnetos (gear driven) will be fitted to both models, with the advance of the ignition controlled from the handle-bar. The carburetters will be B. and B., also handle-bar controlled, and of the latest type. Pedals and footrests are on the belt-driven models, but only footrests on the chain-driven machine. The two brakes are internal expanding on back and front hubs. The lubrication is by J.A.P. automatic drip feed, and an auxiliary hand pump fitted inside the tank. Davison petrol and oil gauges are fitted. The carrier and rear half of back mudguard can be swung back by releasing one thumbscrew, leaving the tyre easily accessible for puncture repairing. The action of wheeling the machine forward causes the stand to spring into place out of position. Brooks B105 padded saddles as a standard, and also special toolbags made for this firm by Messrs. Brooks are supplied. A new patent spring fork is fitted to all models, which has some good points, and also a new form of spring at attachment on the cantilever principle. The third model is a lightweight, with $2\frac{1}{2}$ h.p. J.A.P. engine, Simms ball bearing gear-driven magneto and all the other features which are fitted to the $3\frac{1}{2}$ h.p. models. Kempshall 26in. by $2\frac{1}{2}$ in. will be the standard tyres on the $3\frac{1}{2}$ h.p. machines, whilst the lightweights will be fitted with 26in. by 2in. Clincher A1.

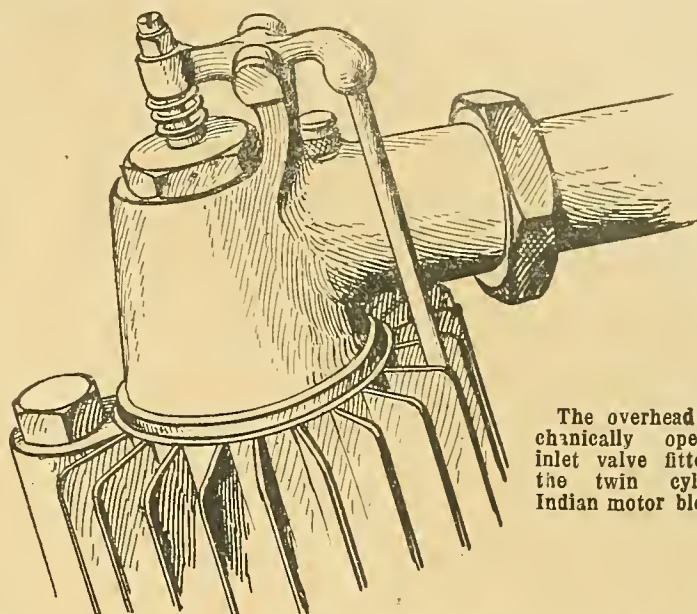
THE HENDEE MANUFACTURING Co., 184, Great Portland Street, W. (No. 132, Main Hall).—One of the most interesting exhibits will be the stand of the Hendee Manufacturing Company, makers of the Indian motor cycles. Doubtless the identical machine on which G. Lee Evans finished second in the Tourist Trophy Race will be on view. The Indian standard models comprise three distinct patterns. A single-cylinder 4 h.p. $82\frac{1}{2} \times 93$ mm., a 5 h.p. twin 70×83 mm., and a 7 h.p. twin $82\frac{1}{2} \times 93$ mm. The essential points of these machines were recently dealt with in *The Motor Cycle*, but it is interesting to note that one of the features for 1910 will be the introduction of a slow running plunger oil pump which delivers the lubricant from a reservoir behind the rear cylinder through a pipe which enters the front cylinder in such a position as to allow the oil to drop directly on to the



The Indian twisting grip handle-bar control. The left grip operates the throttle, the right the exhaust lifter switch and spark advance.

big end bearing. The pump, which is an extremely neat fitting, is driven by means of worm gearing off one of the half-time shafts, and is designed to work at a very slow speed. At the bottom of the crankcase there is a small sump in which sufficient oil collects to allow the flywheel to dip into the liquid about one-eighth of an inch. The purpose of the oil pump is to maintain a constant level in the sump. This performs its work so efficiently that it is seldom if ever necessary to use the auxiliary hand oil pump with which the machine is supplied. On the stand will be shown various parts of the Indian motor bicycle, and visitors to the Show will be able to determine for themselves how excellently each minute part is made, and how ingeniously they are assembled. The main shaft of the engine is mounted on a double row of ball bearings on each side, and the automatic carburetter, on account of its ingenuity, also calls for inspection. The brakes have been very carefully designed, the rear brake especially displaying great ingenuity. This is an external band brake on which the bands operate with a compound action, while a right and left hand screw adjustment is provided.

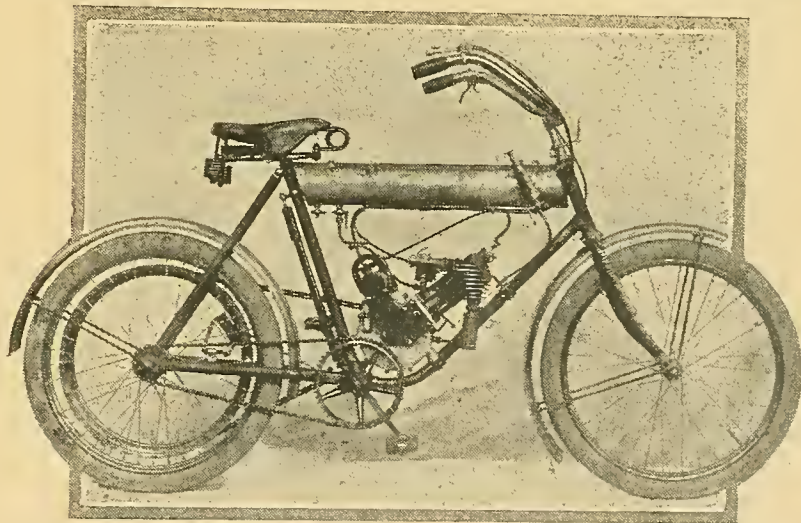
The brake is lined with Raybestos. The handle-bar control, by means of twisting handle-grips and universally jointed rods, is another ingenious and interesting feature of the Indian, particularly the spark lever control, which first allows the



The overhead mechanically operated inlet valve fitted to the twin cylinder Indian motor bicycle.

exhaust valve to drop, then switches on the spark, and advances it by gradual twisting of the right rubber grip. The carburetter is automatic, and the throttle is therefore controlled entirely by the left-hand twisting grip.

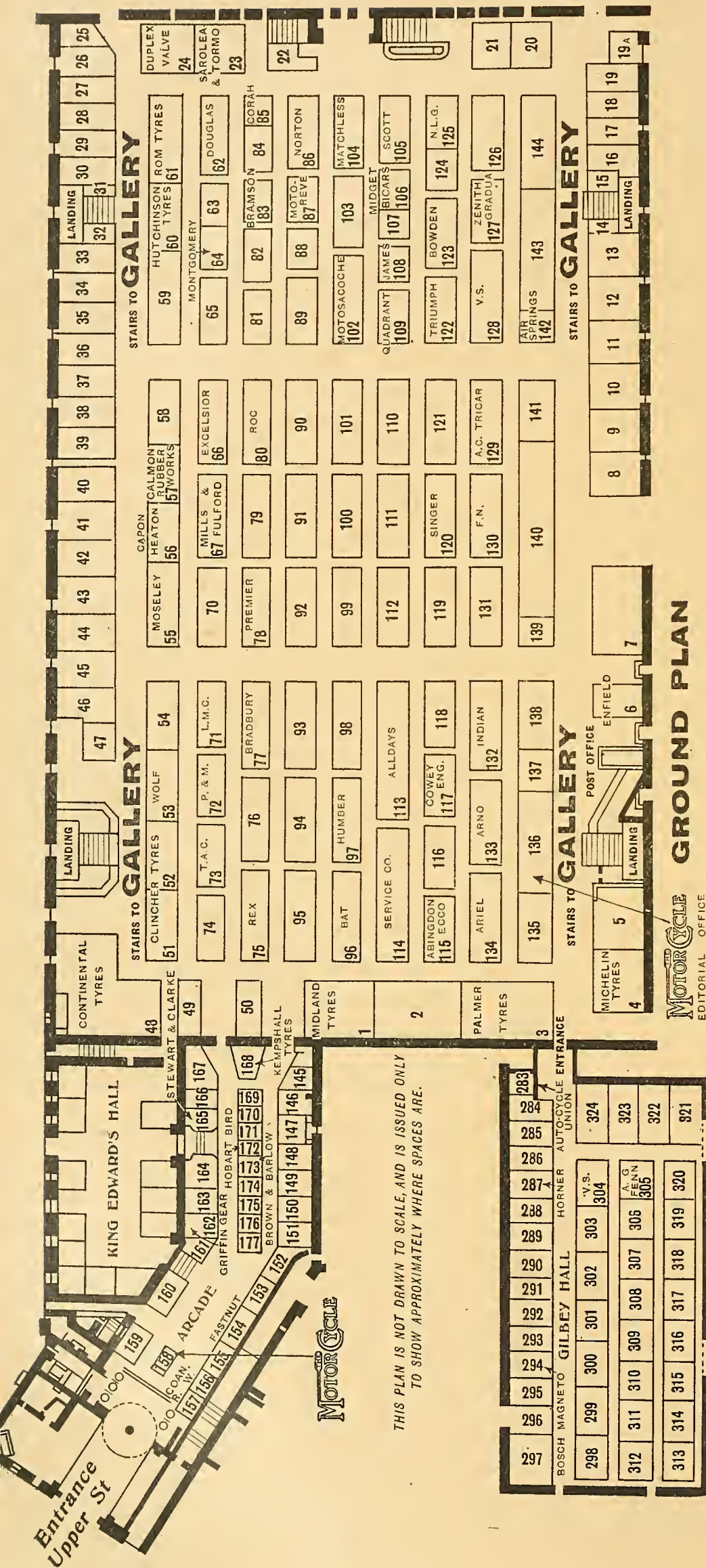
HOBART BIRD AND Co., Coventry (No. 172, Arcade).—In addition to the particulars given last week we now learn that the Hobart Bird lightweight has a bore and stroke of 69 by 78 mm. Both mechanically operated valves are fitted side by side. There are two control levers on the handle-bar, one for the throttle and the other for the magneto. The Bosch DA1 magneto is placed on the crankcase, and is gear-driven by a train of case hardened steel wheels running in long case-



The $2\frac{1}{2}$ h.p. Hobart lightweight, the main features of which were detailed on page 860 last week. It is obtainable with either 24in. or 26in. wheels.

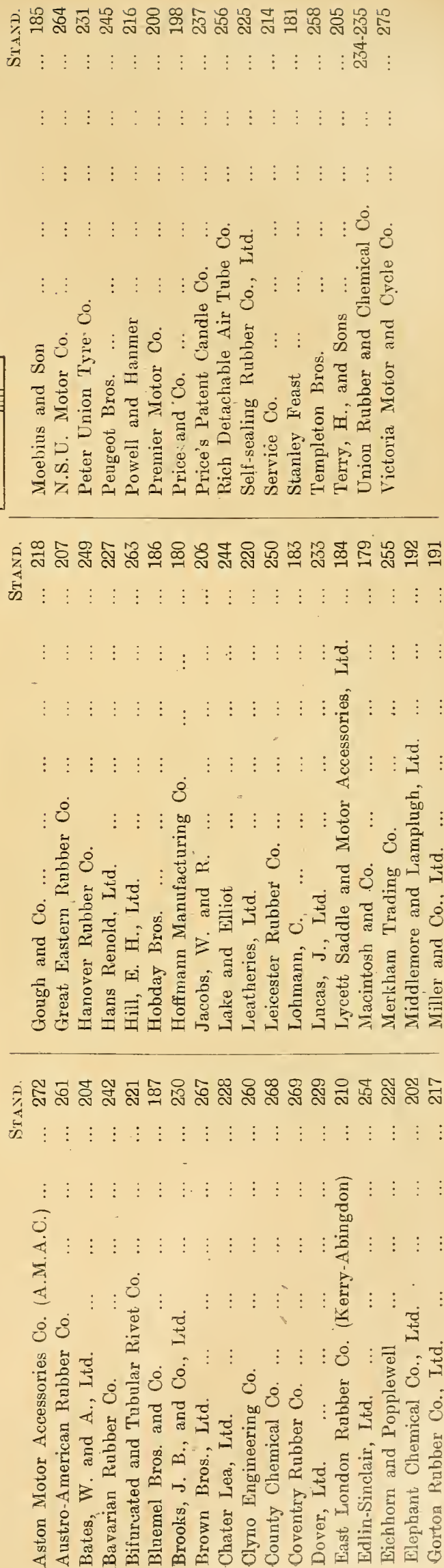
hardened steel bearings. A single cam, in conjunction with rocking levers, operates both valves, and these with the magneto driving wheels are neatly encased by an oiltight cover. The engine is fixed in a loop-frame by two lugs cast on crankcase and clips, and there is also a steadying clip from the cylinder head. A neat spring fork will be fitted to one of the models, which has the advantage over most other types of absorbing both horizontal and vertical shocks. The other model is fitted with Druid spring forks. The petrol and oil tank is tubular and recessed round the top tube, having a capacity of just over three-quarters of a gallon, this being ample for 100 miles. The lubricating oil is contained in the front portion with a double partition between it and the petrol. A neat spring seat-pillar is fitted as a standard. The mudguards are 3in. wide giving ample protection for winter riding on muddy roads. The standard tyres are 2in. Dunlops. The total weight is about 90 lbs. This machine should appeal to those who require a lightweight motor cycle with plenty of power.

THE LLOYD MOTOR AND ENGINEERING Co., 132, Monument Road, Birmingham (No. 71, Main Hall).—The $3\frac{1}{2}$ a.o.i.v.



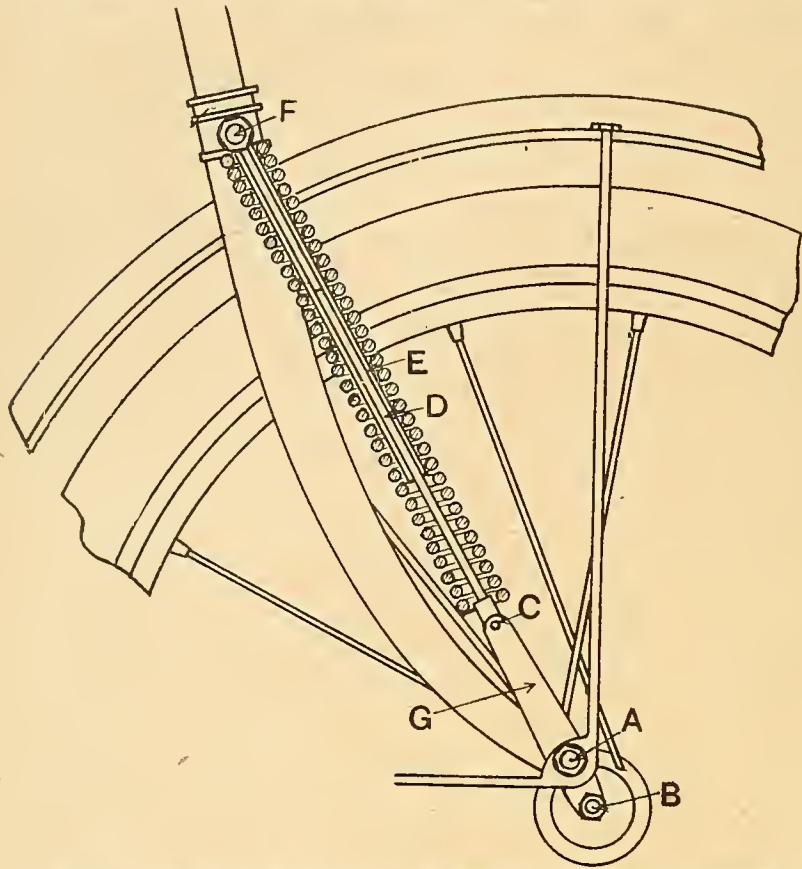
THIS PLAN IS NOT DRAWN TO SCALE, AND IS ISSUED ONLY TO SHOW APPROXIMATELY WHERE SPACES ARE.

STAND.	STAND.	STAND.	STAND.	STAND.	STAND.
Abingdon-Ecco, Ltd.	115, Main Hall	Dufaix, H. and A. (England), Ltd.	102,	<i>The Motor Cycle Kiosk</i>	158, Arcade
Alldays and Onions, Ltd.	113, "	(Motosacoche)	24,	Moto-Réve Co., Ltd.	87, Main Hall
Air Springs, Ltd.	142, "	Duplex Valve Syndicate, Ltd.	6,	North British Rubber Co., Ltd.	
Arno Motor Co., Ltd.	133, "	Enfield Cycle Co., Ltd.	154, Arcade	(Glincher)	51-52
Auto Carriers, Ltd. (A.C. Tricar) ...	129, "	Fastnut, Ltd.	130, Main Hall	North London Garage (N.L.G.)	125
Auto Cycle Union	283A, Gilbert Hall	F.N. Motor Agency ...	305, Gilbert Hall	Norton Manufacturing Co. ...	86,
Bat Motor Manufacturing Co.	96, Main Hall	Fenn, A. G.	162, Arcade	Palmer Tyre, Ltd.	3,
Bayliss, Thomas, and Co. (Excelsior) ...	66, "	Griffin Variable Speed Gear Co.	132, Main Hall	Phelon and Moore, Ltd.	72,
Bosch Magneto Co.	294, Gilbert Hall	Hendee Manufacturing Co. (Indian)	1287, Gilbert Hall	Premier Cycle Co., Ltd.	78,
Bowden's Patents Syndicate, Ltd.	123, Main Hall	Horner and Co.	172, Arcade	Quadrant Motor Co., Ltd.	109,
Bradbury and Co., Ltd.	77, "	Hobart Bird and Co.	126, Main Hall	Rex Motor Manufacturing Co., Ltd.	75,
Bramson and Co.	83, "	Hopper and Co., F. H., Ltd.	97, "	R.O.M. Tyre and Rubber Co.	61,
Brown, J. T. (Midget Bicar)	106, "	Humber, Ltd.	60, "	Scott Engineering Co., Ltd.	105,
Brown and Barlow	173, Arcade	Hutchinson Tyre Co.	108, "	Service Co., Ltd.	114,
Brown Rubber Works	57, Main Hall	James Cycle Co., Ltd.	168, Arcade	Singer and Co., Ltd.	120,
Capon, Heaton, and Co., Ltd.	56, "	Kempshall Tyre Co., Ltd.		Stewart and Clarke Mfg. Co.	165, Arcade
Coan, R. W.	156-157, Arcade	Lloyd Motor and Engineering Co., Ltd.	71, Main Hall	Tormo Manufacturing Co.	23, Main Hall
Collier and Sons, H. (Matchless) ...	104, Main Hall	Michelin Tyre Co., Ltd.	4, "	Triumph Cycle Co., Ltd.	122,
Components, Ltd. (Ariel)	134, "	Midland Rubber Co., Ltd.	1, "	V.S. Cycle and Motor Co.	128,
Continental Tyre and Rubber Co., Ltd.	48, "	Mills-Fulford	67, "	" " " " (Roc)	304, Gilbert Hall
Corah Motor Co.	85, "	Montgomery, W., and Co.	64, "	Wall, A. W., Ltd. (Roc)	80, Main Hall
Cowey Engineering Co., Ltd.	117, "	Moseley, D., and Sons, Ltd.	55, "	Wearwell Cycle Co., Ltd. (Wolf)	53,
Douglas Bros.	62, "	<i>The Motor Cycle Editorial Office</i> ...	136, "	Wilkinson Sword Co., Ltd. (T.A.C.)	7,
				Zenith Motors, Ltd.	127,



Forecast and Guide to the Show.—

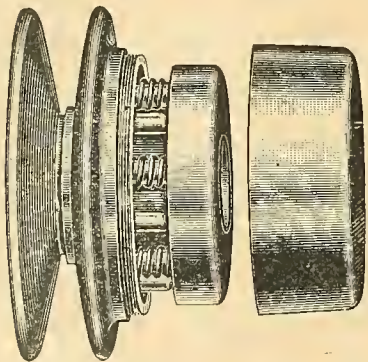
pattern ball bearing engine remains practically the same in construction, but the magneto gear drive is now rendered dust-proof; also a new cylinder slightly larger in bore, namely,



The new type spring forks fitted to the Hobart motor bicycle. Lever G is pivoted at A, and the wheel centre at B. Flat rod D is hinged at C, and slides in guide E, which is hinged at F. In the event of a horizontal shock, point B moves back and point C forward, being checked by spring which is in tension. In the case of vertical shocks there is a reverse action.

84 mm., is supplied. The frame is slightly lower and shorter. The finish is the same as in the 1909, but the tanks are enamelled aluminium with green panels. The tool box is under the petrol tank as before, or this can be omitted, and the new registered pattern of carrier and toolbag combined fitted in its place. The $3\frac{1}{2}$ h.p. L.M.C. 1910 pattern has a ball bearing engine 85 x 88 mm., m.o.v. type. In this engine

Mr. Lloyd has embodied a number of improvements in detail. Attention is directed to the magneto gear drive, which is quite dust-proof and oil-retaining. The magneto is carried slightly higher than on the 1909 pattern. The outside timing gear includes very substantial cam and valve lifter tappets, and the timing gear pinions are supported at both ends of the shafts. The teeth of the pinions are coarser pitched and broader, rendering the possibility of a breakage



The L.M.C. Auto-Varia pulley.

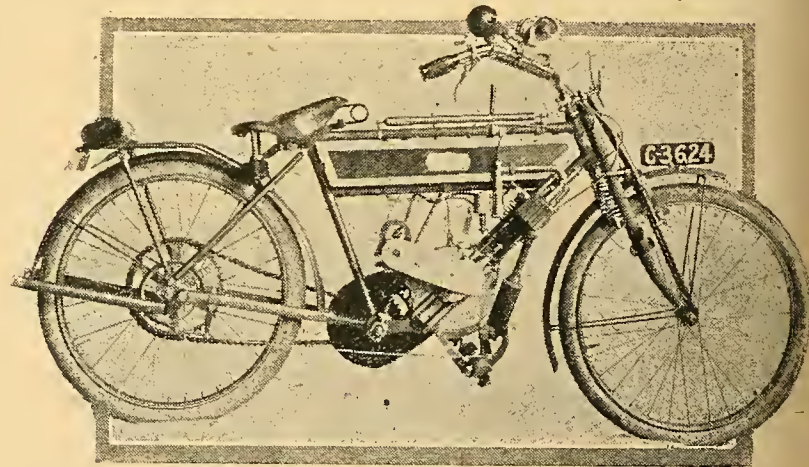
extremely remote. The brakes are entirely redesigned, and are very powerful. By removing three bolts the rear wheel is free for quick removal. New pattern footrests are provided, and the magneto ignition advance lever is on the handle-bar. The exhaust valve lifter has a good leverage, and the silencer has a cut-out. The L.M.C. Auto-Varia pulley is fitted as standard to both the above machines. Attention is directed to the simplicity of the L.M.C. free-engine device, which allows the machine to be started on a very low gear.

W. MONTGOMERY AND Co., Queen's Road, Coventry (No. 64, Main Hall).—In addition to their standard sidecars, this firm will exhibit a motor cycle especially made for sidecar work with the attaching lugs brazed to the frame. The engine is a single-cylinder Fafnir, 80 by 90 mm. bore and stroke, made specially for Montgomery and Co. to suit the work intended for it. A two-speed gear and free engine clutch is built into the back wheel and transmission is by chain. The magneto is gear driven, and is fitted on

a bracket on the crankcase. The latest B. and B. handle-bar control carburetter is fitted and Druid spring forks. The two-speed gear is operated by two pedals, and gives gear ratios of 5 to 1 and $9\frac{1}{2}$ to 1. The engine can be started by a pedal whilst the rider is seated in the saddle. A special Michelin voiturette tyre with detachable butt-ended air tube is fitted to the back wheel, and Brooks's B105 padded top saddle is standard. The sidecar built to suit this machine is of the rigid type, and has a sprung wheel supported by a semi-elliptic spring. The frame of the sidecar is a new design to meet the requirements of the low-built motor cycle, and has a leaf spring fitted under the foot of the carriage which eliminates all shocks to the passenger's feet. The strength of the springing can be made to suit any weight by adding another leaf to the spring—an operation which occupies less than five minutes.

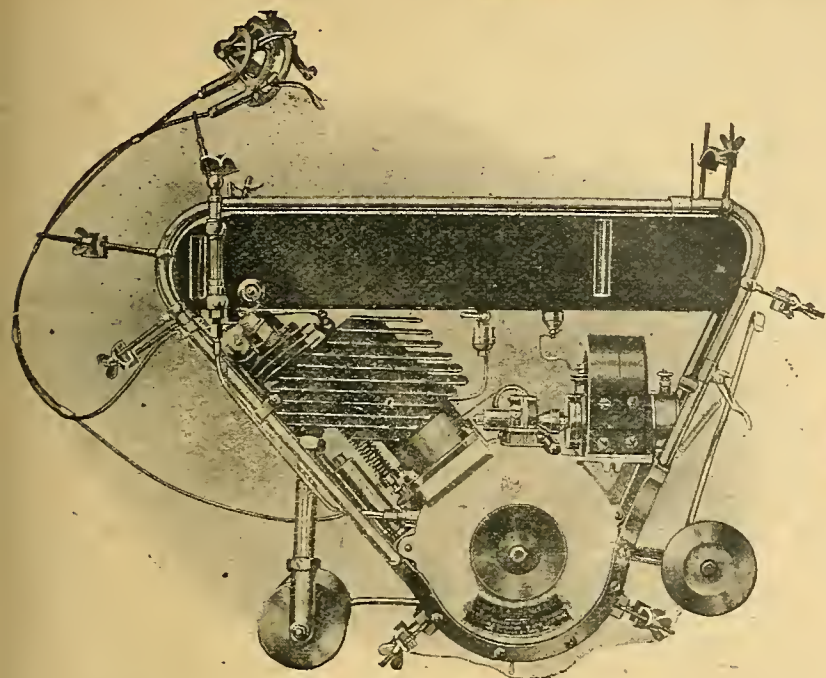
MILLS-FULFORD, Coventry (No. 67, Main Hall).—This well-known firm of sidecar makers will have an exhibit of their specialities as varied and as full of interest as in former years. It will comprise sidecars of three distinct designs, viz., the Castor Wheel, the Spring Wheel (made according to their own designs, and which has been severely tested during this year), and the Rigid model, introduced by them in 1903. Some of the models will be fitted with coach-built chairs, collapsable hoods, and wind screens, so providing greater comfort for their occupants. Several sidecars will be fitted with tool boxes, and shelves for carrying a tin of petrol. Spring cushions will also be fitted to the best patterns in future, as the severe test to which they have been put during the past few months, more especially by record makers and breakers on the End-to-end rides, has proved them to be an entire success. In all, nine sidecars will be shown, and they will include the coach-built chairs mentioned, cane chairs of artistic design upholstered in pegamoid; wicker and wicker and rush chairs finished according to price.

PHELON AND MOORE, LTD., Cleckheaton, and Mortimer Street, W. (No. 72, Main Hall).—P. and M. motor bicycles for 1910 have been considerably improved. While preserving the same bore and stroke, namely, 82 x 88 mm., the engine has undergone several alterations. In the first place, Hoffmann ball bearings will be fitted to the main shaft, and the inlet valve will be mechanically operated. The change speed lever will be situated on the offside, and the means of operating the gear will be considerably simplified. Instead of their usual method, the gear will be changed by rotating a coarse-threaded screwed sleeve. The carburetter will be provided with handle-bar control. The new tapless oil



The lightweight two-speed chain-driven P. and M.

pump will be a novel feature, the ports to the tank and to the engine being controlled by rotating the pump spindle in the desired direction. The latest pattern Bowden front brake will be fitted. The metal chain covers will be attached to the crankcase by means of wing nuts, so that they may be easily removed, while the chains themselves will be fitted with the new spring clip connecting link, lately introduced by Hans Renold, Ltd. Each machine will be turned out complete with a Brooks B105 saddle, and a well-stocked tool roll. About nine machines altogether will be exhibited, to one of which will be fitted a coach-built sidecar. One of the attractions will certainly be the P. and M. All-Weather machine. All the parts usually plated, except the handle-bars and gear lever, will be black, while the



Showing Attachment with Shields removed.

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CLYNO ADJUSTABLE STANDS.

THE CLYNO ENGINEERING CO., THRAPSTON.

In answering this advertisement it is desirable to mention "The Motor Cycle."

Forecast and Guide to the Show.—

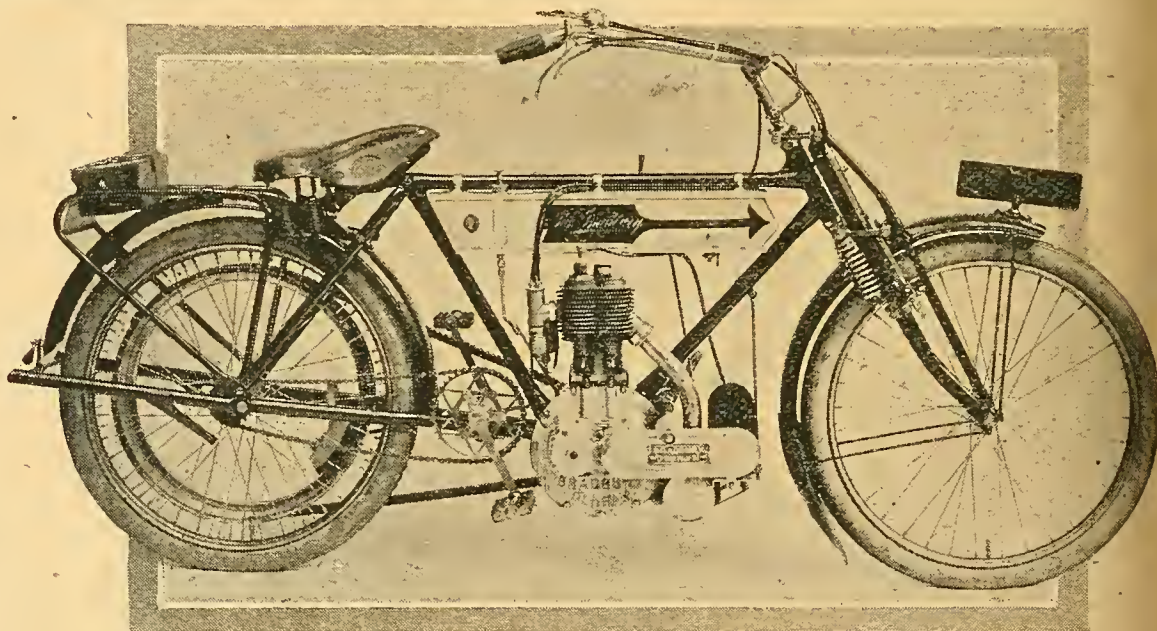
remainder of the machine will be dark green. We do not doubt that this model will be appreciated by many practical riders who prefer a machine finished in this manner, so avoiding constant cleaning operations.

THE NORTH LONDON GARAGE, Corsica Street, N. (No. 125, Main Hall), will show various models of the N.L.G. motor cycles and accessories. All models for 1910 will be fitted with spring forks, although the old type of rigid forks may be had if the purchaser prefers them. Another 1910 feature will be new adjustable footrests, the position of which can be altered to suit the rider's comfort and convenience. In their place, footboards can be fitted if desired. The $3\frac{3}{4}$ h.p. Peugeot type has a mechanically operated inlet valve, but no radical change has been made in any of the engines. Any engine can, of course, be fitted at the customer's will. An item of interest on this stand will be the 7.9 h.p. N.L.G., on which W. E. Cook established 1,000 c.c. class records for half-mile, one kilometre, and one mile. Specialities in the form of racing casques, racing number plates, etc., will also be shown.

THE NORTON MFG. Co., LTD., Floodgate Street, Birmingham (No. 86, Main Hall).—The Norton exhibit will comprise seven machines, four single-cylinders, two twin-cylinders, and a ladies' motor bicycle. The principal features of the single-cylinder model are $3\frac{1}{2}$ h.p. Norton engine, mechanically operated valves, exceptionally large valves and ports, so giving free induction and egress of the gases. A novel feature is the neat and strong method of suspending the rear brake shoe, abandoning the usual clip or lug brazed to the tube. The firm have adopted a method that appeals to the engineer as correct, is of extremely neat appearance, and enables the brake to be rapidly detached in case it is necessary to remove the back wheel. The stand, following the same lines as last year, is still further improved in that it allows of a more normal position of the machine when the stand is in use, and is securely clipped into position by a spring which obviates any tendency for the stand to rattle or shake loose. A feature that will appeal to all motor cyclists is the position of the oil compartment and lubricating pump in the tank. These are situated towards the rear. The usual inconvenient long reach and stooping to operate the lubricating pump are avoided, as is also the tendency to bend or bind the plunger of the pump through an indirect thrust due to the pump being too far forward. The sheltered position of the oil compartment will readily appeal to the winter rider, as will also the ingenious method of preventing splash and freezing of the oil. A Norton B. and B. carburetter is fitted with handle-bar control, and ignition is by means of the Simms new pattern magneto. We are pleased to say that a silencer of ample dimensions, tending to quiet running, is a standard feature of the machine. The standard 5 h.p. twin has an engine 76 by 80 mm., the keynote of which is simplicity. This machine is especially suitable for solo riding and comfortable touring. Every superfluous detail has been eliminated, and the engine has specially designed atmospherically operated inlet valves. This machine is fitted with an adjustable pulley, which gives a wide ratio of gears. Pedals or comfortable footrests are fitted as desired. Another twin model is a replica of the above with a new plate clutch combined with the hub. This is designed for sidecar work, or for those who desire to start other than by the usual method of running alongside and jumping into the saddle. The engine can be started by a single thrust of the pedals while seated in the saddle, the machine being stationary. Other single-cylinder models are the S.T. (short touring) model without pedals, another machine with a variable pulley giving seven speeds and free engine, and a $4\frac{1}{2}$ h.p. model specially designed for those who prefer a single-cylinder machine for passenger work. The engine has very heavy flywheels conducive to steady running, and a long stroke for hard pulling. The lady's

motor bicycle is finished in a delicate shade of green with gold lining. The type of frame gives an exceptional amount of dress clearance. The machine is fitted with $2\frac{1}{2}$ h.p. engine, magneto ignition, and a spray carburetter with handle-bar control. It is also fitted with comfortable footboards, in addition to pedals for starting and testing purposes. The weight is surprisingly low, being only 107 lbs.

PREMIER MOTOR Co., LTD., Aston Road, Birmingham (No. 200, Gallery).—This exhibit will consist of motor cycles, motor cycle accessories, Premier hoods and screens, and their component parts. The Premo two-stroke is of $3\frac{1}{2}$ h.p. A new design of frame is used which gives an exceptionally low riding position. It is fitted with Druid spring forks, Bosch magneto, and thoroughly equipped throughout for the road. Its weight is below the average, being just under 140 lbs. The motor is in no sense experimental, several of them having been used for months on the road under very severe tests. Orders are being booked for the two-stroke engine apart from the complete machine. A 1910 Triumph, for which the company are sole Birmingham district agents, will also be on view. One of the Premo accessories is a paraffin container, provided with clips to attach it to the tubes of the machine, this being a very handy means of carrying paraffin for injecting into the engine. The container is fitted with a small tap which can in many cases be arranged above the compression tap of the engine.



The improved model $3\frac{1}{2}$ h.p. Bradbury, to be shown at the Stanley. The engine measures 87×87 mm.

THE QUADRANT MOTOR Co., LTD., Coventry (No. 109, Main Hall).—The 1910 Quadrant has an 84×100 mm. engine, the exhaust and inlet ports being respectively at front and rear, instead of side by side as in the usual type of m.o.v. engine. Both ports are furnished with radiators with clear air passages between the pockets and the cylinder. The exhaust port being in front receives a full current of cold air. The cams are fitted centrally in the crankcase, thus working constantly in a bath of oil. An extremely simple and automatic system of lubrication throughout the whole of the engine, beyond the ordinary pump supply, precludes the possibility of any bearing running dry. The magneto is fixed on a platform which is part of the crankcase, and situated behind the engine where it is protected. A gear drive is used for the magneto. A new and improved type of silencer is fitted to next year's models. The one-lever controlled carburetter used with great success on the 1909 model is retained. The frame is very low, the height from ground to seat-pillar being 29in. 26in. \times 24in. tyres, Brooks No. 105 saddle, and Bosch magneto, complete the equipment.

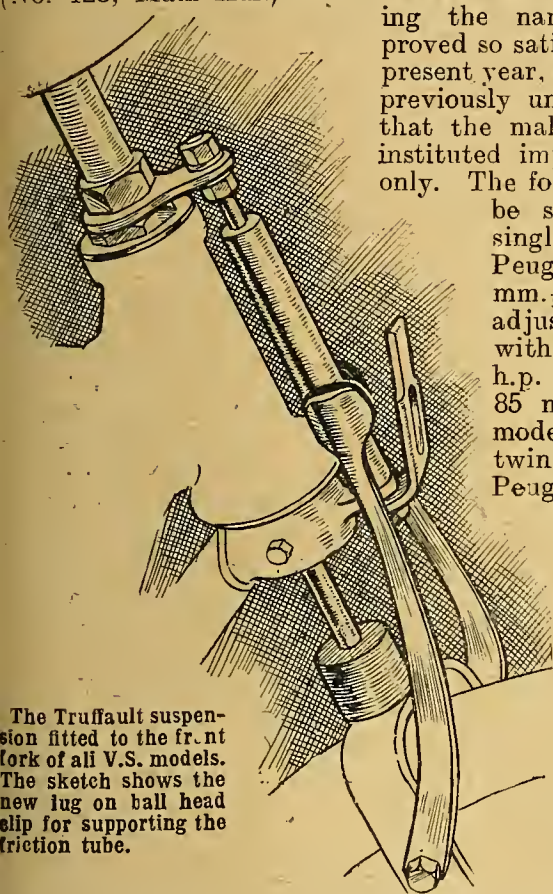
REX MOTOR MFG. Co., LTD., Coventry (No. 75, Main Hall).—The dimensions of bore and stroke of the single-cylinder Rex are now $84\frac{1}{2}$ mm. bore as against $82\frac{1}{2}$ mm., and the twin-cylinder $77\frac{1}{2}$ mm. bore as against 76 mm. For a full description of the 1910 Rex models, see last week's issue, page 863.

THE SCOTT ENGINEERING Co., LTD., Mornington Works, Bradford (No. 105, Main Hall).—Eight of the Scott two-stroke motor bicycles will be exhibited by the above firm including one fitted with a sidecar. This will be the first

Forecast and Guide to the Show.—

time this much talked of motor bicycle has been exhibited at any show. The Scott has a $3\frac{1}{2}$ h.p. two-cylinder engine, water-cooled head with very neat and efficient radiator, two-speed gear, free engine, and central chain drive. The spring front fork and frame are a patented design already fairly well known to readers of *The Motor Cycle*. The frame is immensely strong, with very low centre of gravity. The engine is fitted with a starting device which enables anyone to start with ease on any gradient. The stand has a patent automatic spring, and the lubricating oil is carried in the main frame tubes. The petrol tank is of large capacity, and the Scott carburetter has a throttle device, which after being closed allows pure air to be drawn through the engine, thus giving a splendid cooling effect. A half compression lever is fitted on the handle-bar, and is connected with the magneto cut-out. The mud shield for the driving chain has been improved. Palmer tyres are fitted as a standard, and with the variable gear the speed can be varied from five to forty-five miles per hour. The petrol consumption, we are told, equals seventy miles to the gallon.

THE V.S. MOTOR COMPANY, 178, Great Portland Street, W. (No. 128, Main Hall).—The well-known motor bicycles bearing the name of V.S. have proved so satisfactory during the present year, and for many years previously under another name, that the makers for 1910 have instituted improvements in detail only. The following models will be shown: Model H, single-cylinder $3\frac{1}{2}$ h.p. Peugeot engine, 80×94 mm., fitted with V.S. adjustable pulleys, or with this model a $3\frac{1}{2}$ h.p. F.N. engine, 82×85 mm., may be had; model F, fitted with twin-cylinder 5 h.p. Peugeot engine, 75×75 mm.; and the 7 h.p. twin with Peugeot engine, 80×95 mm., 952 cc. Special silencers are fitted to each model and also 6in. adjustable pulleys. The latest pattern of Brown and Barlow carburetter with handle-bar control, and the latest



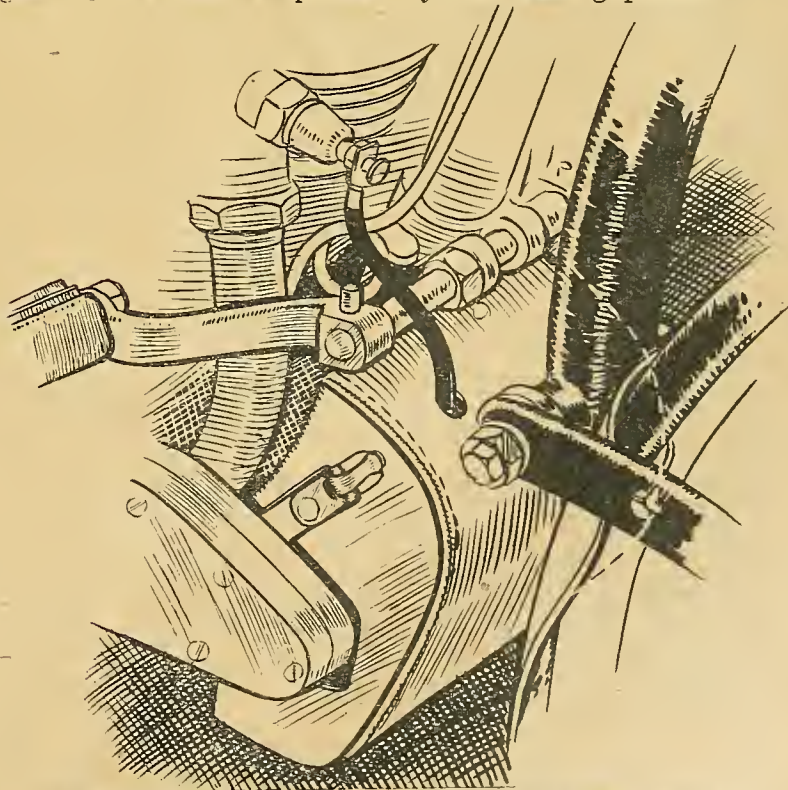
The Truffault suspension fitted to the front fork of all V.S. models. The sketch shows the new lug on ball head clip for supporting the friction tube.

ball bearing Bosch high-tension magneto will be fitted. The frame will be 20in. in height, while the handle-bars are now made adjustable, allowing the rider to fix these to suit his requirements. The 7 h.p. twin-cylinder will be provided with a petrol tank which will hold two gallons of fuel, and petrol gauges and oil pumps will be carried outside the tank. The Truffault suspension fork remains a standard of which the friction tube is now supported at the top by means of a lug, and is thereby considerably strengthened. Peter Union tyres will be fitted as a standard. The rear band brake will work in a grooved pulley on the rear wheel, while a foot-operated belt rim brake will be fitted as before. Brooks's B105 saddles will be supplied, and the two-speed models will have a switch fitted on the left handle-bar. The magneto cover is of leather, and it is held in position by straps provided with a patent clip fastener. (See sketch on this page.)

THE WOLF ENGINEERING CO., Pountney Street, Wolverhampton (No. 54, Main Hall).—This firm will be showing no less than seven different types of motor bicycles. There will be the well-known Wolf standard Model A fitted with Stevens $1\frac{1}{2}$ h.p. single-cylinder engine, 63×66 mm., accumulator ignition. The standard Model B fitted with similar engine and Bosch magneto. The Royal Model A, which is a new type, with a new frame, rubber-covered footrests, and a powerful rear brake working on the belt rim. The

same type of engine will be fitted as to the former models. The Wolf "Grand" Model B is a 2 h.p.; bore and stroke 70 by 70 mm. single-cylinder, Bosch magneto, Stevens engine and carburetter, hand and foot applied brakes and spring forks. The twin $2\frac{1}{2}$ h.p. Model A Wolf, cylinders 60 by 76 mm., is another new model. It is similar in design to the 3 h.p. twin, which was so successful in this year's competitions. The engine, however, is smaller, and the frame and tyres, etc., are lighter. The carburetter is the hand-controlled "Amac," and to this model a clutch or change-speed gear can be fitted as an extra. "Druid" spring forks will be supplied. The 3 h.p. model just referred to will be maintained. The bore and stroke are 63×66 mm., and the engine will be the twin Stevens. The Amac handle-bar controlled carburetter and Bosch magneto ignition will be fitted as well as spring forks. A clutch and two-speed hub may also be had as an extra.

ZENITH MOTORS, LTD., Weybridge (No. 127, Main Hall).—This firm will exhibit the two models fixed upon for 1910. In addition to the Gradua gear conversions for other makes of motor cycles. The two models are the Zenith Gradua and the Zenette (spring frame) with Gradua gear. This year has been a successful one for the Gradua gear, which is infinitely variable between the high and low limits. Having now demonstrated to the public the advantages of this form of gearing, the company are for 1910 fitting their machines with an engine of their own, founded on experience of the merits and demerits in the various types they have hitherto used. The new Zenith engine is a ball bearing $3\frac{1}{2}$ h.p. (85×88 mm.) It has very large valves. The piston is dome-topped, with rings top and bottom, and the magneto is placed at the back of the cylinder, and is gear-driven. The magneto is placed on a platform cast with the crank case, and the magneto gear drive casing is also cast on. The Zenith Gradua has been altered in design as to the frame, the gear being exactly as before. The operation of the gear is now by means of a horizontal rotary movement instead of the wheel by the side of the tank, which gives a quicker movement. The sloping top tube is abolished, and the seat tube, instead of being vertical, is carried at an angle, like an ordinary diamond frame. These alterations are minor details, and do not in any way change the principle of the gear, the same standard parts being used. Besides toolbag and tools, a stand and carrier is now fitted as standard. The Zenette will be kept substantially as before, but the tank will be placed along the top tube, and the space behind the engine hitherto allotted to it will be devoted to the magneto and carburetter. The idea of the Zenith people is to make this model one of absolute luxury, and to this end they are adding the Druid spring fork. There will also be benched a Triumph motor bicycle fitted with the Gradua gear. The gear in this case is operated by the existing pedals.



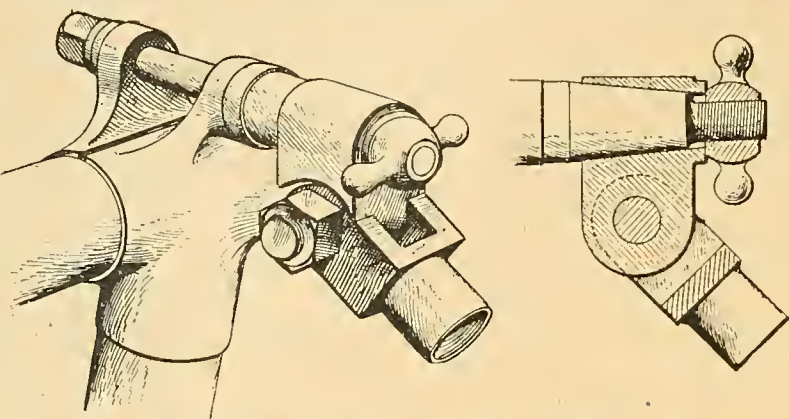
The magneto cover on the twin-cylinder V. S. motor bicycle, showing the strap attachment with patent fastener.

Forecast and Guide to the Show.—

Some of the Accessories.

THE AUSTRO-AMERICAN INDIARUBBER MFG. CO., LTD. (No. 261).—Here will be shown motor cycle tyres with beaded edges on specially prepared fabric foundations for light and heavy motor cycles, also butt-ended tubes.

THE ASTON MOTOR ACCESSORIES CO., LTD., Talford Street, Aston (No. 272, Gallery).—This stand will be of great interest to motor cyclists, as the exhibit will comprise novel and ingenious accessories exhibited for the first time. Among



A seat pillar lug with quickly detachable fastening for sidecars, which will be exhibited by the Chater Lea Manufacturing Co.

These the AMAC (type 5) carburetter, suitable for engines over 74 mm. bore, will be the greatest attraction. This carburetter was recently described in *The Motor Cycle*. Among its chief points are a well-designed float chamber, the cover of which can be removed by about a quarter of a turn. The variable jet nozzle can be removed and replaced without tools in five seconds, a special vaporising nozzle with central air inlet, air and throttle valves fitted with piston rings making sticking impossible. Both valves work independently, and are controlled by a Bowden wire and inner and outer cables and two levers. This reduces the number of cables in sight to one. The AMAC (type 6) is a small edition of type 5 and suitable for engines under 74 mm. bore. There is also a handle-bar control for motor cycle magnetos. This fitment should satisfy motor cyclists who have lately been asking for a device of this kind. Another ingenious novelty is a two-way petrol cock for tanks. Every motor cyclist is aware how annoying it is to be stopped on the road through running out of petrol. This cock is designed to prevent any such occurrence, and is fitted with two supply passages—one passage is connected to a short piece of copper tube standing up an inch or so from the bottom of the tank; when the petrol falls below the level of the top of this tube the supply is cut off. Then the other supply can be turned on, but the rider has been automatically warned that he ought to obtain a fresh supply of petrol immediately.

W. AND A. BATES, LTD. (No. 204, Gallery).—Here will be shown motor cycle tyres in rubber studded and ribbed pattern, which have been giving excellent satisfaction.

THE BIFURCATED AND TUBULAR RIVET CO., LTD. (No. 21).—The above company will exhibit their well-known patent bifurcated and tubular rivets. Various new and improved types of bifurcated and tubular rivets for non-skid bands will be shown. One type in particular will be interesting to all motor cyclists—type No. 105—especially applicable to motor cycle tyres. Bifurcated rivets are very suitable for repairing straps of tool cases, etc.

THE BOSCH MAGNETO CO., 23, Store Street, Tottenham Court Road, W.C. (No. 294, Gilbey Hall).—This company will be exhibiting the four motor cycle types of their well-known magnetos, and assistants thoroughly conversant with the working of the magnetos will be in charge of this stand, and will be glad to assist motor cyclists who have any difficulty in understanding the working of their magneto machines. All four types will now be fitted with ball bearings. These will be the lightweight single cylinder, the lightweight V-type, the ordinary single-cylinder and the ordinary V-type magneto. Several different types of plugs and other Bosch magneto accessories will be shown. The Bosch magnetos are also, of course, on view at the Olympia Show this week on Stand No. 192.

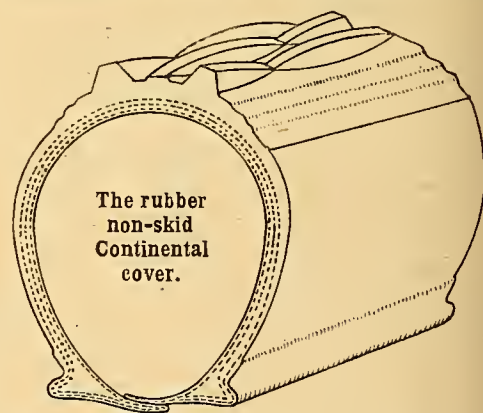
CAPON HEATON AND CO., Stirchley, Birmingham (No. 56, Main Hall).—An exhibit of motor cycle tyres in 2in., 2½in., and 2¾in. sizes, to fit 26in. and 28in. wheels, also an assortment of red and grey air tubes of the same sizes above mentioned. Retreading bands and repair bands for temporarily repairing bursts on the road, and a good selection of patches and solutions.

ROBERT W. COAN, 219, Goswell Road, E.C. (Nos. 156 and 157, Arcade).—Aluminium motor castings of every description and shape and size will be found. It may be mentioned that Mr. Coan makes a special feature of aluminium repairs.

THE COWEY ENGINEERING CO., Archer Works, Kew Gardens, W. (No. 177, Main Hall).—This company will exhibit various models of the Cowey speedometers, which have been extremely popular on motor cycles during this year.

THE COVENTRY RUBBER CO., Spon Street, Coventry (No. 269, Gallery).—The above firm will show as a speciality three types of the Three Spires non-skid tyre for motor cycles, viz., the Standard and Modèle de Luxe, with beaded edges, and a special line in wired-on covers. The sizes in which all three types are made are 2in., 2½in., and 2¾in., to fit 24in. and 26in. wheels. The special point in this tyre is that the non-skid portion lasts as long as the rest of the cover. The non-skid will grip the road forwards as well as sideways.

THE CONTINENTAL TYRE AND RUBBER CO., LTD., 102-108, Clerkenwell Road, E.C. (No. 48, Main Hall).—The Continental Tyre and Rubber Co.'s stand will be, as usual, near the entrance to the Main Hall, where the following tyres will be shown: Standard pattern, both wired-on and beaded edges, for single-cylinder motor bicycles up to 3 h.p.; rubber non-skid pattern, beaded edge only; Modèle de Course, beaded edge only. These last have a heavy tread, and are especially suitable for motor cycles of 5 h.p. and over. In addition, a special rubber non-skid motor cycle tyre, Modèle de Course pattern, made in sizes 26 by 2½in. and 26 by 3in., will be shown. These two sizes are interchangeable, and fit 26 by 2½in. rims. Owing to the extra heavy bead of these tyres a flat base rim is necessary, which the company is prepared to supply if required. These tyres will be known as the "Autobi," and are among the most substantial motor cycle tyres we have yet seen; they should be highly suitable for heavy and powerful machines. The rubber non-skid Continental cover consists of a pronounced pattern of oat tread (see sketch).



In addition to outer covers, the well-known Continental butted tubes will be shown, and motor cycle belts in various sizes. These belts are all moulded to the correct angle of 28°, and are stocked in lengths of 8ft. and 8ft. 6in.

DOVER, LTD., Northampton (No. 229, Gallery).—This firm has gained a world-wide reputation for celluloid goods, and among other articles suitable for motor cycles will exhibit a handle grip specially designed to prevent the hand slipping off the ends of the bars. Another speciality is the Dover accumulator case repair outfit, containing everything necessary for the repair of celluloid battery cases. Motor cycle celluloid inflators will also be shown.

DUPLEX MOTOR AND CYCLE VALVE AND TUBE SYNDICATE, LTD., Clarence Parade, Cheltenham (No. 24, Main Hall).—As the name of the firm implies, the speciality which they will exhibit is a tyre fitted with two inner tubes and one valve. One tube is of slightly larger circumference than the normal and lies flat upon the other secured in such a way that it can be handled as one tube. The outer air tube is in regular use, and the inner one remains in position next the rim ready for inflation in the event of a puncture. The single valve is of the non-return type fixed to the inner of the two tubes and provided at its inner end with a small perforated headed plug. This plug joins the outer to the inner tube and serves to conduct the air to the latter.

PALMER

Motor Cycle Tyres.

STRONG & SAFE

STRONG because of the Palmer Fabric and "Airless Cord" which form the foundation of the tyres.

SAFE because of the three-ribbed tread—the best non-skid on the market.

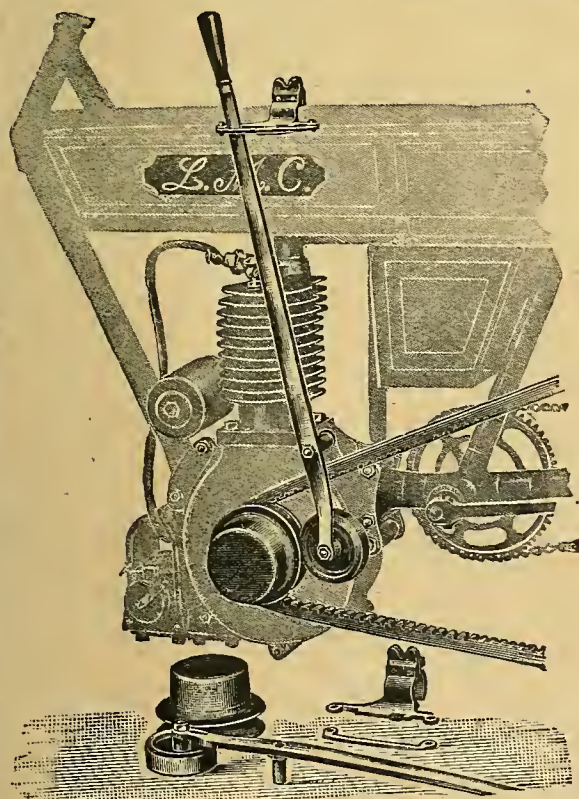
Palmer Tyres have proved themselves the tyres above all others that can always be relied upon.

We are introducing an **all-rubber studded non-skid tyre** that should prove ideal in every respect.

Write for Manual.

THE PALMER TYRE, LTD.,
119, 121, 123, Shaftesbury Avenue, London, W.C.
Depot—103, St. John Street, Clerkenwell, London, E.C.

STAND No. 3
Stanley Show.



**L.M.C. FREE ENGINE AND
AUTO VARIA PULLEY**
(patent applied for).

Suitable any Standard Engine.
Price 63/-

THE L.M.C. FOR 1910

ON STAND No. 71 WILL INTEREST YOU.

ENGINE— $3\frac{1}{2}$ h.p. L.M.C., A.O.V. or M.O.V., 85 x 88, ball-bearing, patented piston rod.

TANK—Beautifully finished, large filler caps.

IGNITION—Magneto, gear drive, running in **DUSTPROOF OIL BATH**.

FRAME— $18\frac{1}{2}$ in., new design of great strength.

FORKS—L.M.C. **Spring forks**, with improvements.

PULLEY—L.M.C. Variable Automatic, 1910 improvements.

FREE ENGINE—As illustrated, machine **STARTS LIKE A CAR**.

STARTING—New ball-bearing device (no wrist-breaking handle).

BRAKES—Special combination (**hand and foot** operate BOTH).

CONTROL—**ALL** on handle-bar, including magneto lever.

VALVE LIFT—**HAND and FOOT** control.

STAND—L.M.C. automatic (part of frame).

SILENCER—Entirely new model, ingenious cut out.

CARRIER—New registered pattern with toolbag.

Other improvements, Combined Lamp and Generator Bracket, neat holder for control wires.

HUBS—Special L.M.C. pattern.

HANDLE-BAR—With hooked horn grips.

Improved Magneto and timing gear, etc., etc.

Complete List ready shortly.

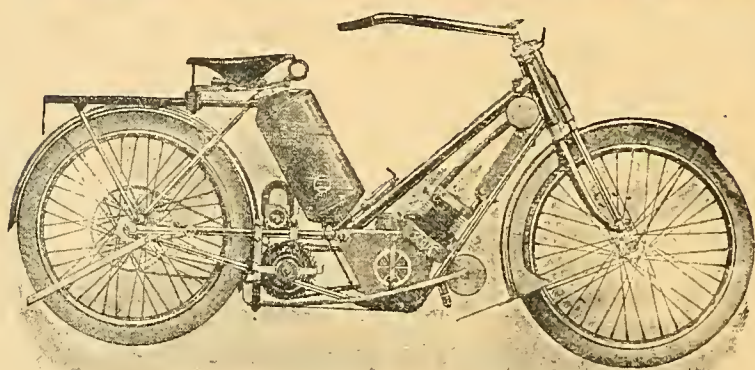
L.M.C. machines are designed by Mr. W. J. Lloyd, formerly Mechanical Director of the late Quadrant Cycle Co., Ltd., Birmingham.

The LLOYD MOTOR & ENGINEERING CO.,
L.M.C. WORKS, 132, MONUMENT ROAD,
BIRMINGHAM.

When you visit the Show, you will do a Double Stroke
of Business by inspecting the Two Stroke

"SCOTT"

when we are sure you will agree it is years
ahead of anything you have seen or will see.



TWO STROKE ENGINE.
TWO SPEED GEAR.
FREE ENGINE.
WATER COOLED.
PERFECT SPRING FORK.
SELF STARTER.
CHAIN DRIVE.
Etc., Etc.

READ THIS—

CARLETON PARK,
PONTEFRACT.

Messrs. Scott Engineering Co., Bradford.

Dear Sirs,—You will be pleased to hear that the "Scott" has been running excellently since you made the necessary adjustments to it. During the last fortnight I have had it out in all weathers, and have covered over 1,000 miles with only one involuntary stop for a sooted sparking plug.

In spite of the greasy condition of the roads I have seen no sign of skidding, and the machine has never jibbed at any hill I have put it to, although my weight is 14 st. 10 lbs. I am more than satisfied with it, and feel sure it has a big future before it.

Yours faithfully, EDWARD LEE.

The 1910 "Scott" is now placed on the market with the utmost confidence and the result of many years' study and experimenting.

Every part and fitment is made as well as it possibly can be made, and we have no hesitation in stating that—(Once you ride a "Scott," always a "Scott.")

Remember—The "Scott" Standard Touring Model won the Two Firsts at the last great hill climb of the season—"Amulree."

STANLEY SHOW,
STAND
105.

SCOTT ENGINEERING CO., Ltd.,
Mornington Works, BRADFORD.
London Agents—SERVICE CO., HOLBORN.

Forecast and Guide to the Show.—

FASTNUT, LTD., 60, Aldermanbury, E.C. (No. 154).—The Fastnut washer, a guaranteed device for holding nuts, will secure nuts, studs, and screws under any vibration. Samples should be examined by visitors to the show. The Schroeder ratchet spanner with interchangeable discs will also prove interesting to motor cyclists.

THE HANOVER RUBBER CO., 29-31, Old Street, E.C. (No. 249, Gallery), who for years have catered for the wants of motor cyclists, will have an exhibit which should on no account be missed. In addition to the rubber studded Shamrock-Excelsior tyre, which has given so much satisfaction during the past two or three years, extra strong three-ply 26in. x 2in. tyres will be shown made specially for lightweights, which should be heartily welcomed by those who have hitherto found the covers fitted to the smaller makes of motor bicycles of insufficient strength. Besides these, an extra heavy 26in. x 2½in. cover with a metal studded leather band will be shown, and a new combination rubber and steel studded tyre, different from others at present on the market, of which full particulars are not yet available. Shamrock tyres have fully proved their excellence, and it is interesting to note that the covers used

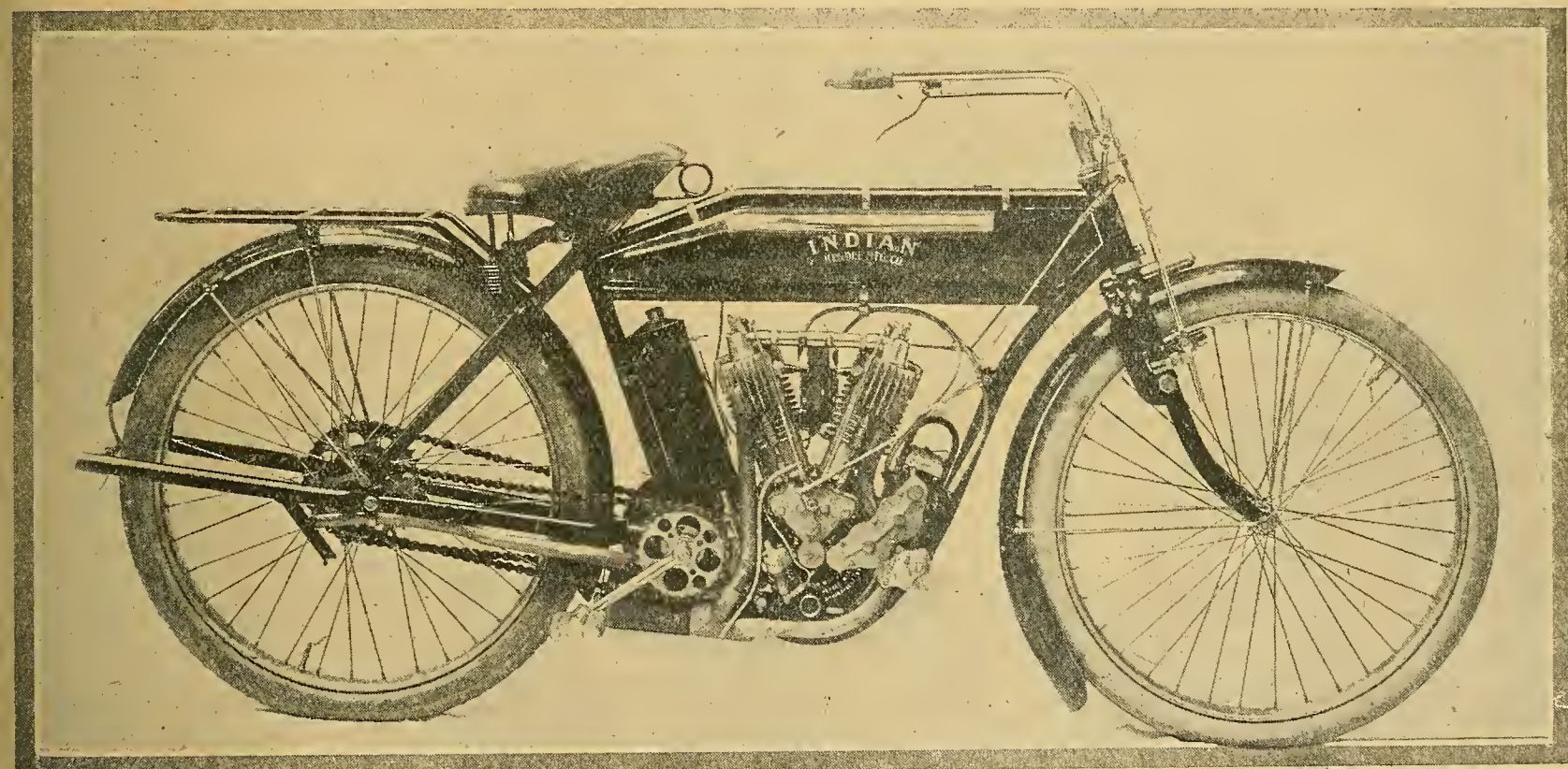
pinion system of focussing, may be ready in time for the opening of the exhibition.

LEATHERIES, LTD., Sampson Road North, Birmingham (No. 220, Gallery).—This firm will show a variety of motor cycle saddles, toolbags, and tool kits.

C. LOHMANN, 35, Great Eastern Street, E.C. (No. 183, Gallery).—The chief item of interest to motor cyclists will be the Perfecta motor cycle lamp. This has been before the public ever since acetylene lamps were first introduced for motor cycles. These lamps will be fitted with self-lighters.

LYCETT SADDLE AND MOTOR ACCESSORIES CO. (No. 184, Gallery).—The Lycett La Grande motor cycle saddles, and other patterns, toolbags, carrier bags, auxiliary mud-splashes, the new Lyso rubber and canvas belt, the Rawido leather belt, also tubular luggage carriers, lightning stands, and a large assortment of terminal clips will be shown.

THE MICHELIN TYRE CO., 42-53, Sussex Place, South Kensington, S.W. (No. 4, Main Hall), will be showing various types of their well-known tyres. These will consist of the ordinary tread and the Michelin Semelle, one of the best studded tyres ever brought out for the use of motor cyclists.



The latest model twin-cylinder Indian with mechanical lubricating pump. This machine will be shown by the Hendee Manufacturing Co

by the brothers Bentley when they broke the End-to-end sidecar record, suffered no punctures. Shamrock-Gloria rubber belts will be improved in detail for 1910. They are made in all sizes from 5in. to 1½in. The 1½in. size was used with success by Geiger and other participants in the End-to-end sidecar records. Other specialities shown by the Hanover Rubber Co. will be the Shamrock-Gloria detachable and adjustable belt fastener, rubber studded tyre bands, Shamrock-Excelsior butt-ended tubes, and rubber handle-bar grip covers.

W. AND R. JACOBS, 39c, King William Street, E.C. (No. 206, Gallery) —Instead of the usual belt and tyre carrier box affixed by a strap, W. and R. Jacobs will show a device for the transport of belts, spare tubes, etc., which can be fixed at the side of the carrier by means of metal clips, thereby leaving the carrier free for other luggage. Small air tube carriers, a neat and compact handle-bar inspection lamp with dry battery, similar to that which was extensively used on the last London to Edinburgh run for reading route cards, and a handle-bar controlling switch will also be shown. An acetylene headlamp with substantial and massive hinges and bracket will form a feature of the exhibit. By moving the burner this can be focussed to suit circumstances. It is also hoped that an electric lamp, furnished with a rack and

A novelty will be a ribbed pattern tyre, which should be most efficient against sideslip in cases where it is not advisable to use a steel-studded cover. The well-known butt-ended tube and other Michelin tyre accessories will also be shown on this stand.

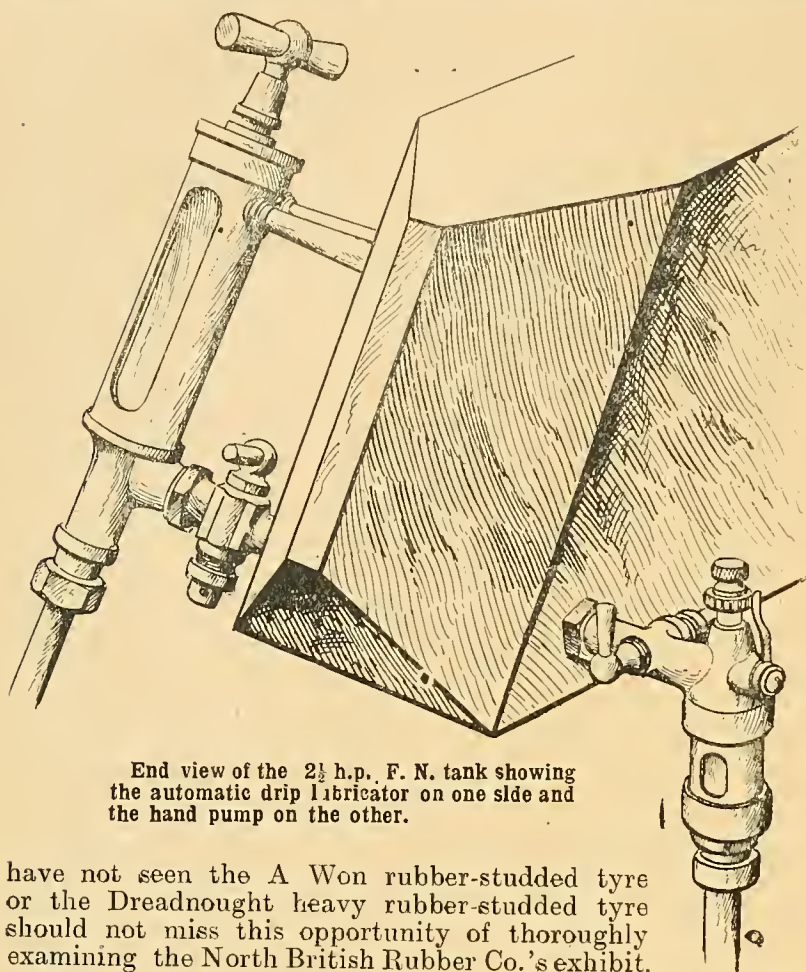
THE MIDLAND RUBBER CO., Birmingham (No. 1, Main Hall).—The new Ajax motor cycle tyre, the tread of which is fitted with rubber and metal studs. This tyre is a replica on a smaller scale of the Ajax motor car tyre, and is made of the same quality materials as regards rubber and canvas. The same firm will show motor cycle air tubes, a new patent detachable ended tube, a speciality in horn bulbs, pedal rubbers, footrest rubbers, and magneto covers.

DAVID MOSELEY AND SONS, 51, Aldermanbury, E.C. (No. 55, Main Hall), will show all the latest types of the Moseley motor cycle tyres and tyre accessories.

NORTH BRITISH RUBBER CO., LTD., Castle Mills, Edinburgh (Nos. 51 and 52, Ground Floor).—Clincher motor cycle tyres, as all motor cyclists are aware, are among the best. These will again be exhibited in four grades, viz., the A Won ordinary motor cycle tyre, the A Won rubber-studded (Bailey's patent), the Dreadnought, and the Dreadnought heavy rubber-studded. With great improvements in quality

Forecast and Guide to the Show.—

and construction, these tyres will be found to be even more resilient and durable than hitherto. Motor cyclists who



End view of the 2 1/2 h.p. F. N. tank showing the automatic drip lubricator on one side and the hand pump on the other.

have not seen the A Won rubber-studded tyre or the Dreadnought heavy rubber-studded tyre should not miss this opportunity of thoroughly examining the North British Rubber Co.'s exhibit.

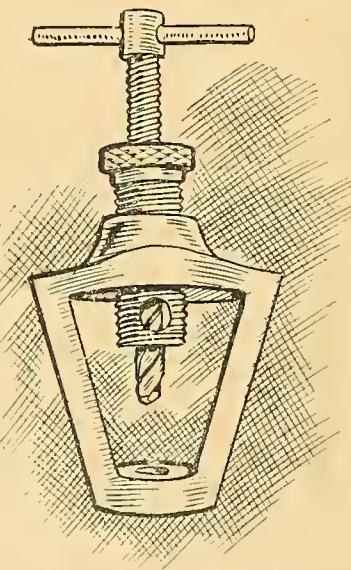
THE PATENT GEAR AND MOTOR CO., 11, Nelson Street, Bristol (No. 162, Arcade Entrance), will show a working model of the Griffin-Simplex variable two-speed gear with free engine and metal to metal friction clutches, controlled by one handle-bar lever. This gear can be fitted to any motor cycle without structural alterations. A motor bicycle and sidecar fitted with the gear will be available for demonstration and trial.

POWELL AND HANMER, Chester Street, Birmingham (No. 216, Gallery).—Two types of motor cycle lamps will be shown, one with the generators combined with the lamp, the other with a separate generator; both are finished in nickel plate on brass. The separate generator is fixed to the frame by an adjustable clip, so that wherever it is placed the generator always remains vertical. Both patterns have a double convex lens and aluminium reflector.

PRICE AND CO., 25, Rosebery Avenue, E.C. (No. 198, Gallery).—This exhibit will comprise, among other items, a complete spare tyre carrier which can be fitted to the front or back forks in a similar manner to the fixing of a Stepney spare wheel on a motor car. An improved belt remover, a new quick action foot-applied prop or stand for motor bicycles, and an improved front wheel stand.

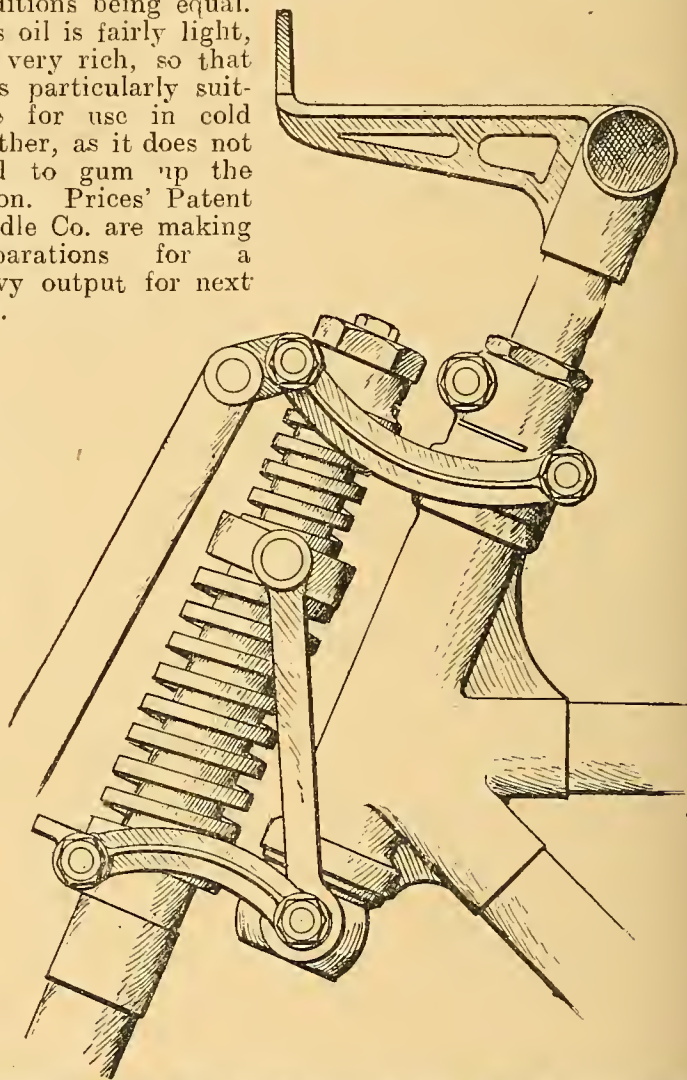
PRICES' PATENT CANDLE Co., Belmont Works, Battersea, S.W. (No. 237, Gallery). This well-known firm of lubricant manufacturers will for the first time since they have

shown at the Stanley Show have their exhibit on Stand No. 237, on the north side of the Gallery instead of in the Arcade as in previous years. Among their novelties we may mention a



A belt drill which holds the belt firmly while the hole is made. This is one of the East London Rubber Co.'s novelties.

new motor cycle lamp oil, a new combined tin and oiler, in which the oiler supplied is carried in a ring soldered to the top of the tin, so that it is unlikely to get lost. These tins should be especially useful in oiling the bearings of a motor cycle. The success of Prices' motor cycle oils has been phenomenal during the present year. In the Auto Cycle Union's Hill-climb, of the twenty-one competitors who gained places in the seven classes seventeen used Prices' oil; of the forty-nine who finished in the Six Days' Trials, forty-six used Prices' oil; in the Tourist Trophy Race of the nineteen who finished sixteen used the oil, and the four winners in the annual race meeting all used this excellent lubricant. Thus in the four events Prices' oils were used by eighty-three out of the total of ninety-three successful competitors; in other words, 90%. The Tourist Trophy Race in the Isle of Man was the occasion of the introduction of a new oil known as Huile de Luxe. The oil was used in practising, and throughout the race on Triumph machines, whose riders reported that it gave cleaner and cooler running and higher engine speed, other conditions being equal. This oil is fairly light, yet very rich, so that it is particularly suitable for use in cold weather, as it does not tend to gum up the piston. Prices' Patent Candle Co. are making preparations for a heavy output for next year.



The new Brown spring fork with lamp bracket. Brown Bros.' new model is illustrated on another page of this issue.

TERRY, H., AND SONS, Novelty Works, Redditch (No. 205, Gallery).—As usual, Terry's exhibit cannot fail to interest, comprising as it will do so many different accessories in the way of springwork, etc. There will be all kinds of coil, flat and other springs, also motor cycle belt fasteners of two or three different patterns. Then there will be a new series of hardened and tempered folding spanners, tyre levers, chain connecting links, stranded steel cables, and last, but not least, a new automatic lock-nut.

RICH DETACHABLE AIR TUBE Co., Crawley (No. 256, Gallery).—The Rich air tubes with free circulation of air are fairly well known to most motor cyclists. They will be exhibited on the above stand in all sizes suitable for motor cycle tyres from the lightweight sizes, 1 1/2 in. and 2 in., to the 2 1/2 in. and 3 in. employed for sidecar and tricar work.

UNION RUBBER AND CHEMICAL Co., LTD. (No. 234-5, Gallery).—An excellent motor cycle tyre repair outfit named the Turco. This contains moulded patches and solution which will effect a perfect repair to motor cycle air tubes. The Turco carbide is a dustless gas-producing chemical packed in handy oval cans

AGES

Motor Cyclist.

ROBBIALAG.

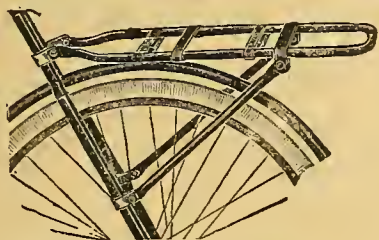
A high-class permanent enamel compound specially suitable for motor cycles. Gives a result as good as stove enamelling at a fraction of the cost. Its wear-resisting qualities specially fit it for quick transit vehicles subject to the ravages of mud, dust, and the elements.

Price 1/6 per half-pint tin, post 3d.
Stock colours—black, grey, blue, and red.
Any colour to order.

SUITS.

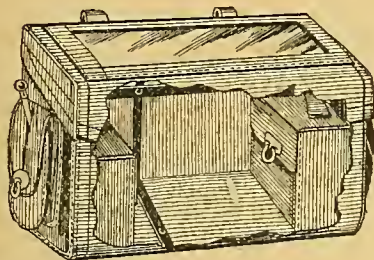
Reefer Jack-
art Tweed or
s, with fixed
lining through
and Sleeves.
re lined with
making them
comfortable.

9/6



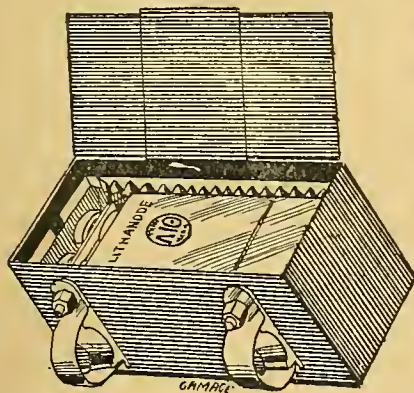
Lycett's Tubular Carrier.

Price 6/6, including straps.



The 1909 Motor Cycle Bag.

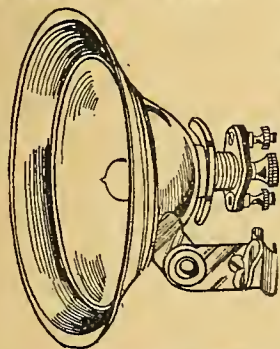
With pockets for oiler, plugs, and springs. Price 7/6, postage 3d.



A New Electric Lamp.

Complete with non-spillable accumulator in case. Fitted with clips for attachment to frame. Gives an

exceptionally brilliant light, and has an adjustable bulb, so that rider can focus light to suit his own requirements. Nickel-plated.
Price 37/6, complete.



"ROM" COMBINATION NON-SKID.

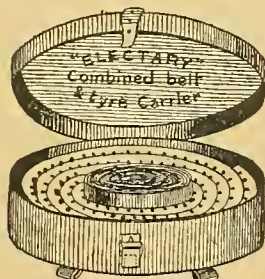
The tyre that gives absolute immunity from side-slip under any road conditions. Exceptionally durable, and very resilient. Equally serviceable for summer or winter use. No leather in its composition—which makes the tyre "dead"—yet practically unpuncturable.

OUR PRICES.

	Cover (Beaded).	Rom Tube.
26 x 2	52/-	9/-
26 x 2 1/2	55/-	10/-
26 x 2 3/4	57/6	11/-
28 x 2	54/-	9/-
28 x 2 1/2	57/6	10/-
28 x 2 3/4	60/-	11/-

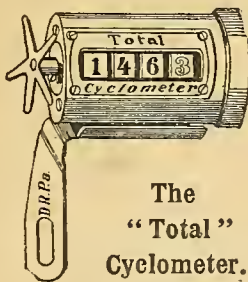
Wired-on Covers, 1/- per cover less than above prices.

Butt-ended Tubes, 2/- extra.



The "Electary" Combined Tube and Belt Carrier.

Can be attached to top or side of luggage carrier.
Price 9/6. Sunk pattern.

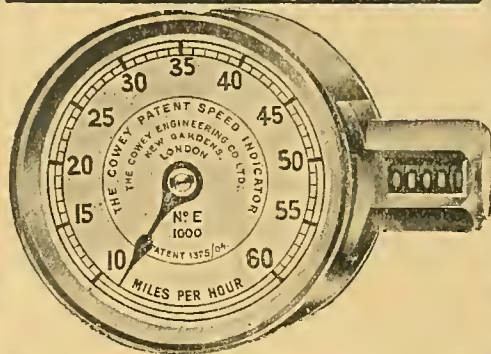


The "Total" Cyclometer.

Very strong and specially suitable for motor cycles.
Price 5/6.

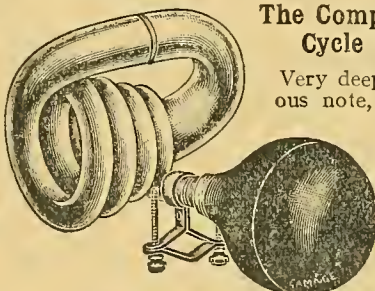
Belting

Every good make in stock, including Shamrock, Stanley, Dermatine, Wattle, Continental, etc.



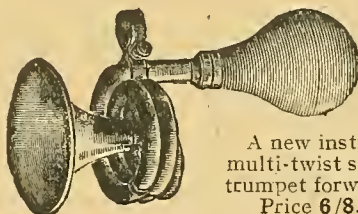
The Cowey Motor Cycle Speed Indicator.

Can be fitted to any machine, either spring or rigid forks. Will fit on either right or left-hand side. Will register up to 60 miles per hour. Fully guaranteed. Price, with Odometer, £4 4 0. When ordering, please give the following particulars: Name of machine, horse-power of machine, size of front wheel, whether spring or solid forks; if spring forks, name of make.



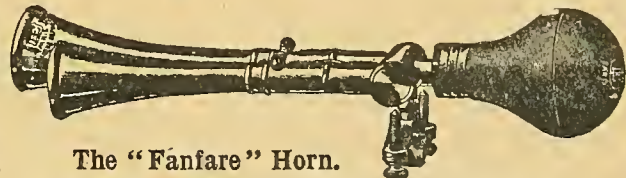
The Compact Motor Cycle Horn.

Very deep and sonorous note, well made, good finish throughout. In nickel. Price, 8/6 large size, and 5/9 small. Postage 4d



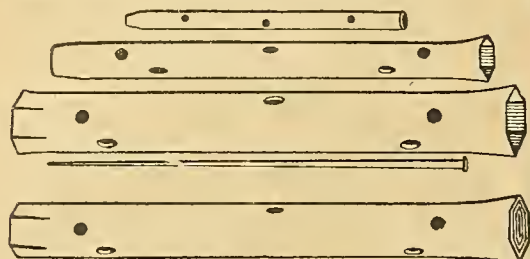
The "Triumph" Multi-Cycle Horn.

A new instrument of the multi-twist style, but with trumpet forward.
Price 6/8. Post 3d.



The "Fanfare" Horn.

New motor cycle size. Loud, sharp, sweet note. Two-note, price 7/6. Second quality, 4/6. Best quality, three-note, 10/6. Post 3d.



The "Gamage" Box Spanner Sets.

For motor cycles, 2/3 per set. State make of cycle when ordering. A very neat and handy set.



In answering this advertisement it is desirable to mention "The Motor Cycle."

LIGHT ON BELTS.**EASY TO HANDLE.**

THE

GRADUA GEAR

WILL BE THE LEADING FEATURE OF THE STANLEY SHOW

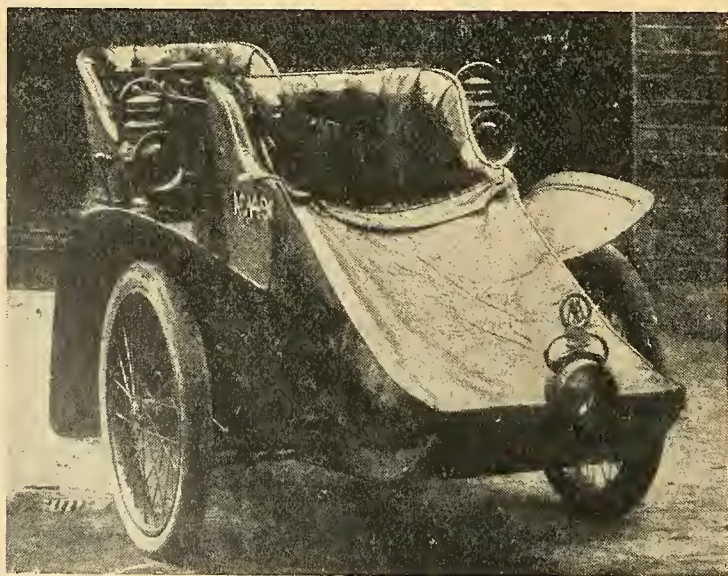
SPECIAL 1910 FEATURES.

The Gradua Gear (Patent). The Zenette Patent Spring Frame.**The Zenith Ball Bearing Engine, 85 x 88 mm.** With special large and strong valves, gear driven Simms magneto fitted at back of cylinder.**The Gradua Gear as fitted to Triumph motor bicycles.** Operated by existing pedals.

The simplicity of the Gradua Gear has to be seen to be appreciated; it has no further need for proof of its efficiency and reliability.

ZENITH MOTORS, LTD., WEYBRIDGE.

PASSENGER MACHINES.



This famous tricar, which
has consistently performed
so splendidly in trials and
competitions during the
past season, will be on
view at

STAND No. 129.**AUTO-CARRIERS, LTD., Martell Road, West Norwood, S.E.***In answering these advertisements it is desirable to mention "The Motor Cycle."*

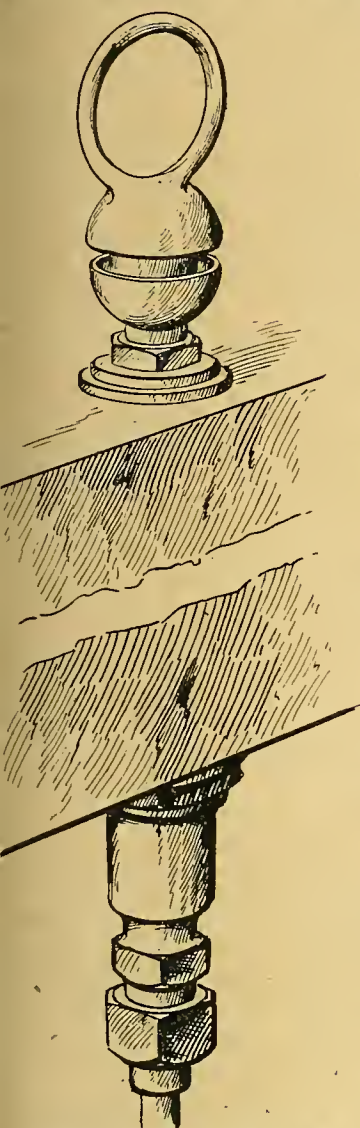
precast and Guide to the Show.—

THE SERVICE Co., LTD., 292-293, High Holborn, W.C. (No. 14.—In addition to the accessories already mentioned, this company will have a good show of Clair silencers. This silencer is one that gives excellent results, and, as already described in *The Motor Cycle*, it consists of a number of cup-shaped sections fitting one into the other and surrounded by an outer casing. The gas in its passage through holes perforated in the cup-shaped sections is broken up in such a manner that the noise of the exhaust is almost inaudible. The Clair silencer can be fitted to any make of machine, and is also provided with a cut-out.

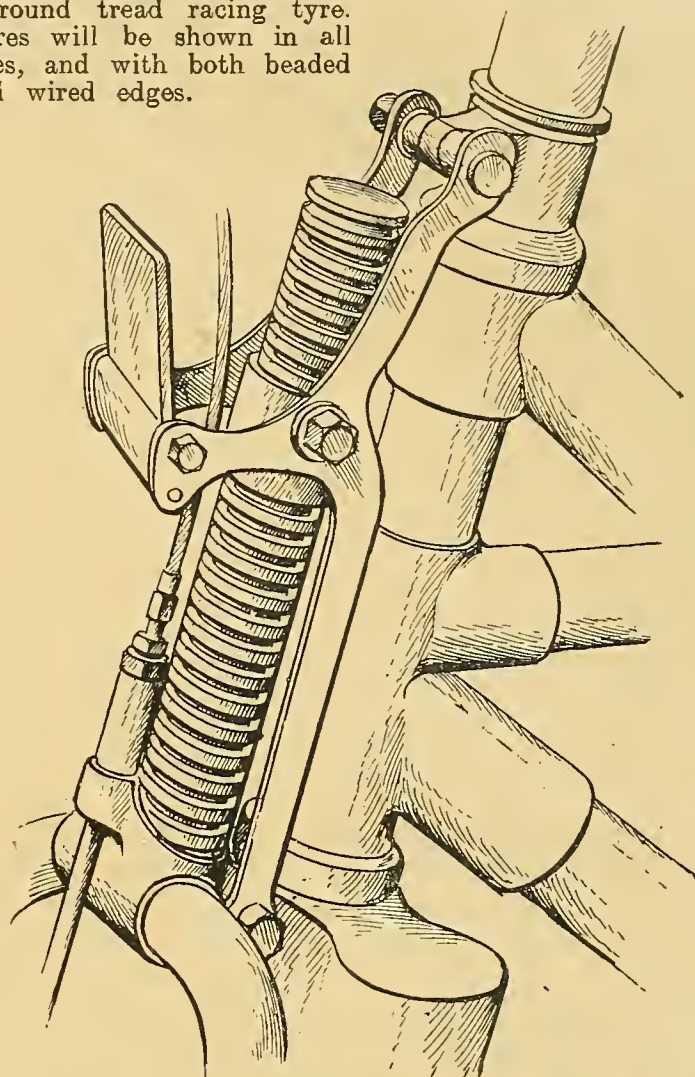
TEMPLETON BROS., 535, Sauchiehall Street, Glasgow (No. 258, Gallery).—A Tee Bee lightweight motor bicycle showing a number of special fitments will be exhibited on this stand. The following additions to a smart set of accessories for motor cycles have been made for 1910. Silencer, foot attachment for operating two-speed gear, spring forks on an entirely new principle, and spring seat-pillar also new in design suitable for high or low machines. The riding position can be varied. Templeton Bros. will also show F.R.S. lamps, D'All belt fasteners, Cowey speedometer, etc., for which they are special agents.

THE ROM TYRE Co. (No. 61, Main Hall).—There will be a

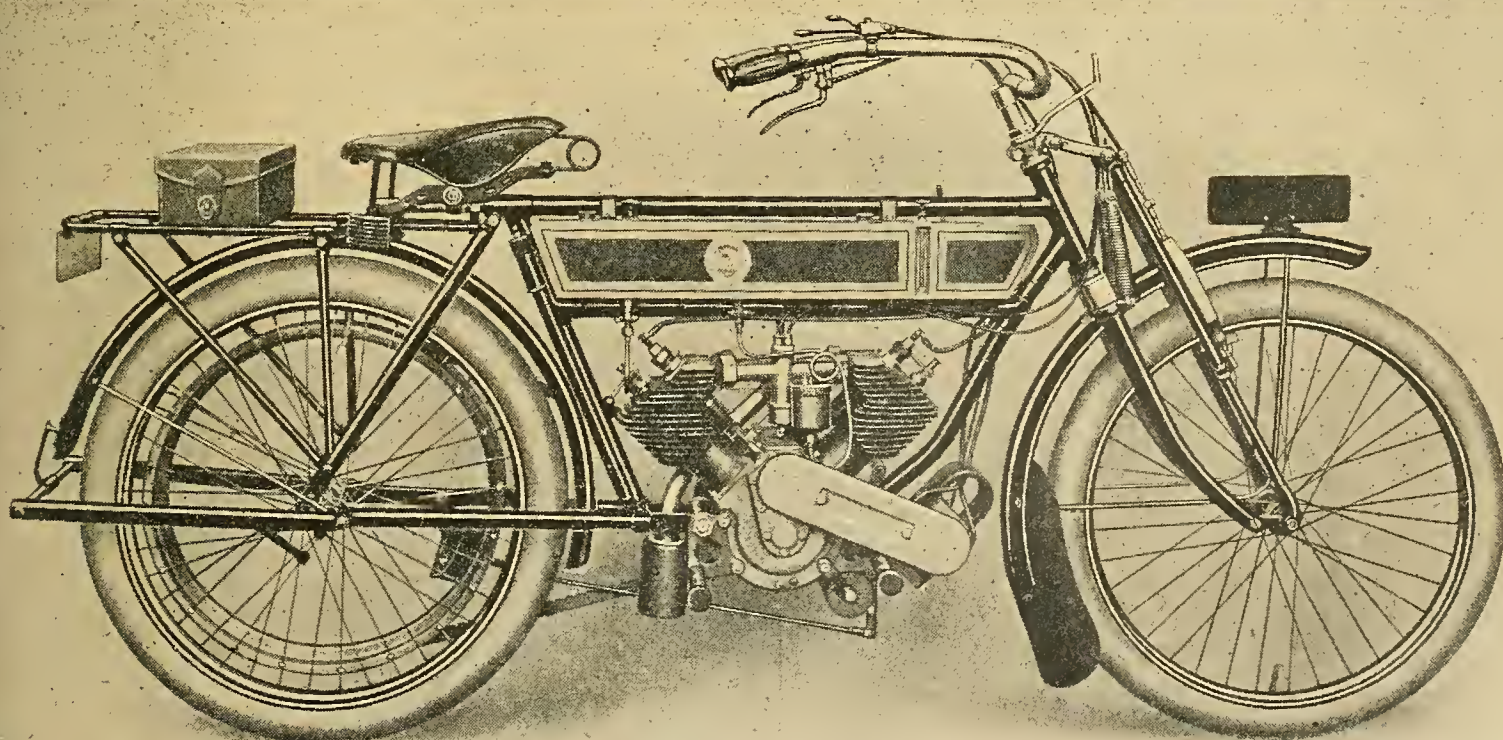
considerably improved for 1910. The makers assure us that most of the small deficiencies that were present in this year's model have been entirely eliminated. An innovation is the fitting of non-rusting steel studs. As well as the combination tread, which since it was introduced last Stanley Show has become exceedingly popular, the energetic and up-to-date Rom Tyre Co. will be showing covers with square studs, corrugated treads, and a round tread racing tyre. Tyres will be shown in all sizes, and with both beaded and wired edges.



The tapless oil pump fitted to the Wanderer, to be shown by the Service Co.



The new Chater Lea spring fork with lamp bracket on side plates.



The 3 1/2 h.p. twin-cylinder Premier with cylinders set at 90 degrees. The inlet valves are mechanically operated.

CLUB NEWS.

Leith M.C.C.

A meeting will be held on Wednesday, December 1st, at 8 p.m., in the Commercial Hotel, Leith, to elect additional officials and a committee. Intending members will oblige by sending their names as soon as possible either to the hon. treasurer or the hon. secretary.

The M.C.C. Smoking Concert at Frascati's.

Members and friends of the Motor Cycling Club spent a most enjoyable evening on Monday, November 8th, when a smoking concert was held at Frascati's, Oxford Street. An excellent programme, consisting of eighteen turns, had been arranged by the concert committee, at the head of which was E. Gwynne. S. J. Sewell was in the chair, and amongst other prominent members of the Motor Cycling Club present we noticed Dr. Gibbons, H. G. Bell, W. H. Wells, G. Lee Evans, R. H. Head, J. Van Hooydonk, A. Candler (secretary), R. C. Davis (treasurer), F. Jenkins, E. B. Dickson (captain), A. F. Ilsley, F. A. Hardy, and F. A. McNab. A member's clever impersonations of several of Charles Dickens's characters were much appreciated. There was an excellent attendance, the room being quite full, and, judging from the applause, all present enjoyed themselves to the full.

New Croydon Organisation.

A Croydon centre of the Motor Union has been formed to protect the interests of motorists in the locality. Amongst other things, the new committee will press for the just administration of the ten-mile speed limit, the improvement of local roads, and a more rigorous enforcement of the regulations governing the local tramway traffic. Mr. A. C. Kemp, of "Furzedown," Monahan Avenue, Purley, has been appointed honorary secretary, and will be glad to hear from motor cyclists in the district upon all matters concerning their welfare.

Sheffield and Hallamshire M.C.C.

Members of the above club had the opportunity of listening to a most interesting and instructive lecture, kindly given by Mr. Bennett, technical manager of the Bosch Magneto Co. Lantern slides were shown to clearly demonstrate the various working parts, and the able lecturer's words were closely followed throughout by nearly eighty very interested motorists.

Will members please note that the annual dinner is fixed to take place on Thursday, December 2nd, when it is hoped that a record will be created in the way of attendance?

Motor Union.

A further development is announced in connection with the Motor Union. A travelling organiser is being appointed in order to strengthen the Union's organisation in the provinces by securing the appointment of county secretaries in every county in Great Britain, honorary correspondents in towns where no appointments have yet been made, and the formation of local centres or committees where they will be of service. The new organiser will also devote his energies to the extension of the touring facilities offered by the Motor Union, and will assist the committee in the appointment of hotels and repairers.

Western District M.C. (London).

At a meeting of the committee held on the 5th inst. the various awards due to members for the present year were dealt with. The following is the complete list: Flexibility hill-climb, March 21st, Class 1, first prize, D. F. Steeves; Class 2, first prize, H. J. M. Hughes. Bath and back, April 18th, 1st, H. E. Vowler, Smart cup and gold medal; 2nd, F. H. Mullett, gold medal; 3rd, D. F. Steeves, gold medal; 4th, N. Hall, bronze medal. Aldershot and back, May 2nd, 1st, F. H. Mullett, Williams shield and gold medal; 2nd, I. Babbage; 3rd, H. Evans. Bedford and back, with North-West London M.C.C., no prizes, the opposing club being the winners. Stadium race, May 31st, 1st, D. F. Steeves; 2nd, N. Hall; 3rd, H. E. Vowler. Coventry and back, June 20th, 1st, I. Babbage, Triumph cup and gold medal; 2nd, N. Hall, gold medal. Aldershot and back, June 27th, winner of Wingrove medal, W. F. Ritchie. Salisbury and back, July 18th, 1st, H. J. M. Hughes, G. B. Winter cup and gold medal; 2nd, S. E. Woods, silver medal.

Annual hill-climb, August 28th, Class 1, 1st, W. H. Kennedy; Class 2, 1st, F. H. Mullett; Class 3, 1st, H. J. M. Hughes. Petrol consumption test, October 24th, Class 1, 1st, D. W. T. Holloway; Class 2, 1st, H. W. Beech. Prize for attending largest number of runs, N. Hall. Prize for entering largest number of competitions, divided between I. Babbage and H. E. Vowler. Prize for introducing the largest number of new members, F. H. Mullett. The winners of medals may, if desired, select some other prize to the equivalent value of that award, as decided by the committee.

The subscription paid by new members joining the club after December 1st carries full membership to December 31st, 1910. Applications should be forwarded to the hon. sec., F. H. Mullett, 53, Kingsley Avenue, West Ealing, W. The total number of members is now seventy-five.

Essex M.C.

Last winter a series of papers were given, and, judging by the very large attendances, the papers were highly appreciated. It has therefore been decided to arrange a further series for this winter. They will be read at the Great Eastern Hotel, Liverpool Street, E.C. The dates and subjects being as follows: December 12th, "Lessons of the Stanley Show." January 6th, "Magnetos." February 10th, "The History of the Internal Combustion Engine."

Members of all recognised motor clubs are invited to be present. Will hon. secretaries please note?

Harrogate and District M.C.C.

The annual general meeting was held at the Clarendon Hotel, Harrogate. The hon. secretary announced that the series of discussions, lectures, etc., which were held last winter having proved extremely satisfactory, a similar series will be held during the present winter session. The year's competitions included speed judging, hill-climbs, novel hill-climbs, reliability trials individually and in teams, and consumption tests. Eight events had been promoted, for which twenty-five prizes had been given, amounting in value to nearly £14. All the competitions had been well supported, and had proved attractive and sporting. The number of members on the books was close on forty, and it is hoped that this number will be exceeded during 1910. The balance sheet showed a balance in hand of over £5. The chairman (R. A. Beare) moved the adoption of the report and balance sheet. Afterwards R. Fortune was unanimously re-elected president, H. W. Fortune hon. secretary and treasurer, and the following were elected on the committee: T. C. Atkinson, J. E. Brooke, C. Bramley, E. R. Davies, W. Fawcett, W. Grange, Jim Mackay, F. Strafford, W. Turner, and C. Wilson.

Middlesbrough and District M.C.C.

A very full winter programme has been arranged, as will be seen below, and local readers are urged to take advantage of the low subscription charged for membership in order to hear the lectures. Whereas there is now a membership roll of under fifty the committee hope by means of this programme to swell the membership by another 100, thereby making a club worthy of Middlesbrough. Particulars of the club will be given by any member of the committee, or the hon. secretary, Geoffrey W. Liddle, Linthorpe Road, Middlesbrough. Nov. 24th, Geo. R. Sanderson, "Clothing and Accessories for Winter Motor Cycling." Dec. 1st, "Magneto Ignition," illustrated by lantern. Dec. 8th, W. A. Duchars, "The Isle of Man T.T. Week, 1909," illustrated by 200 views of the island. Dec. 17th, annual ball in Victoria Hall, Linthorpe Road, Middlesbrough. Jan. 12th, J. Bellerby, "Benzol, Its Constitution and Best Method of Using." Jan. 26th, A. Lauriston, "The Law and its Relations to Motor Cyclists." Feb. 9th, W. A. Macgregor, "Oils and Lubrication." Feb. 16th, hot pot supper at headquarters, Corporation Hotel. Feb. 23rd, A. A. Scott, "The Scott Two-stroke Motor Cycle Engine." March 2nd, J. Bell, "Humorous Experiences with a Tricar on the London Road." March 16th, E. Hall, "Hints and Tips to Motor Car and Cycle Users." March 25th, opening run to Richmond, Yorkshire, to take part in annual meet of Northern motor cycle clubs.



**to note your
requirements
in Equipment-**

We, Master and
Man, will be there.

**AT STAND
184**

(Gallery),

Stanley Show,

to exhibit and point out the many
merits of our products and how
they affect your welfare awheel.

All that is most desirable—all that

is essential—will be open for your inspection.

—Here you may handle—from the Raw Material to the Finished Article—
specimens of the wide range of our popular productions, including the famous

**LYCETT "La-Grande" resilient
SADDLES**—the enormously successful LYSO all-rubber BELT—

the popular LYCETT travelling BAGS for Carriers, etc.; and numerous
other necessities.

—AND—NOTE—throughout, whilst the Quality is of the HIGHEST, the
Prices are NOT.

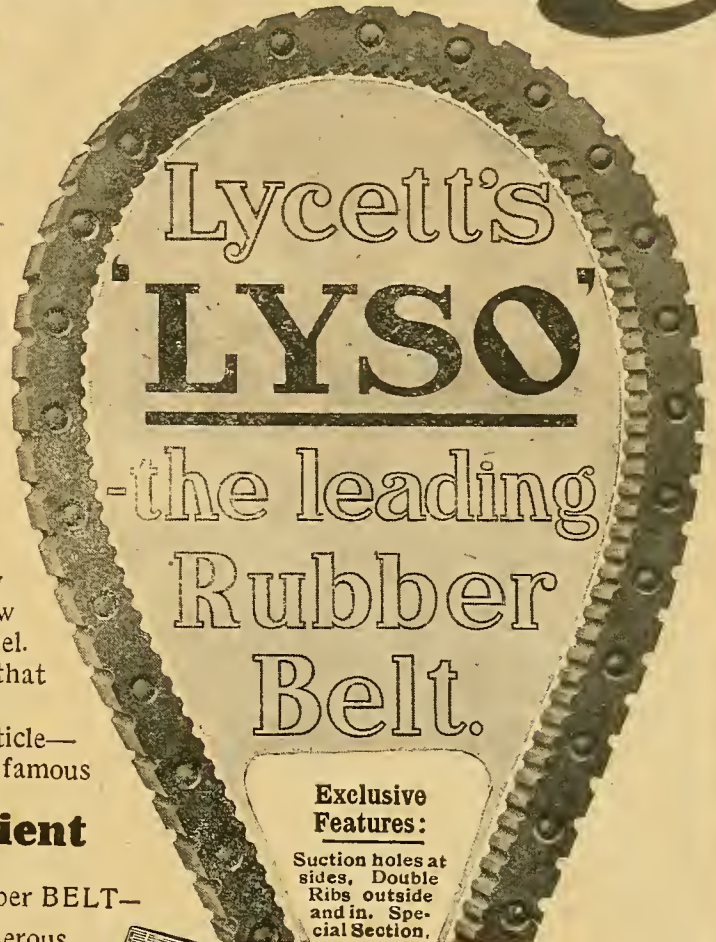
—You may pay more, but you cannot get equal VALUE to Lycett's lines.

—Our policy for twenty years past has been to supply only highest-grade
goods at moderate prices—NOT FANCY FIGURES—and this fixed
principle has contributed in no small measure to our continued prosperity.

—COME AND SEE US—or, if not visiting, please Write US for our
"Saddle-Book" and "Lines for Motor Cyclists," and see how we help you.

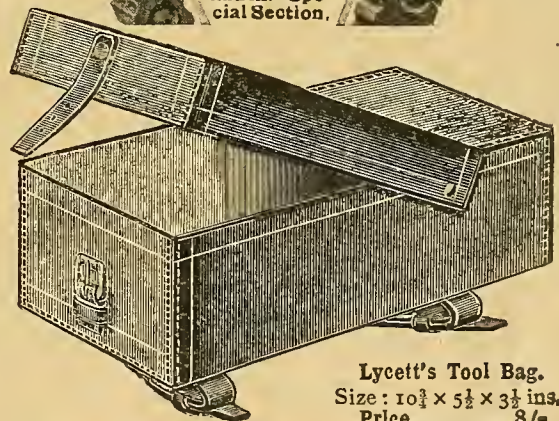
LYCETT'S (Dep. 9), "The Saddlery," Birmingham.

"Where all the Comfortable Saddles come from."

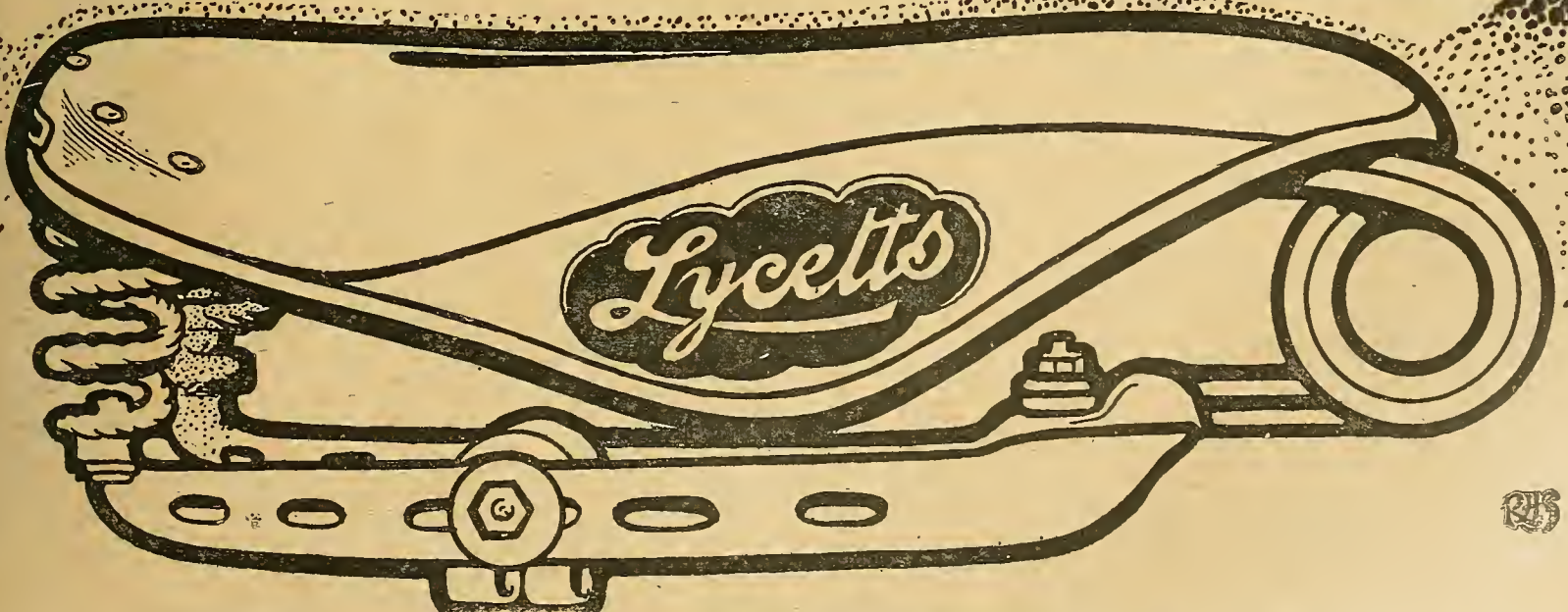


**Exclusive
Features:**

Suction holes at
sides, Double
Ribs outside
and in. Spe-
cial Section.



Lycett's Tool Bag.
Size: 10½ x 5½ x 3½ ins.
Price.....8/-

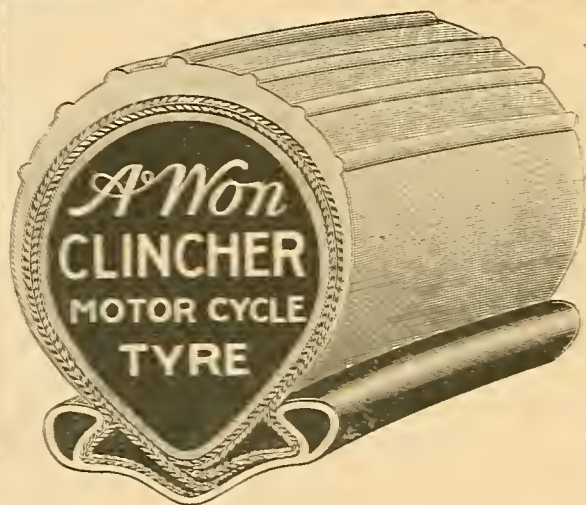


"A large LYCETT Saddle... The sensation is like sitting on an air-cushion floating on water."—H.S.B. in "Bicycling News" for August.



CLINCHER

MOTOR CYCLE TYRES



QUALITY
FURTHER
IMPROVED
AND
DURABILITY
ENHANCED.



Of very superior quality, full of life, and thoroughly efficient.

STAND

Nos. 51 & 52

(Ground Floor)

STANLEY SHOW



An exceedingly popular tyre, most effective against skidding on wet or greasy roads.

STAND

Nos. 51 & 52

(Ground Floor)

STANLEY SHOW

The rubber-studded "Dreadnought" Clincher, the finest tyre extant for heavy machines and sidecar work.

Clincher motor cycle tyres are made in four patterns and demand your closest attention. If you are unable to visit the Show we shall be pleased to send you our new list on application.

The North British Rubber Co., Ltd. Castle Mills, Edinburgh.

QUESTIONS

AND

REPLIES



The R.A.C. Rating Formula.

Would you please tell me how the R.A.C. rating is deduced? Thereby, I mean the formula on which it is based, giving an example. For instance, what h.p. is obtained from an engine with dimension 66 bore and 125 mm. stroke?—R.R.

The R.A.C. rating is based on the bore of the cylinders, and the formula $D^2 \times N$

is $\frac{D^2 \times N}{2.5}$. D^2 is the bore of cylinders squared (in inches), N the number of cylinders, 2.5 constant. When the bore is given in millimetres the constant is 1613. The stroke is not taken into consideration. The horse-power of a single-cylinder engine of the size given is, by this formula, 2.7.

Restoring Power to an Engine.

I possess a $3\frac{1}{2}$ h.p. 1908 pattern Triumph. When I purchased the machine about nine months ago I could ride up a fairly steep hill with the spark fully advanced (as recommended by the makers), but recently something went wrong. When on a level road the machine will not start away as sharply as usual, and unless I run along with the machine it will not pick up speed, and I have to retard the spark halfway before the engine starts away. It travels fairly well with the spark retarded, and the compression is fairly good. I fancy it just requires some small adjustment. Can you enlighten me?—M. P.

To tune up your engine, first of all grind in the valves carefully until the engine will bear your weight on the pedal half a minute at least; also renew the valve springs. Swill out the crank case with paraffin, and inject fresh oil. Carefully clean all the channels of the carburetter, and afterwards turn your attention to the magneto contact-breaker, which we fancy is the root of your trouble. It is most likely you will find that the fibre ring is worn, also the heel of the bell crank. If so, replace these parts, as a quick break of the points is essential for quick starting. Examine the contact points, and if they are black or pitted clean them with a fine jeweller's file, leaving the faces quite flat. Also take out the high-tension terminal, and reface the carbon rubbing on the contact ring. We presume you are periodically cleaning the carbon deposit from your cylinder and piston.

Loss of Compression.

I have a $5\frac{1}{2}$ h.p. N.S.U. which has run about 200 miles, and recently I took the cylinders off to clean the piston heads, and since then I have failed to get any compression in the front cylinder, although the valves are well ground. The ring slots are in the right position, viz., equal distance apart, and there does not appear to be any leakage anywhere, either in the cylinder or piston. There is plenty of clearance between tappet, and the valve springs are new. Would absence of oil cause lack of compression? Although it has never seized, I thought that perhaps the rings are dry.—F. J. H.

There must be a leakage somewhere through the plug, valve cap, or valve itself. Perhaps you replaced the inlet valve a trifle crooked, and have jammed it by screwing down the dome, or it may be a particle of carbon has lodged under one of the valves, preventing them from closing properly. You had better run the engine for a minute on the stand, and if the compression does not return try refitting and testing the various joints. Certainly, absence of oil would prevent good compression, and in refitting a cylinder the piston and cylinder should be liberally smeared with engine oil.

Oil, Misfiring, and Hill-climbing.

(1.) I should be pleased to have your opinion as regards using commercial olive oil as a lubricant for my $2\frac{3}{4}$ h.p. F.N. engine, this oil being almost pure. (2.) When travelling at a fair speed it occasionally misfires, which is very awkward in traffic. (3.) Sometimes it will climb a particular hill with ease, whereas the previous day it took it all its time to get up, this being rather puzzling to me, as everything seems in good order.—A.J.

(1.) The oil suggested in your letter is totally unsuitable for any petrol engine, as it tends to gum up the bearings and to cause trouble generally. (2.) The irregular firing may be due to some moving part of the contact breaker being worn or to the carburetter getting too much air. If your machine has accumulator ignition, inspect all the wiring for worn parts, and, whether magneto or accumulator, clean the contact breaker thoroughly, and make sure that the points are not pitted. (3.) The erratic behaviour of the machine might also be due to a tem-

A selection of questions of general interest received from our readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

porary obstruction in the petrol feed pipe. Or maybe you start climbing at a faster pace than another day. With a low-powered machine steep hills have to be rushed. A big difference in the quantity of oil in the crank chamber would also affect the engine's pulling power.

Blow-back past Inlet Valve. Low Tension Magnetos.

Kindly tell me the cause of a blow back past the inlet valve of a 5 h.p. twin-cylinder Peugeot. They are automatic inlet valves. Both valve springs are of the same tension. The front cylinder never blows back when on the road with spark in any position and threequarter air to half gas. The carburetter is a Longue-mare. Handle-bar control. Ten slot jet and fourteen choke tube. The engine is clean inside, and the timing is correct. When running on the stand one cylinder fires and the other blows back alternately, no matter in what position the levers are set. The machine starts easily on quarter gas and air about one-eighth. no flooding of carburetter required. I have changed inlet valves over and tried stronger spring, but it makes no effect. The ignition is by means of a plain coil and dry battery, and there is a good spark at both plugs. The exhaust valve lifts all right on both cylinders, and the compression is excellent. The machine runs at about 20 m.p.h. with half gas and threequarter air, and spark about quarter over. If the throttle is open full and air full and spark half over, it runs all right, never blowing back, but to put spark back and close throttle to above-mentioned positions causes the blowing back in the back cylinder. Please explain low-tension magneto, and can it be fitted to a machine which has had battery ignition?—B. H.

You say you have tried a stronger spring and it makes no difference, but you do not state whether the amount of opening of the valves exactly agrees. We think that if you reduced the lift of the erring valve slightly by inserting a thin washer underneath the valve cup, it will cure the trouble. Failing this, try a slightly larger carburetter jet. The only type of low-tension magneto which can be fitted to a battery machine, and that a single-cylinder, is the Eisemann, which is not a low-tension magneto system at all, as the current, after leaving the magneto passes through an external coil.

Respecting a Passenger Mount.

?

I am about to purchase a motor bicycle with sidecar attachment. Weight to be carried twenty-two stones.

Kindly give me your opinion as to which of the two following (a or b) is the better alternative, assuming that either of them is worthy of consideration). (a.) To purchase a $3\frac{1}{2}$ -4 h.p. bicycle of good make with two speeds, or (b) to buy a 5 h.p. machine of good make and one speed only? Also with regard to the kind of engine? Do you advise (c) a novice to buy a twin-cylinder machine, or ought he to begin with a single cylinder? (d.) I am somewhat apprehensive about side-slip, and shall be glad to be re-assured that my fears are needless. Is it wisest to go to the expense of non-skid tyres (studded rubber for choice), or will ordinary tyres be safe enough with a sidecar attached? —H.A.G.

(a and b.) On the whole we think you would have better satisfaction out of a single-cylinder machine with two speeds. The twin-cylinder, however, would be the faster of the two. (c.) A novice ought to begin with a single-cylinder, but whether you hire one to obtain a little experience or buy one rests with you. (d.) Certainly, it is wise to have non-skid tyres for riding in the winter time, even with a sidecar. Not that you will fear any side-slip with a rigid pattern sidecar, but it is advisable to have non-skids so that the back wheel gets a good grip of the road when the surface is greasy.

Knocking and Preignition.

C.

My motor cycle, a $2\frac{3}{4}$ h.p. De Dion, up to quite recently ran splendidly. It used to start regularly with one turn over of the pedals, but now fires intermittently until I give it nearly full air. It will, when once started, go for about two miles well, but after that I can switch off and it will keep on firing for a time, then whether current is on or off it knocks badly, slows up, and stops. I have taken engine down and scraped and polished the cylinder head and top of piston. The exhaust and inlet valves are properly ground in. The carburetter is a Longuemare, 10 jet, and the ignition accumulator. Plug is clean, but I notice the choke tube (No. 21) wobbles in the carburetter. I have tried a weaker spring in the inlet with no better result. I used to be able to fully advance the spark, but now cannot advance it more than halfway without knocking and a slowing up. I am advised that the timing is correct.—BEWILDERED.

Probably the trouble is due to looseness of the choke tube admitting too much air to the carburetter. You could pack this tightly with a brown paper or fibre washer cut to correct size and thickness. You might also try a new plug, as it may be that the knocking you mention after switching off is due to the plug points becoming white hot and causing pre-ignition. Otherwise, there must be some sharp projection in the cylinder casting, or

some deposit not yet cleared away. Also note if there is just a clearance between valve stem and tappet, and also whether the exhaust valve opens to its full amount of $\frac{1}{4}$ in. A new exhaust valve spring might improve matters.

Choosing a Motor Bicycle.

?

I wish to go in for a motor bicycle, but before purchasing one I would ask your advice. A friend thinks that a motor bicycle would soon shatter my nerves, as he has been told that the vibration is hard to stand. Can you tell me if the vibration is as bad as it looks? Does a twin vibrate less than a single cylinder? There are two kinds of vibration; I suppose—one caused by a rough road and the other by the motion of the engine. In buying a second-hand machine what are the essential parts to examine, and what is meant by cylinders being scored? Is it possible to tell if a cylinder is scored without taking it off? If so, how?—S. G.

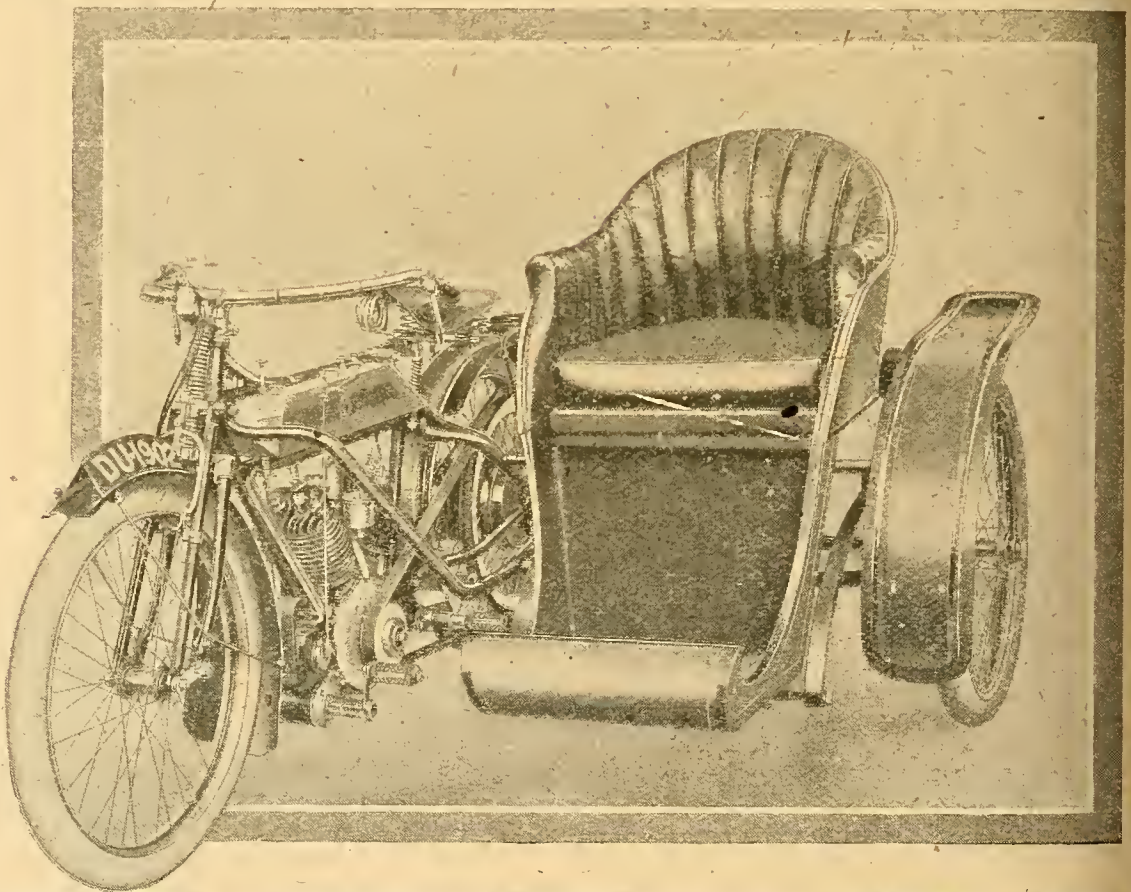
We are well aware that a lot of nonsense has been talked by people who do not understand anything about

well-balanced twin-cylinder than a single. A cylinder being scored means that the smooth surface inside has been scratched by some foreign substance such as grit or a broken piston ring. You cannot tell the condition of a cylinder without having it taken down, except by testing the compression, which will be very weak or entirely absent if the cylinder is scored and cracked, that is provided the valves and all joints are in order.

READERS' REPLIES.

No Motor Cycles in Sierra-Leone (West Africa) but "The Motor Cycle" gets there!

In reply to "Capt. A.L.W.'s" query in your issue of September 29th I have been out here some months now, but have not seen or heard of any motor cycles or cars. The district is very mountainous, and the roads very steep and winding. The road, or I should say path, up to Hill Station is impossible for cycles, both as regards surface and gradient. There are certainly one or two ordinary cycles in the town itself, but this would not benefit "Capt. A.L.W.," as all the military are stationed on the top of hills.



The Rex Sidette—a new model for 1910 sold complete ready for the road. The bicycle has, of course, two speeds and free engine, and the engine is a 5 h.p. twin-cylinder.

motor cycles that they are nerve shatterers. We can assure you frankly that they are nothing of the kind, and a sure proof of this is that a great many doctors in the United Kingdom use motor cycles daily in their practice. The vibration of the engine is very rarely felt, only when driving very fast, and there is always a certain speed at which the engine will run sweetly and almost with an imperceptible effort. On the other hand, road vibration is solely due to the road surface, and this can be overcome by fitting good spring forks and a good spring seat-pillar. There is certainly less engine vibration from a

Being a motor cyclist myself I thought of bringing my machine out, but now my advice is "don't do it."—HERBERT C. V. PORTER.

I should not advise "Capt. A. L. W." to bring a motor cycle out here (Sierra-Leone). There are no motor cyclists (riders I mean). I shall certainly get a motor cycle when I have completed my term. The roads are in a shocking condition, huge boulders rising in some parts as high as nine inches or even a foot. Even if the roads were good it is impossible to ride more than twenty miles. The only way I know to Hill Station is by the railway.—R. F. J. MALINS.

THE REASON FOR
ITS EFFICACY.

THE MOST EFFECTIVE NON - SKID.

15, Heaton Street,
Hockley, Birmingham.
The Dunlop Tyre Co.

Dear Sirs,

I have recently fitted a pair of
your new non-skids to my motor
cycle. Having just returned from
a fortnight's tour, covering nearly
1,000 miles, they show scarcely any
signs of wear. The non-skids are
more effective than any others I
have had.

Yours truly,
(Signed) R. A. MARRIOTT.

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MOTOR CYCLE TYRE.

THE DUNLOP PNEUMATIC TYRE CO., LTD.,
ASTON, BIRMINGHAM ; ALMA ST., COVENTRY.

Branches—London, Nottingham, Manchester,
Newcastle, Norwich, Bristol, Leeds, Glasgow,
Dublin, Belfast.

NOTE—Tyres from which the Dunlop
Co.'s private marks have been removed
are not guaranteed.

THE REASON FOR
ITS EFFICACY.

In answering this advertisement it is desirable to mention "The Motor Cycle."

BEST AT THE TANLEY

1910 MODELS.

MODEL No. 1.

3 $\frac{1}{4}$ -4 H.P.
85 x 85 M.O.V.

£48 : 10 : 0

MODEL No. 2.

5-6 H.P. TWIN.
76 x 85 M.O.V.

£58 : 0 : 0

MODEL No. 3.

7-8 H.P. TWIN.
85 x 85 M.O.V.

£60 : 0 : 0

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not on account of the blazing lights or brilliant veneer, but because it is

SOLID VALUE FOR MONEY.

Seven years' actual riding experience is embodied in each machine. Seven years' fault-eradicating has evolved as near perfection as a motor cycle can approach.

Comfort, Reliability, Power, Speed, Simplicity, Flexibility, Strength, Design, and Finish, have been individually studied and harmonised into general excellence.

The BAT is fitted with spring frame and forks. The method of springing is without doubt the only satisfactory one, and it is the only true spring frame. It is ready to go any and everywhere at all times, it is a perfect glutton for hills, none are too steep or too long—it has a terrific turn of speed and reserve power. It is made throughout in England (magneto excepted), and figuratively speaking is "hall marked in every link" with sound, practical, and mechanical finish to ensure its owner supreme satisfaction and ourselves a reputation second to none.

You are invited to call at our stand, we shall be delighted to explain any point upon which you are not quite clear; our assistants will be there for that purpose. We can tell you why the BAT spring frame and forks are superior to the ordinary type, why the oiling arrangement is automatically carried out, why ignition troubles are dispensed with, why the BAT has time after time beaten all other makes in open competitions of every description, and why it will be cheaper for you to ride the BAT.

THE BAT MOTOR MANFG. CO., PENCE, LONDON, S.E.

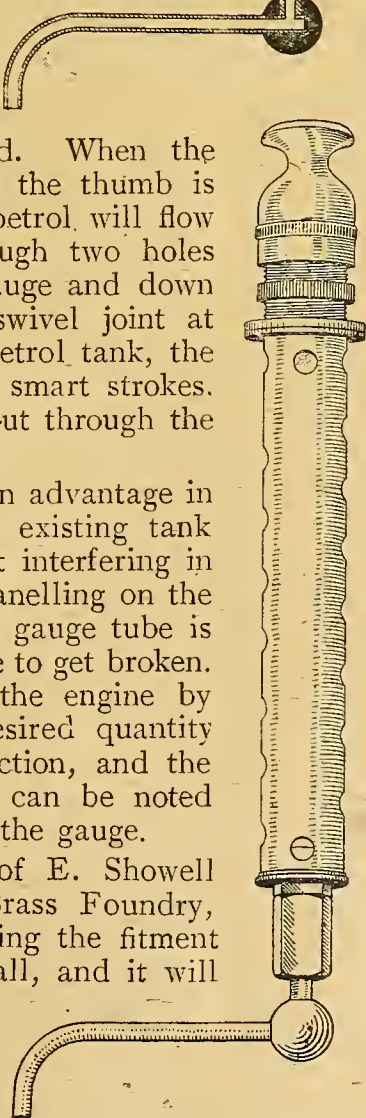
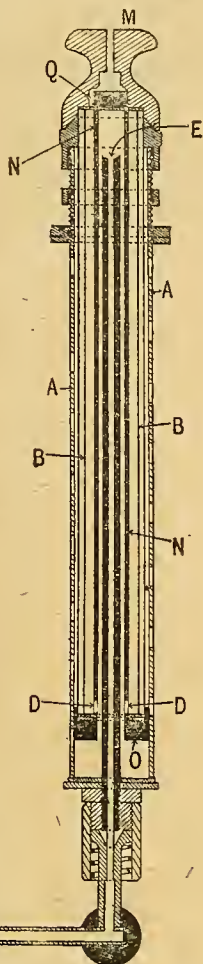
THE DALL PETROL AND OIL GAUGES.

A USEFUL petrol gauge has been recently introduced by James B. Dall, Commercial Road, Ladybank, Fife, which can be fitted to any make of motor cycle. The depth of the tank is the only dimension required by the maker. The gauge consists of a brass tube A perforated with holes from top to bottom, as shown in the annexed sketches. This brass tube is secured to the top and bottom of the tank by the nuts and washers shown. Sliding inside the brass tube is the glass gauge tube B, which is held in position between the head or handle M and the bottom nut O, and made airtight with cork washers at each end. An air hole Q is cut to communicate from the centre of M to the space between the glass tube and N, which is a stout gauge tube connecting the nut O and the handle M. At the base of the gauge is a small union and tap with swivel joint. The tap is provided with a short bent tube, which can be turned until its end is over the mouth of the petrol cock in cylinder. To ascertain the correct level of the petrol in the tank, the air hole in the handle M is closed by pressing the thumb over it. If the glass gauge tube is now raised it will show the petrol level in the tube. To inject petrol into the engine through the special petrol cock at the bottom of the gauge, the air hole in M should be closed and the sliding gauge fully extended. When the gauge is fully extended and the thumb is released from the hole, the petrol will flow from the glass tube B through two holes D D in the bottom of the gauge and down the central tube E to the swivel joint at the bottom. To drain the petrol tank, the sliding gauge is given a few smart strokes. when the spirit will syphon out through the bent pipe.

The Dall gauge possesses an advantage in that it can be fitted to any existing tank without soldering and without interfering in any way with the lines and panelling on the sides of the tank. The glass gauge tube is entirely encased and not liable to get broken. When injecting petrol into the engine by means of the gauge, the desired quantity can be seen previous to injection, and the amount of petrol in a tank can be noted from the saddle by means of the gauge.

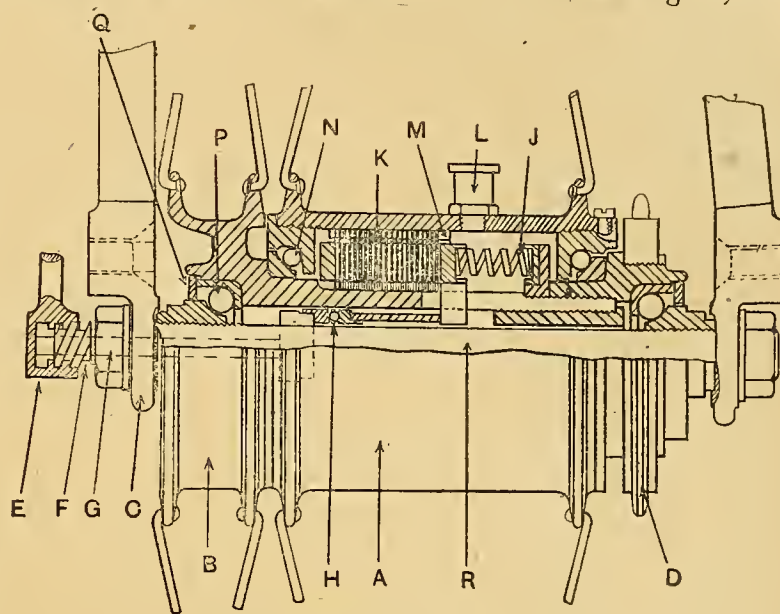
The old-established firm of E. Showell and Sons, Ltd., Stirchley Brass Foundry, Birmingham, are manufacturing the fitment to the order of James B. Dall, and it will be shown working on the Corah Co.'s stand, No. 85, Main Hall.

Motor cyclists who contemplate fitting a gauge to their tanks either for petrol or oil should not fail to examine this ingenious fitment.



A REX PLATE CLUTCH.

THE Rex Motor Mfg. Co., Ltd., Coventry, have been experimenting this year with a plate clutch in the rear hub of their motor bicycles, and inform us that their tests have proved perfectly satisfactory. Reference to the line drawing on this page will show that the clutch lever E is operated by a Bowden cable from a lever on the handle-bar. When the lever is gripped and pulled towards the bar a free engine is obtained, and gradually releasing the lever allows the plates to engage and so propel the machine. The operation is as follows: For free engine, the



THE REX PLATE CLUTCH HUB.

- | | |
|-------------------------------------|---------------------------------|
| A. Hub shell. | H. Ball thrust bearing. |
| B. Hub for belt rim. | J. Clutch springs. |
| C. Fork end. | K. Clutch plates. |
| D. Free-wheel sprocket. | L. Lubricator. |
| E. Clutch lever. | M. Key for plates. |
| F. Quick thread screw on plunger G. | N. Ball bearing for hub shell. |
| G. Plunger. | P. Ball bearing for road wheel. |
| | Q. Dust cover for ball race. |

lever E working on the quick thread screw F causes the plunger G to compress the springs J, thus releasing plates K. There are forty-one of these plates in the hub. To engage the clutch, releasing the lever on the bar causes the lever E to withdraw the plunger rod G by means of the screw F, so releasing the pressure on the tension of the springs J which expand and force the plates K together so as to form a fixed hub by connecting the shell A to the belt rim hub B. Transmission is then as usual by belt rim and engine pulley.

Our attention has been drawn to an electro-galvanising process for motor cycles which is undertaken by G. A. Wainwright, Grape Street, Leicester. Mr. Wainwright informs us in a letter that the galvanising is non-rusting, will not chip, and can be washed down with water after a muddy ride. The process does not damage the tubing or other parts of the machine in any way, as it is done all cold. We shall be pleased to hear from any readers who have tried the process.

DON'T MISS IT !

THE MOTOR CYCLE

SHOW REPORT.

On Sale Everywhere. Next Monday. 1d. as usual.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Inland Revenue Tax Exemptions.

[4366].—Your answer to a "Working Man" in the issue of October 20th is, in my opinion, misleading. The terms "trade purposes" and "business purposes" have no legal meaning, and everyone has business of some sort to transact. Take the cases of the relieving officer, the revenue officer, the doctor, etc.; they are all required to pay, and rightly so.

A motor cycle is not constructed for the carrying of goods or burden. Its principal use is to carry a person; that it may also carry a parcel is of no account whatever. A carriage to be exempt must be used solely for carrying goods, and must be built or adapted with a view to carrying goods.

T. MULLIN.

Are 90° Twins Perfectly Balanced?

[4367].—In your issue of November 8th I notice that, referring to the 3½ h.p. twin Premier, you state that this engine fires at even intervals, and also has perfect balance. It seems to me that these two properties cannot be combined in a V type twin. A 90° twin must either be (1) a single crank engine, with perfect balance, and firing intervals of 1½ and ¾ revolutions respectively; or (2) a two crank engine, cranks at 90° to each other, with a balance little, if any, better than a single-cylinder, but with even firing intervals.

A two-cylinder opposed combines good balance with even firing, but suffers from a large "transverse inertia couple."

A three-cylinder, with cranks at 120°, is practically perfect as respects balance, being far superior to a four-cylinder vertical engine, and it gives even firing intervals of two-thirds of a revolution. It seems strange to me that this type has not been adopted, as it would fit very well into a motor cycle something on the lines of the four-cylinder F.N.

F. C. C. KENNEDY.

Motor Cycling in Ceylon.

[4368].—With reference to a letter from Mr. T. Denham Till, appearing in your issue of September 15th, regarding motor cycling in Ceylon, I should like to point out several inaccuracies.

1. With regard to price of petrol in the island. At Colombo this can be purchased at Rs. 1/50, on which a rebate of 25 cents is allowed to residents. At most out-stations it can be procured from Rs. 1/75 to Rs. 2. At one or two very out-of-the-way places the price ranges from Rs. 2/25 to Rs. 2/75, but at only one place is this latter charge made, and that is at Trincomalie. The rebate of 25 cents may be claimed on petrol purchased at all out-stations.

2. Except in the hill districts (a very small part of the island) there are hardly any steep gradients, and the turns are no worse than on the ordinary roads at home.

3. As regards repairs, it is possible to get these executed at any town of any importance.

Mr. T. Denham Till appears to have been extremely unfortunate in his experiences, and also to have seen strange sights. During the many years I have owned motors in Ceylon (both cycles and cars) I have never experienced the same as Mr. T. Denham Till seems to have experienced. I think both cars and cycles are as a rule just as well kept in Ceylon as in any other country.

HAROLD NORTH,
Hon. Sec. Automobile Club of Ceylon.

Infinitely Variable Gears.

[4369].—In the issue of October 27th you describe a variable gear by H. B. Wedgewood, of Sheffield, consisting mainly of two V-section belt pulleys, the variation being obtained by opening out one pulley and closing up the other simultaneously. I am much interested in gears of this type, and having recently had occasion to look up many existing patents, I found one, of which Mr. Wedgewood's seems to be a copy.

It is by Lang, and is much used for obtaining a variable drive on lathes, etc. In the original specification (of which I have a copy) special mention is made of the device for dealing with the varying tension of the belt. I may mention that my discovery of this patent by Lang necessitated considerable alteration in the design of a variable gear in which I am interested.

WILLIAM F. FROST.

The Lessons of the Tourist Trophy Race.

[4370].—I do not think Jas. L. Norton is quite fair to Mr. Constant, in his letter on long stroke engines.

Mr. Norton knows that lengthening the stroke reduces the speed of an engine, other things—firing point, compression ratio, etc.—being proportional, as evinced by the Daimler Co. in the new 15 h.p. Knight engine construction.

Assuming a 90 mm. stroke engine having 1,800 revolutions per minute, compression 24%, by increasing stroke to 100 mm., and leaving compression ratio 24% on new length of stroke, the engine will be slower, and pull at slower speeds, but allowing the original compression space, the speed is about the same normally (possibly higher when all out), but vibration at all speeds is greater, particularly slow speeds, and the engine is harder to start, owing to its greater compression, not only that, but the wear on bushes is greater, and in fact on all the gearing making the engine shorter lived, not to mention its greater tendency to overheating. I think this is quite obvious to anyone who will study the pressure stresses.

H. SIDDALL.

Two-stroke Engines.

[4371].—There is, I think, a certain amount of confusion between the discomfort caused by unequal torque and unbalanced reciprocating parts of an engine. The latter, I think, we shall find of less importance than the former if we illustrate the two cases:

Let us take the case of unequal torque. It is caused mostly by the engine firing once in four operations, and the inability of the flywheels to absorb the shock due to their size, which is too small at slow speeds. It is particularly apparent when climbing a gradient slowly.

We can test the discomfort set up by the reciprocating parts by riding the machine downhill with the exhaust valve raised. The only part that is not in operation is, of course, the exhaust valve we have raised.

It will be obvious to most motor cyclists that the discomfort set up by the reciprocating parts is but a detail to that set up by uneven torque or sudden acceleration due to the engine firing once in two revolutions.

The engine that seems to solve this problem most is the two-stroke engine, as it is feasible that if this engine fires twice the number of times to do the same work, then the pulsations must be of half the power; so to all intents and purposes it resembles a two-cylinder engine of the same volume.

HENRY GRAFTON.

3 things to look for on STAND 87



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The new
range of

"A"

Models
of the

**MOTO
REVE**

The new
Single

"B"

Model
of the

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The "C" Model

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- PRACTICAL LIGHTWEIGHT MOTOR CYCLES. -

Model "A"—has a 50 × 70 mm. twin "V" engine, and is our Standard machine for ordinary touring purposes.

Model "A.A."—has a 52 × 70 mm. engine, which gives more power for heavy riders.

Model "A.A.A."—has a 50 × 85 mm. engine, and is intended for use in exceptionally hilly districts, or for coupling to our new lady's bicycle for sociable riding, a la sidecar.

Model "B"—has a single cylinder engine of 60 × 85 mm., is designed in all respects on the lines which have made the "twin" a favourite, and the price will be

AN EYEOPENER!

The MOTO REVE Co., Ltd.,

Moto Reve Works—
ACTON, LONDON, W.

Showrooms:
138-142, Grey's Inn Road, W.C.

Model "C"—is the last word in Lightweights. Fitted with Vertical Twin engine, 52 × 70 mm., Clutch, Two-speed Gear and Chain Drive, it suggests possibilities in motor cycling hitherto thought out of reach. Make a special note to inspect it, and ask for full particulars at

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OLYMPIA SHOW. STAND NUMBER **290**

THE
SCOTT

PATENT NON-SKID
MOTOR CYCLE COVER.

The alternate steel and rubber studded Tyre.

Will not skid on wet or dry roads.

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BOSCH

MAGNETO ELECTRIC IGNITION

FOR ALL KINDS OF MOTOR CARS,
MOTOR CYCLES & STATIONARY ENGINES.

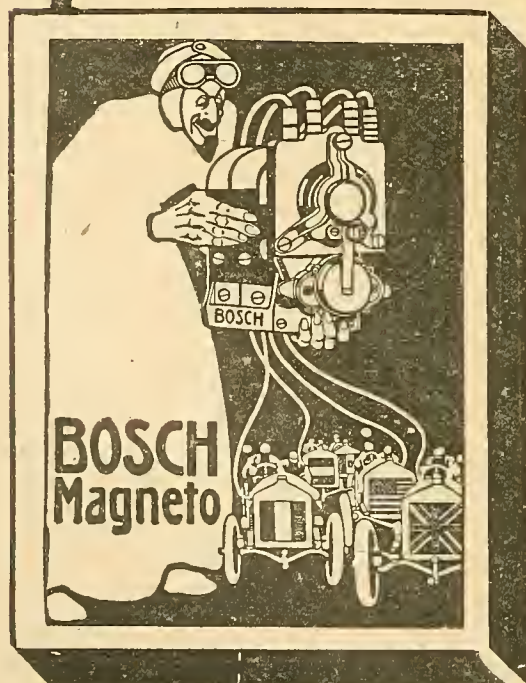
**SPARKING
PLUGS.**

Sole representative for South Africa:

F. HOPPERT,

Electric Engineer and Instrument Maker.

Office, Showrooms and Workshop: No. 3, Ginsberg Chambers—P.O. Box 3308, off
Main and Simmond Street—Johannesburg.



M.O.I.V. versus A.O.I.V.

4372.]—"M.O.V." in his letter in *The Motor Cycle* of November 8th, under the heading "M.O.I.V. versus A.O.I.V." mentions that I was at one time very much in favour of the automatic inlet valve, but now regularly ride m.o.i.v. twin. Quite right. However, I am always open to conviction, and am now quite convinced that the mechanical inlet valve, when placed directly over the exhaust valve, as on the Indian motor cycle, which allows the exhaust valve to get the full benefit of cool gases coming directly on to its head (an advantage which the automatic valve certainly did possess), shows considerable advantage over the old type.

I still maintain that there is no advantage in mechanical valves when they are placed side by side, and the very fact that so many manufacturers are now adopting the overhead m.o.i.v. is quite convincing that others are of the same opinion.

W. H. WELLS.

Transmission and Tyres on Motor Cycles.

4373.]—Dr. Macdonald, in letter 4340, November 3rd, chain drive, seems to have hit the right nail on the head. After a season's riding of 4,000 miles, free from mechanical trouble and expense, it is disheartening when looking through one's log book to see such items as belt 16s. 6d., tube 9s., cover 37s. 6d., occurring with alarming frequency. Surely, the future of the motor cycle rests as much with the tyre makers as anyone. How is it that the majority of car owners are more or less immune? Is it because we are undertyred? Surely not; as any maker should be able to provide large diameter tyres in his specification when we have to pay, say, £47 for a new tyre each year. Cannot someone make a tyre stand, say, 5,000 miles on a fast $3\frac{1}{2}$ h.p. machine? It would be interesting to some of us single-cylinder enthusiasts to hear how many miles covers the driving wheel of a 7 h.p. twin in twelve months' riding with sidecar attached.

When will the belt be discarded for some more efficient and economical mode of transmission? Probably not until the next Tourist Trophy Race, when the Indian people will capture the trophy. Then the English makers will begin to wake up to the fact that their fairer mounts are still capable of improvement. Leather fasteners will be a thing of the past; no more pulleys; no more slipping on hills and consequent loss of power. This especially applies to the latest pattern lightweights, including, of course, the new F.N., which is a step in the right direction, as is also the new B.S.A. and M., with its excellent two-speed gear, which after all is more necessary with $2\frac{1}{2}$ h.p. machines than $3\frac{1}{2}$ h.p. singles and 5 h.p. twins, though less frequently fitted.

To sum up the last five years' progress made in transmission of motor cycles, the only improvements seem—(1.) V belt has displaced flat belt. (2.) Rubber belts instead of leather now universal. (3.) Larger sizes fitted, thus giving more grip at the expense of the engine's efficiency. Surely the next step will be the universal adoption of the chain or shaft, as is now the case on all modern cars. Why do not any of the 1910 carburettors have some provision made for adjusting the bottom air for obtaining a rich mixture at low speeds, easy starting, etc., which is essential for winter riding? Is this because the majority of motor cyclists store their machines away in the winter? Have we still to purchase this as another extra with the new machines next year?

E. BROWN.

Lightweights v. Heavyweights.

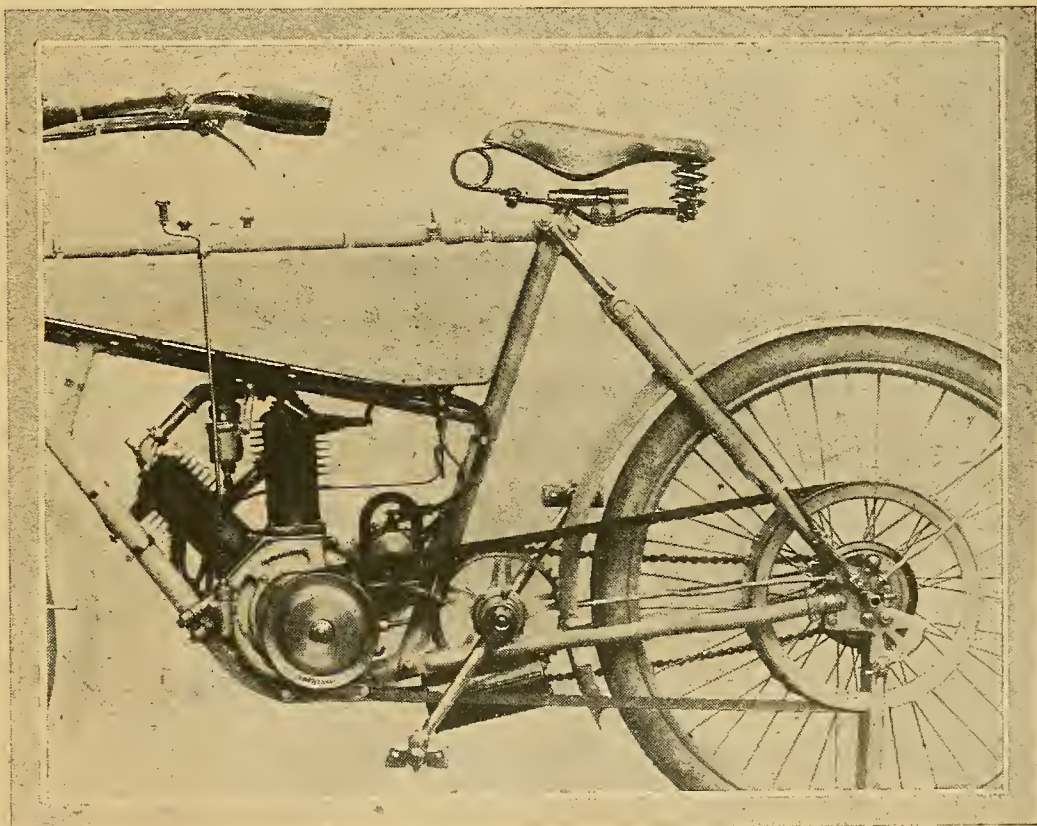
4374.]—I notice for some time past there has been correspondence regarding lightweights, and as I happen to have recently returned from a few days' tour I am taking the liberty of penning a few lines as to the result. The machine was a 2 h.p. Moto-Rève fitted with its makers' latest and improved type of magneto. The only thing I altered before starting was to fit a $\frac{3}{4}$ in. rubber belt

in place of $\frac{5}{8}$ in. as usually fitted, and lowered the gear by means of adjustable pulley. I consider this a distinct advantage, as during the 230 miles covered it was only necessary to shorten belt once, and that during the first 100 miles.

I also found it better to have a gear not higher than $6\frac{1}{2}$ to 1; as a matter of fact $6\frac{3}{4}$ to 7 to 1 seemed to still give better results, and that without any appreciable difference in the speed.

I started from Brighton at 9.30 a.m. fully laden with two bags and a lamp, and arrived at Hastings at 12 o'clock. I then went on to Battle, Bodiam Castle, Ashford, and on to Folkestone, at which town I arrived at 4 o'clock, having done exactly ninety-one miles. This I consider distinctly good, as the course is a somewhat hilly one, and two to three hours were spent in looking at places of interest on the way.

From Folkestone I made several trips, such as Canterbury, Dover, etc., and it might interest heavyweight riders to know that I climbed the hill out of Folkestone to Dover without pedalling. As a matter of fact I passed several heavy machines being pushed up. The amount of petrol consumed was $1\frac{3}{4}$ gallons, and threequarters of a pint of lubricating oil for the 230 miles. I can honestly say I never enjoyed a more pleasant trip, although I have for years been a motor cyclist, and at present own two heavyweight machines.



The $2\frac{1}{2}$ h.p. twin-cylinder Wanderer engine and constituent parts, showing especially the geared-down engine pulley enabling a better grip for the belt. The tension of the belt can be regulated by the lever on the top tube while riding along.

No part of engine, magneto, or cycle gave the slightest trouble; in fact, I simply started engine and went straight off. What appealed to me more particularly after a heavyweight machine was the entire absence of vibration at any speed, and the delightful sense of security in going round bad corners and twisty roads through being light to handle. I had no occasion to pedal up any hills.

FREDERICK T. TURPIN.

What the Tourist Trophy Race taught us.

[4375.]—"T.T. Competitor" seems to have just found out the disadvantage of mounting the foot brake lever on footrest spindle (a method pursued for quite five years), which disadvantage can be simply remedied by replacing the bolt which connects frame to crankcase by one long enough to take lever, fitting a distance piece between nut which secures belt to frame and boss of lever, inserting a liner in bore of latter if too large for spindle, and drilling a blind hole in nut to take end of spring if such is fitted on lever. The

adjustment of the rod is obviously simple, some bending and perhaps a little brazing completing this job. If "T.T. Competitor" possesses a lathe he can do the whole thing very quickly. It is no use his waiting for the makers to effect what in their opinion is an unnecessary improvement, as the time quoted above shows.

"T.T. Competitor" may be interested to know that the jumped or upset (the method is upsetting) made valve is by far the best, as the grain of the metal is longitudinal from the stem to the lip of valve. The best made valve won't stand if the axes of guides are not at right angles to the horizontal plane of valve seating, and the same may be said of the valve itself with regard to its vertical and horizontal planes.

NOVICE.

English v. French Measurements.

[4376.]—It is very hard to understand Mr. Scott's seemingly deep-rooted objection to the metric system. Surely the ease of calculation is no imaginary advantage. The time required to reduce, say, 17.687 kilos. to centimetres or millimetres is quite negligible compared with the time required to reduce 17.687 miles to inches.

I maintain that this one thing, the ease of manipulation, easily outweighs any advantage, theoretical or practical, which the present system has over the metric. It seems absurd to have time divided into 24ths and 60ths; distance into fractions of $\frac{1}{4}$, $\frac{1}{5}$ (!), $\frac{1}{8}$, and $\frac{1}{12}$; and weight into fractions of $\frac{1}{16}$, $\frac{1}{32}$, $\frac{1}{64}$, etc. Then there is money. It seems obvious that there should be a definite relation in our measures. One would be carrying patriotism to a ridiculous extent to support our system because the other is French. Then for the "mixture of dimensions at present in vogue," surely our system (?) is a mixture in itself. It only speaks for the conservativeness of our country that the Continental system was not adopted long ago.

H. E. HENSON.

Balancing a Twin-cylinder Engine.

[4377.]—I have just read the article on 90° V engines, and quite agree with the writer that a 90° V engine can be very perfectly balanced, and wonder more of our engine makers, such as Messrs. Prestwich and White and Poppe, did not market such a one years ago; but I cannot see that in these respects it is one whit ahead of the opposed cylinder type, as exemplified in the Douglas and Fairy. I have been interested in watching the development of this English production . . . and I am pleased to see it gradually making headway, as I think, on its merits. I for one, though an old motor cyclist, have always felt the vibration of the engine on single-cylinder machines, and I believe many others do also (perhaps unconsciously, but nevertheless harmfully) to some degree; and I hope, for the good of the industry and the public, more attention will be given to this balancing of the engine by our manufacturers and designers in future.

I wish Douglas Bros. could lower their engine in the frame more, so as to come in line, centre of engine with compression stays, or at least just on top of crank bracket, if pedals must be retained; but have never ridden one of these machines, so this may not be necessary in actual fact. I believe one of the Norton engines used to be 90°, but do not know if it were perfectly balanced. Could a two-stroke twin engine be made on this 90° plan? I presume not, on account of crank case compression not being "on" at correct times.

These technical articles make *The Motor Cycle* very interesting to me, as one who has followed the paper from its inception, and still remains an

INTERESTED READER.

P.S.—I should say a 3½ h.p. Douglas would take well, preferably without pedals, and perhaps with chain drive.

Road Dangers at Night.

[4378.]—In reading through the columns of your valuable paper, I notice that someone has replied to my letter *re* above. I cannot but be surprised at the attitude adopted by "E 872." He seems to know the facts of the case considerably better than I do; one might almost deduce from his letter that he was an unknown spectator. His argument about "squeezing through" I am unable to follow, and I consider uncalled for, as I think you may agree. The animals must have taken fright at the light or the noise of the

engine, and, as is their custom, herded so close together as to render this course impossible.

I notice that your correspondent is surprised at my opinion. Personally, I think that the majority of motorists will express surprise at *his* opinion, as several have already done to me.

I recently had a most interesting conversation with a member of a county council on the subject. He informed that the question had been raised at the last meeting of Highways Committee. They agreed as to the danger, but existing difficulties were too great to take any steps. However, they decided to bring up the matter for further discussion. I gave him my suggestion of a coloured light, which he looked upon favourably, and he promised to propose it to the council. I hope this council will take steps, as I am sure its example will be quickly followed, at any rate in agricultural England.

Let "E 872" take a few rides on a very dark night in the neighbourhood of one of our towns after a big cat fair; he might sing another song. (CF 41)

A Question of Design.

[4379.]—Although I enjoy your correspondence column regularly, I am usually content to allow others to fill it. In this case, however, I am moved to comment on the judges' report of the A.C.U. Quarterly Trials, published in the recent issue.

In comparing the two-stroke Rex with the Scott, they say: "Whilst in appearance it (the Rex) is a neater machine than the Scott two-stroke, it certainly did not perform so well." In this same issue, on page 831, you publish a photograph of the Rex machine. If this machine is not simply a standard 3½ h.p. Rex frame with a two-stroke engine mounted in it, it is very nearly so.

Now the Scott machine is, to my eyes at least, far away ahead of the present standard for neatness and comfort. Further, anyone who wishes to take the trouble may by means of some fairly simple mechanics prove to himself that the Scott frame gives maximum strength with minimum weight for the stresses set up in a motor cycle frame as distinguished from a push-bicycle.

My whole point is that, putting aside the question of two-stroke principle, the judges in the trials have mistaken originality for lack of neatness. I quite understand that the design as unusual as that of the Scott would be noticeable, but I fear most of us are prone to brand anything not exact as standard as freakish or messy.

In intruding on your space, I may add that I have, by a long experience of horses, handled big sailing craft and motor boats, besides having driven everything from a humble velocipede to the omnipresent tramcar. In conclusion, my mount this summer has been a standard 3½ h.p. machine, which I was obliged to have on account of some experimental work upon which I was engaged. I enclose my card, and remain

COSMOPOLIS

SUMMARY OF OTHER CORRESPONDENCE.

Will the reader who sent postal orders for a Halifax slip to Farrar's Motor Exchange, Halifax, on the 2nd inst. and omitted to enclose his name and address, kindly communicate again with the firm to enable his order to be executed. The orders were issued at Aldgate, London, E.

EXPERIENCES WANTED.

"H. S." (Birmingham) desires experiences of riders of 3 h.p. Lincoln Elk as to reliability, cost of running, and hill-climbing.

"G. G. B." (Kent) would like to hear the experiences of private owners with the Scott two-stroke; whether there is much carbon deposit and sooting of plugs.

"H. W. W." (Birmingham) would like users' experiences with fan cooling on twin-cylinder engines used with sidecar also chain transmission.

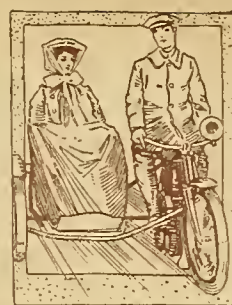
"P.R.P." would like readers' experiences with the new 2½ h.p. F.N. shaft-driven lightweight as an all-round touring machine. Is the engine likely to overheat if driven a long time on the low gear?

"A. H. E." (Ceylon) would be very grateful for private owners' experiences with the Scott two-stroke motor bicycle.

"H. T. S." (Sussex) desires experiences of riders who have had a season's use with a 3½ h.p. Phelon and Moore.



THE MOTOR CYCLE SUPPLEMENT



This Week's Special Feature

ESSEX M.C. HOUR RACE for the DUCROS CUP.

WALTHAMSTOW MOTOR CLUB PAPERCHASE.

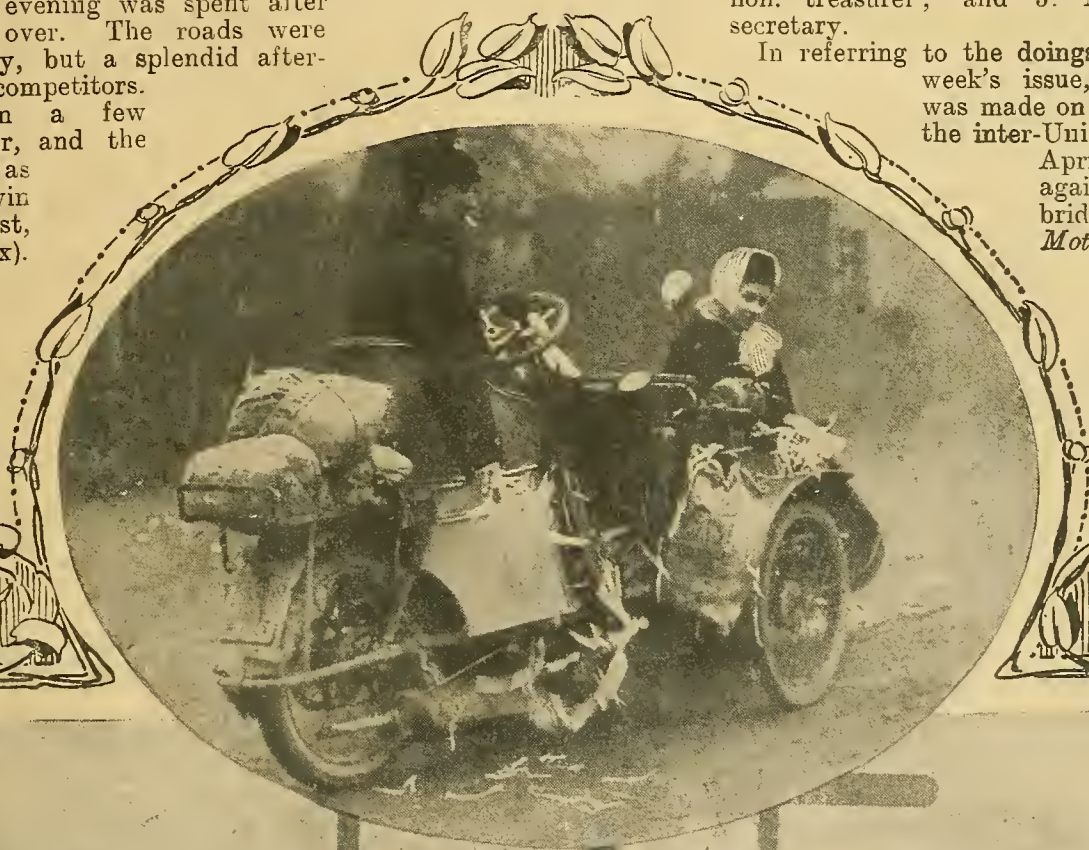
On the occasion of the second paperchase of the winter season, the trail was laid by the hon. secretary, J. W. Percival (who gave the prizes). Owing to F. W. Applebee accidentally finding the trail while out on his machine, he decided to assist in laying the false trails. The finish of the fifteen-mile course was at Thornwood, near Epping, and here a very pleasant evening was spent after the competition was over. The roads were very heavy and greasy, but a splendid afternoon favoured the competitors. Five finished within a few seconds of one another, and the result was declared as follows: Single or twin motor bicycle class—1st, C. W. Lee (3½ Rex). Passenger machine class over 4 h.p.—1st, F. A. Applebee (5 Rex and sidecar). Passenger machine class under 4 h.p.—1st, W. H. Applebee (3½ Rex tricar).

CAMBRIDGE UNIVERSITY M.C.C. GENERAL MEETING.

A general meeting was held last week. According to the rules, the old committee resigned, and a new committee was elected as follows: A. H. Moreing, R. G. Heyn, J. M. Oakey, A. C. Moreing, F. P. Dickson, R. G. Cazelet, and K. Wigram. The officers appointed were: A. H. Moreing, president; R. G. Heyn, hon. secretary; A. C. Moreing, hon. treasurer; and J. M. Oakey, hon. press secretary.

In referring to the doings of the club in last week's issue, an unfortunate error was made on our part. Oxford won the inter-University race meeting on April 31st with 17 points against the 14 of Cambridge, as reference to *The Motor Cycle* report in the issue of May 5th last will show. This slip was in no way due to the Cambridge club officials.

Arrangements are being made to hire a club room at the Blue Boar Hotel.



Paperchasing on motor cycles is a popular form of competition with the Walthamstow M.C., two events of this character having been held within the last five weeks. The lower illustration shows the competitors. Inset the hare—J. W. Percival—who is seen laying a paper trail.



THE annual race meeting in connection with the Essex M.C. took place on Friday last on Canning Town Track, in dull and rather cold weather. The hour race was the sole event in the afternoon, and of the six entrants the four competitors who took part were:



H. Martin, who was again dogged by bad luck. A few minutes before the finish, and when leading, his front tyre collapsed.



H. Martin, 2½ h.p. J.A.P.-Martin, 85 by 60 mm. engine with overhead valves, accumulator ignition, Longuemare carburetter, Continental tyres, and Stanley Dermatine belt; A. Oberlander, 2½ h.p. N.S.U., 75 by 75 mm., magneto ignition, Peter Union tyres, and Shamrock-Gloria belt; C. R. Collier, 2½ h.p. Matchless-J.A.P., 85 by 60 mm., overhead valves, Longuemare carburetter, accumulator ignition, and Shamrock-Gloria belt; and H. V. Colver, 2½ h.p. Matchless-Givaudan engine, 76 by 76 mm., accumulator ignition, Hutchinson tyres, and Shamrock-Gloria belt.

The race was timed to start at 3.30, and at 3.40 p.m. F. Straight, the A.C.U. official time-keeper, gave the word to go, and all got off well except Oberlander, who eventually got his machine under way. Martin quickly took first place, but Collier, after first gaining a trifle, gradually lost ground. Twelve minutes later, however, Collier again began to make up time, and gradually gained on his rival inch by inch.

After F

At the end of positions remain covered thirteen after the race opponent very amid the accl however, was both riders were the twenty-second ahead, and the After several was intense, Co in fact, it look through.

Pos

At the end of twenty-five mi Martin again to his twenty-four

OLYMPIA: Items of

IN the Gallery at Olympia motor cyclists will find a good deal to interest them in the way of accessories. Benetfink's, for example, show a new plug, of which the body is of steatite, while the space between it and the outer shell is filled with vitrious cement. When the plug is in use the vitrious cement becomes hard like glass. Benetfink's also show Bray's acetylene burner, a new electric lamp, and accumulator with adjustable clip to suit an ordinary bracket, a very neat blow lamp, using methylated spirit, a handy pair of cone pliers, a strongly-made screwdriver, a new handle-bar mirror and a new tool roll.

THE LAYSTALL ENG. Co. are showing specimens of the excellent work they perform in boring cylinders, and in the manufacture of pistons, rings, valves, cams, and other parts.

THE HIGH TENSION Co. are exhibiting a special make of motor cycle trembler coil, also accumulators and a miniature "Mira" syren.

THE DUNLOP RUBBER Co. make a speciality of rubber-proofed motor cycle clothing. The leg overalls, which are provided with spring buttons, are particularly good, also the "Dryknee" jacket.

TOM NORTON has a neat nest of drinking cups in a small leather case, voltmeters, plugs, and many other accessories.

G. DAVENPORT LTD Co.—A scroll-driven odometer designed to be attached to the handle-bars, and a neat motor cycle watch.

DUNHILL, LTD., have several interesting motor cycle accessories, among which we may mention a motor cycle syren, a neat lens mirror lamp, a set of acetylene lamps, a variety of horns, a route map designed to attach to the handle-bars, a neat spanner 4½ in. in length, some excellent motor cycle clothing, fur caps, gloves, and overalls.

SAMUEL BROS.—The "Omne Tempus" motor cycle clothing; also caps, gloves, and overalls.

E. M. RUSSE AND Co.—A neat spanner, known as the "Grip," which can be used to a certain extent as a ratchet spanner.

BRANSON KENT AND Co.—Lens mirror lamps and a variety of accessories.

THE MOTOR SUPPLY Co.—A spanner named the "Doall." This has a cam instead of a screw action, and also a further peg and hole adjustment. Various accessories, and a lens mirror lamp.

THE PRESTED MINERS' LAMP Co.—Samples of their well-known coils, accumulators, and plugs are shown.

LODGE BROS. AND Co.—The Lodge plugs and double-pole plugs, by means of which two plugs may be inserted in the same cylinder in series.

E. J. HARDY.—A neat adjustable belt fastener, fitted with a long and a short ball-ended bolt, fitted in slots cut in the clamps screwed on the belt. Samples of Longuemare carburetters and a three-note horn are also shown.

C. A. VANDERVELL AND Co.—An electric headlight, of the excellence of which we can speak from personal experience. The Vandervell new lightweight ball bearing magneto, and the Ruthardt magneto which now gives a greatly improved spark. The C.A.V. coils and accumulators similar to those which Collier has so often used for record breaking.

RICHES AND Co.—An odometer for sidecars and tricars, an excellent soldering outfit, and Rich tubes made by the Rich Detachable Air Tube Co.

UNITED MOTOR INDUSTRIES, LTD.—An excellent display of fittings and accessories, including coils and accumulators and the well-known Eisemann magneto.

LACOSTE AND Co. will show towards the middle of the week a very small spirit vulcaniser with an automatic control which prevents the rubber from being "over-cooked."

WHITE AND 1 mm. engine. 4 develops 5 h.p. tappets and the movable valve fitted with the

STEINER AND motor cycle lamp the well-known three pieces of a treble twist

ROTAX MOTOR of British-made head lamp is a a self-contained

ESS



Final adjustment

The for Du Cros Cup.

Racing.

an hour their Martin had nteen minutes r pressed his ps passed him f. His lead, lap after lap nd neck. At suddenly shot hearty cheers. he excitement l a lead, and, -dong race all

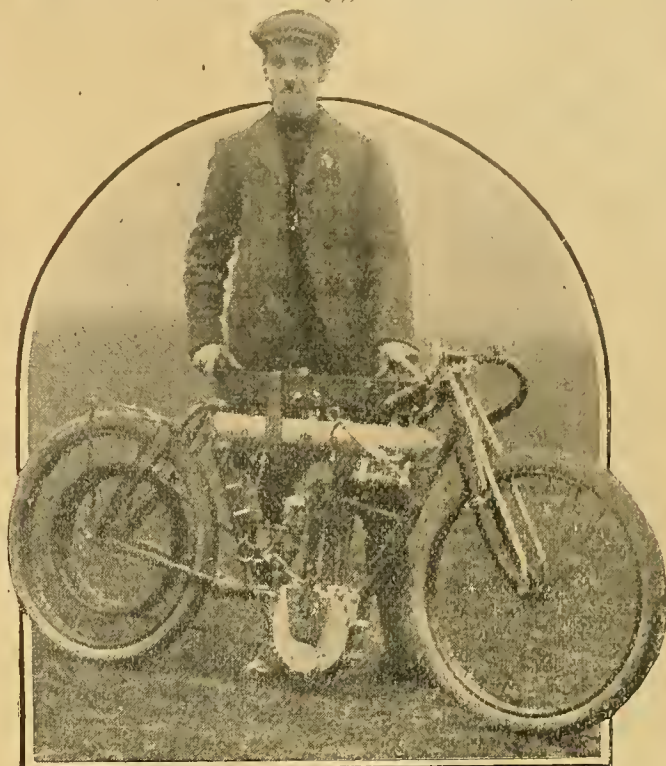
ne.

r had covered y-eighth mile e had covered topped for a

few seconds through carburetter trouble, but was soon on the move again. Collier still maintained his lead, but Martin hung close on to him, and for many laps daylight was never seen between the two machines. Never was such an exciting race witnessed at Canning Town. At the end of forty-five minutes Collier had covered 44 miles 1,660 yards. Martin then shot ahead, and Collier slowed up and stopped through a loose low-tension wire. The time was almost up, and nothing but a miracle could prevent Martin from being a winner. Martin's bad luck on Thursday had, unfortunately, not deserted him, and but a few minutes before the hour was finished he drew up with a collapsed front tyre, after having covered forty-four and a half miles.

The results were as follows: C. R. Collier, 48 miles 1,740 yards; Colver, 45 miles 583 yards; Martin, 44 miles 1,106 yards; Oberlander, 41 miles 1,730 yards. Had Martin experienced better luck the result would have been different.

The officials were: Capt. Baines, Messrs. A. J. Macdonald, Parsons, Hill, White, F. W. Applebee, H. Fuller (hon. secretary), and E. J. Bass.



C. R. Collier, who proved victorious, covering 48 miles 1740 yards.

to Motor Cyclists.

h.p. 85 by 85 per minute it ith adjustable P. quickly re- engines are n-driven.

Wales" light ror lamp, and ructed of only ote horn and

Co.—A display ty. The Pilot is fitted with p feed. It is

CE.



r. Colver has ns.

said the gas does not continue to generate when the water is turned off.

THE VACUUM OIL Co.—Lubricating oils, including Mobiloil, gear oils, and graphite grease.

SIRDAR RUBBER Co.—A representative exhibit of Sirdar tyres, including steel-studded and plain-grooved covers.

GAULOIS Co.—A range of plain-treaded motor cycle covers; also square-treaded tyres made of a special white rubber.

GROSE AND Co.—Leather and steel-studded tyres in detachable and fixed types.

THE MIDLAND RUBBER Co.—A new type of tyre named the "Ajax," which is made in two patterns; this will be exhibited at the Stanley.

B. F. GOODRICH AND Co.—A section of their motor cycle tyre, which is rubber-studded and has five layers of canvas. It has been much improved in construction, and is more substantial. The inner tubes are guaranteed to be ninety-four per cent. pure Para rubber, yet the motor cyclist is not taxed for the extra quality by a prohibitive price.

J. LIVERSIDGE AND SON, LTD.—The "Scott" steel and rubber-studded motor cycle tyre is composed of alternate steel and rubber studs in two rows, and is found to be satisfactory both on wet and dry surfaces.

THE AVON INDIA RUBBER Co. have some motor cycle tyre sections. They are all of the beaded-edge type, and are made with square, round, grooved, studded, and plain treads.

J. C. FULLER AND SON, LTD.—A representative exhibit of accumulators, dry batteries, switches, and coils. A high speed trembler coil forms an interesting feature of the exhibit, also an auxiliary condenser which prevents pitting of the contacts, and electric headlights.

LEO RIPPAULT AND Co., LTD.—A special 1½ h.p. lightweight engine; also the Rip soldering lamp and outfit. This is a moderately-priced apparatus, which will be found useful for those who do their own repairs. A new mica plug.

MARKT AND Co. have a splendid range of Jones speedometers for 1910. We have already illustrated the latest one, with maximum hand as well as trip and season recorders. There are other models varying in price according to refinements included. A new pattern Veeder cyclometer for motor cycles.

NILMELIOR (ENGLAND), LTD.—A high-tension magneto for single-cylinder motor cycles, 125 mm. in length and 110 mm. in height, weighing 5½ lbs. The standard high speed trembler coil in various sizes, ampèremeters, voltmeters, and accessories

MORE WORLD'S RECORDS AT BROOKLANDS.

At Brooklands on Saturday last, in magnificent weather, G. Lee-Evans on a standard 4 h.p. single-cylinder Indian, shod with R.O.M. tyres, made a successful attempt to regain the fifty miles, one hundred miles, and two hours' records, beating the performance of F. A. McNab on Thursday, described on the next page. Evans got under way at 10.20 a.m., and soon commenced to reel off the laps. At the end of half an hour he was 30s. inside record, and at fifty miles he was 1m. 9s. inside record, his time being 53m. 58½s. After an hour he stopped 40s. for petrol and oil.

When he restarted Evans slowed somewhat for several laps, but improved later, and keeping 1m. 6½s. inside record he covered the hundred miles in 1h. 50m. 24½s., and 108 miles 1,367 yards in two hours, Evans and the Indian thus beating McNab's two hours' record by 1,742 yards.

The Motor Union has booked space for a stand at the Stanley Show in the Gilbey Hall.

WORLD'S RECORDS AT BROOKLANDS.



THURSDAY last was a busy day at Brooklands, so far as motor cycle records were concerned. H. Martin, F. W. Dayrell, F. A. McNab, and W. E. Cook were all down to make attempts on the previous best performances. Martin, on a 7-8 h.p. Bat, was to have started at 9 a.m., but it was not until noon that he was ready to make the attempt in all seriousness.

For the first few hours the weather was gloriously fine, but, although the sun shone brightly and the sky was cloudless, the north-westerly wind was cold and showed signs of freshening. Unfortunately, Martin missed the fifty miles record by 45³/₈s., but McNab, on a 3¹/₂ h.p. Trump-J.A.P., who started at five minutes past twelve, rode most consistently, and beat the fifty miles record by 3m. 12⁴/₈s., covering the distance in 55m. 7⁴/₈s.

Before this, Martin had stopped through a broken oil pipe, which was hard luck, as he had been running well, and had averaged sixty-one miles an hour for long stretches.

In the afternoon the sky clouded and the weather became much colder, while the wind freshened considerably.

New Records for 50 and 100 Miles.

At 12.48 p.m. Dayrell, on a 3¹/₂ h.p. Bat, got under way, and soon he and McNab (who was still keeping up a steady pace) were riding together.

At 1.30 Dayrell was 27s. behind McNab, and both were averaging between fifty-five and fifty-six miles an hour. When he had covered seventeen laps, Dayrell, who was only 12s. behind McNab, had to retire from various causes. McNab, however, still maintained his consistent speed, and succeeded in beating the 100 miles record by 2m. 48³/₈s.

The Two Hours' Distance.

At the expiration of two hours he had covered 107 miles 1,385 yards. The performance was an excellent one, as the engine never misfired once. McNab was riding a 3¹/₂ h.p. Trump-J.A.P. (482 cc.), with side by side valves, Hellesen dry battery and coil, R.O.M. smooth tyres (the rear tyre being in wonderfully good condition at the finish), and Shamrock-Gloria belt. McNab's achievements on Thursday stand as follows:

Fifty miles time, 55m. 7⁴/₈s., beating G. Lee-Evans's record on an Indian single-cylinder, 497 cc., made October 9th last, of 58m. 20³/₈s.

One hundred miles time, 1h. 51m. 31¹/₈s., beating the existing record, which stood at 1h. 54m. 19³/₈s.

In the two hours' race last October Evans covered 105 miles 85 yards, thus being beaten by McNab on Thursday by 2 miles 1,300 yards.

An Attempt on the Half-mile, Kilometre, and Mile Records.

Shortly after three o'clock W. E. Cook, on a 16-20 h.p. N.L.G. (two cylinders, bore and stroke 120×120 mm.), made an attempt on the half-mile, kilometre, and mile records. By this time a number of spectators had arrived on motor cycles and cars, and most of these assembled at the second refuge on the railway straight.

Cook started down the test hill, and passing along the finishing straight, sped along in the reverse direction to that in which cars usually travel, and rapidly gaining speed, passed by the group watching him at a tremendous pace, astonishing many by riding at times with only one hand on the bars. His machine was geared in the neighbourhood of 1¹/₂ to 1.



F. A. McNab, who was successful in annexing three world's records for single-cylinder machines last Thursday. His mount is a 3¹/₂ h.p. Trump-J.A.P., 482 c.c. McNab is much heavier than the average record breaker, for he scales over 15 stones.

Cook made two attempts in all. Unfortunately, when he was travelling at his best speed the electrical timing apparatus failed, and no times were taken. This was indeed hard luck, as so powerful a motor bicycle had never before been seen on Brooklands track. The engine is one of the 16-20 h.p. V-type J.A.P.'s with overhead mechanical valves and accumulator-coil ignition.

THE MANX MOTOR CYCLISTS' CLUB.

The adjourned meeting of those interested in the formation of a club for Manx motor cyclists was held at the club headquarters, the Castle Mona Hotel. A good number of motor cyclists gathered, discussed the rules, and appointed Messrs. Atkinson, Smith, D. Brown, J. Blair, and N. Karran members of the committee. It was decided to leave the question

of affiliation to the A.C.U. to the committee to report on. Mr. Coole, jun., president of the club, presided, and after the termination of the business, the members mounted their motor cycles and rode as far as the Dhoon Glen. On Thursday last there was another club meet, members proceeding to Peel.

THE WALL WHEEL—A NOVELTY FOR THE SHOW.

We have previously made brief reference to a motor attachment for pedal bicycles which is to be exhibited at the Stanley. This is the invention of A. W. Wall, and is named the "Wall" wheel, and with other Roc models will be found at Stands Nos. 80 and 88. It consists of an attachment for pedal bicycles, weighing about 25 lbs., and takes the form of a live motor wheel adapted to pivot on

the back frame members or axle of any pedal machine. The wheel is self-contained, and comprises engine, magneto, carburetter, reduction gear, and fuel tank. The wheel is 20in. diameter, fitted with a pneumatic tyre. The steering is said to be unaffected, and the mechanism of the little live wheel is of sufficient power to propel the cyclist at an average speed of 10 or 12 m.p.h.

Motor BICYCLES

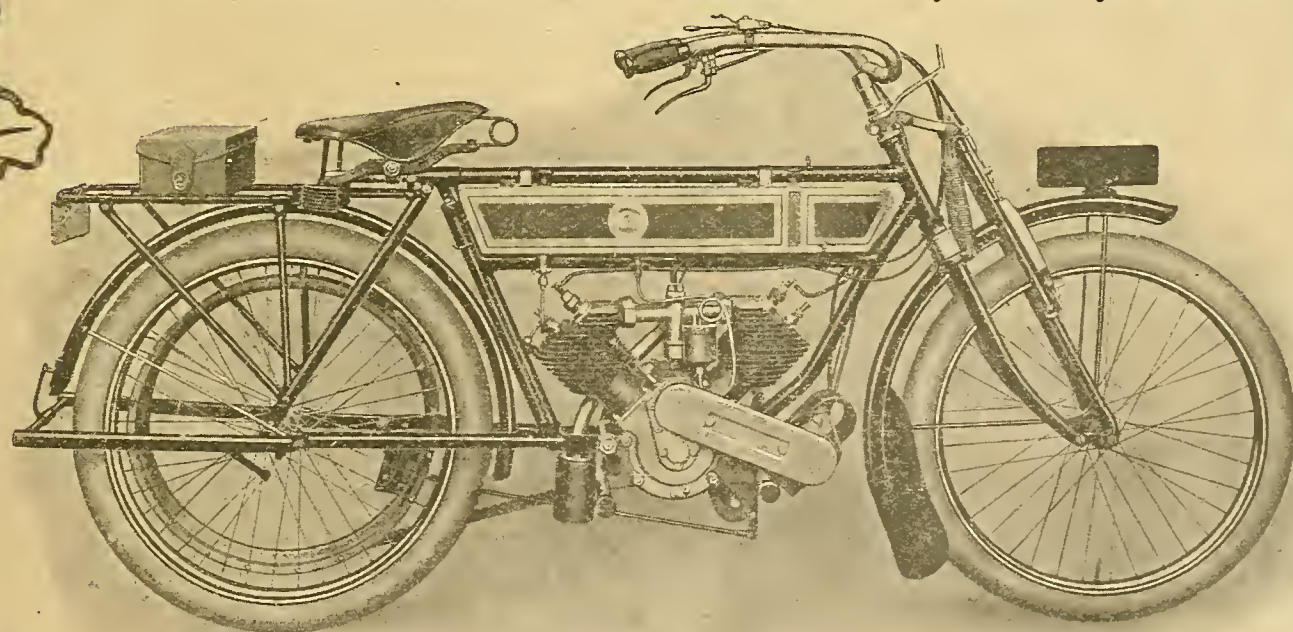


"BETTER THAN THE BEST"

Single-cylinder Motor Cycle
can possibly be, is the

PREMIER Twin-Cylinder MOTOR BICYCLE.

It is designed to meet the needs of far-riding motor cyclists who desire a machine of the utmost reliability and speed power. The even firing, perfect balance, absence of vibration and ease of control are qualities which will recommend themselves to every motor cyclist.



PREMIER MODEL 2. DOUBLE CYLINDER. PRICE 50 Guineas net cash.

London Depot:
20, Holborn Viaduct, E.C.

Bournemouth Depot:
64, Holdenhurst Road.

The most up-to-date motor cycle made

—one that represents the very latest advance in motor cycle construction—the machine which every motor cyclist should investigate before deciding upon his choice of a new mount is the

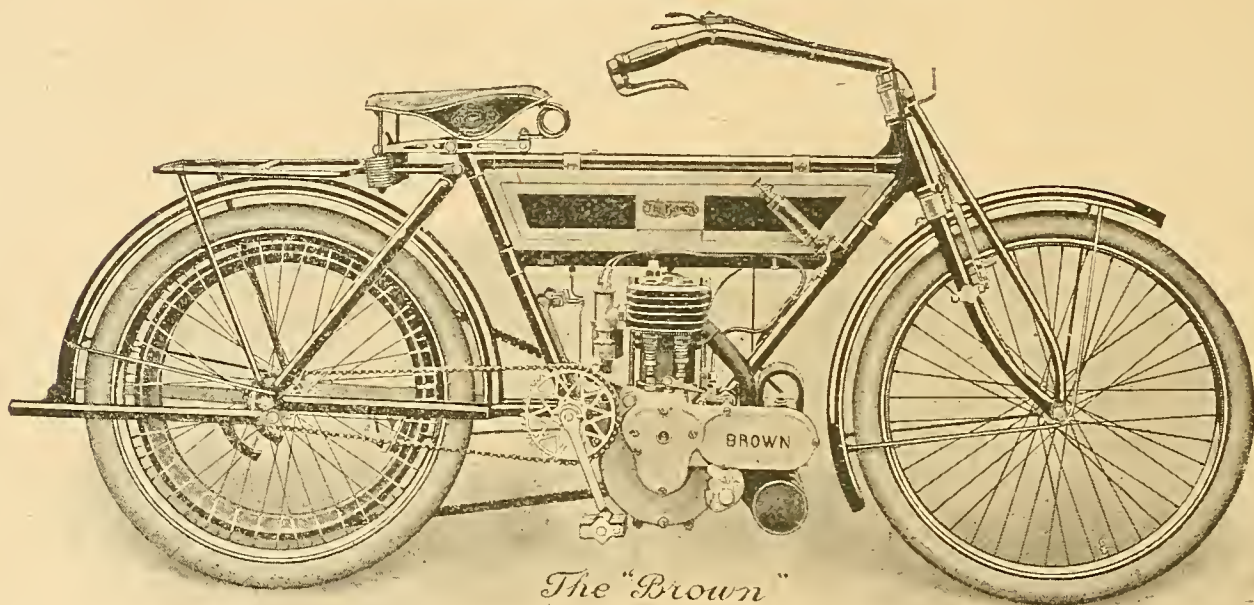
1910 'BROWN'

which we shall exhibit at the

Stanley Show, Stand No. 267.

This new model is re-designed on approved lines and embodies every feature that experience has proved to be essential to a high-grade mount. If you contemplate the purchase of a new motor bicycle call and inspect it, or write us for particulars.

Get to know the new "BROWN" first.



The "Brown"

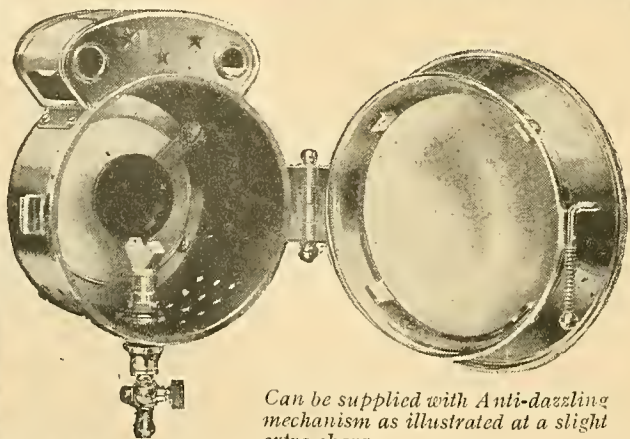
PRICE £48. Complete with Spring Forks.

"Tourist" Trophy model.—A specially light and racy type of machine built to comply with the Auto Cycle Union Tourist Trophy Regulations; Rigid forks; 26 x 2in. wired Dunlop tyres. Full specification on request. Price £48.

Brown Brothers Ltd

West End Showrooms: 15, Newman Street, Oxford St., W.
Manchester: 269-273 Deansgate. Paris: 31 Rue de la Folie Méricourt. Wholesale only: Great Eastern St., London, E.C.

The 1910



Can be supplied with Anti-dazzling mechanism as illustrated at a slight extra charge.

Autoclipse

**MOTOR
CYCLE
LAMP.**

Already the most popular motor cycle lamp on the market, this new model is sure to find further favour with riders who take a pride in the equipment of their machines.

It is neater in design and better constructed than any other lamp on the market, and gives more light than any other lamp of its size. Copy of the 1910 Autoclipse Catalogue on request.

Brass, 24/- each; nickel-plated, 27/- each.

THE MOTOR CYCLE

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Subscription Rates: Home, 6s. 6d.; Canada, 8s. 8d. Foreign, 10s. 10d. per annum.

Agents for Australasia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency Ltd.

ADDRESS—20, TUDOR STREET, LONDON, E.C.

The Stanley Show.

THE interest in motor cycles at the Stanley Show increases year by year, and it is not unlikely that in a few years time we shall be calling it the motor cycle show; in fact, it is no exaggeration to say that already one-half of the exhibition is devoted to motor cycles and items of interest to motor cyclists. We have in course of preparation a statistical article which will show the number of complete machines exhibited, and have no doubt that this will prove highly interesting as in previous years, and will show a considerable increase.

The old question of arranging all the motor cycle stands together on the floor of the hall again suggests itself to us. We first mooted it in November, 1906, and have returned to it each succeeding year. There is much in the show to excite keen interest, and all who can find time to pay a visit before next Saturday will be well repaid for their trouble.

The motor bicycles for 1910 are divided into three great classes—heavy, medium, and light. These three sub-divisions are, of course, again sub-divided into many different categories. The heavy two-speeders are in most cases primarily intended for passenger work, they are mostly fitted with twin-cylinder engines, and cannot be purchased fully equipped weighing less than 200 lbs. The lightweights may be said to be anything less than 100 lbs. Some of the lightweights are considerably under 100 lbs. unladen, but with tools, reliable and substantial tyres, stand, and carrier, few turn the scale at less than 90 to 100 lbs.

With the exception of a few notable innovations the general design of the three types above mentioned remains very much the same as those exhibited last

year. By this we do not intend to convey the impression that no improvements have been made; on the contrary, detail improvement is everywhere apparent, and for proof of this assertion we refer our readers to the description of the exhibits published in this issue and the forecast in the two previous issues.

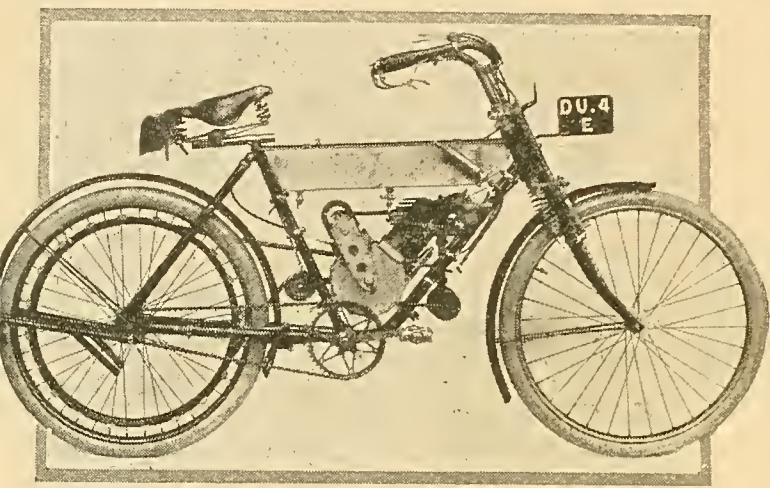
Years ago we predicted that the motor cycle of the future would be of medium weight and variably geared. It seems as though our prophecy was not far short of the mark, when one considers the number of machines of this type exhibited at the 1910 show, and the wonderful interest taken in them.

One cannot help regretting that slavish copying still exists to the extent it does. Apparently few firms are plucky enough to strike out on original lines; nevertheless, there is all the more credit to those who do.

There is a general tendency shown to place all the levers, etc., for controlling the engine on the handle-bar, including the ignition advance—a step in the right direction, particularly in the case of low-powered engines, where the control of the magneto spark within as wide a range as possible is of great service. On more powerful mounts a practically fixed ignition point is perhaps all that is required, but even on these machines it is often risky to release the handle-bar to give that slight retard to the ignition on a steep, rough hill which can be done so well and gradually by a handle-bar control lever.

Very few makers of single or multi-cylinder engines have retained the automatic inlet valve, and it is probable that by next year it will be extinct. It is possible to mechanically govern the movement of the inlet valve without much extra complication, and, as an m.o.i.v. usually needs less attention than the atmospheric type, it is not surprising that makers generally are adopting it.

Lubrication is mostly, if not entirely, on the splash system, although there are various methods adopted for feeding the oil into the crank case. The well-tryed and pump has a serious competitor in the sight-feed type of lubricator, operated by a partial vacuum in the crank case, but only one maker has introduced mechanical-feed oiling. Magneto transmission is fairly evenly divided between chain and gear, and it is noteworthy that most of the foreign makers appear to favour a gear. There can be very



Singer and Co.'s new model 1 1/2 h.p. lightweight. (Stand No. 120.)

little difference on the point of efficiency, but if the gears are not well made, a certain amount of power must be absorbed in addition to the power required to drive the armature—not a negligible factor on small engines, as evinced by racing machines of small engine dimensions being usually fitted with batteries.

Chain, gear, and worm-driven machines are much more numerous at this year's show, yet no one can deny that the V belt easily holds the field, despite its shortcomings. In the case of small engines, which naturally cannot be highly geared and require very small engine pulleys, the geared-down pulley presents a way out of the difficulty to enable a better grip for the belt.

Spring frames and forks are still an unsolved problem. The design of the forks is improved in many cases, but they are really elastic without being bouncy, and in this direction much remains to be done. We should very much like to see more attention devoted to the rear springing, whether of wheel or saddle. The latter is perhaps more practical and easier to accomplish, but not so complete as the former.

If there is one thing more than another which is settled it is the diameter of wheels on motor cycles. These are almost without exception 26in. There is more diversity of opinion on this among pedal bicycle makers, but motor cycles, whether single or passenger, are 26in. There are not more than half a dozen exceptions to this rule in the whole show.

The design of change-speed gears does not appear to have altered materially, and we think every known method of obtaining a variable gear ratio has been tried on motor cycles, from expanding and contracting pulleys to sliding shafts and gear wheels on car lines, but no one type is universal, doubtless due to the diverse methods of transmission, all of which require different form of gear.

There are striking examples of ingenuity in the design of gears in the show, and all should receive the visitor's most careful consideration, because some day some sort of change-speed gear will be universally employed, and

that day will come when change-speed gears require no more attention than, say, the timing gear of an engine. The weight of some gears is against them.

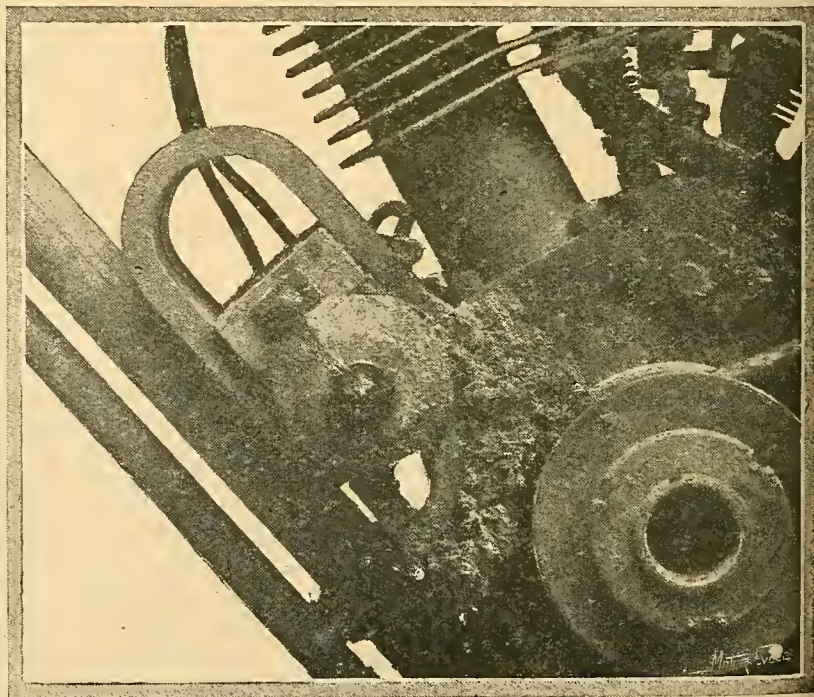
We feel sure that many who pay a hurried visit to the Agricultural Hall never go up to the Gallery, but this is a great mistake. On its floors are some of the best exhibits of complete machines, and accessories innumerable, to see which is worth a special visit.

Tyres and accessories at Olympia are always in the Gallery, but at the Stanley some of the best-known tyre firms are in the Main Hall. Tyres have improved wonderfully of late, and all the important tyre firms now recognise that the motor cyclist is worth catering for, and some very durable tyre covers and air tubes can be purchased for use on motor cycles. Those who expect to buy these at low prices must be prepared for disappointment. A good article commands a good price, and although so-called "cheap" tyres can be had they are not to be depended upon.

Local Taxation.

REFERENCE has been made on several occasions in these pages to the exemptions from local taxation licence duties, and on October 27th we published an explanatory letter on the subject of taxation, wherein "JS 92" averred that when the Inland Revenue department had the control and collection of these licences (which was until this year) it exempted from taxation motor cycles laid by and not used at any time during the year, and also any motor vehicle constructed solely for the purpose of carrying goods. Now that the collection of these taxes is in the hands of local councils through the medium of the Post Office difficulties are cropping up on all sides, and motorists who under the old regime were exempt from taxation now find themselves threatened with summonses for not possessing a licence.

The root of the trouble appears to be due to the fact that new brooms sweep clean, and that the local councils are keener on the application of the tax than their predecessors, although they appear to interpret



A weather-proof magneto. While some writers are continually urging for adequate covering for the magneto, and more protected positions, it should not be overlooked that the magneto has attained a wonderful state of efficiency. The Moto-Reve engine and magneto illustrated ran perfectly in the above condition, the result of 125 miles mud plugging.

TRIUMPH

1910 Model

shows
many
improvements,
again
placing
it
ahead
of
all
others.

A few of the improvements are:

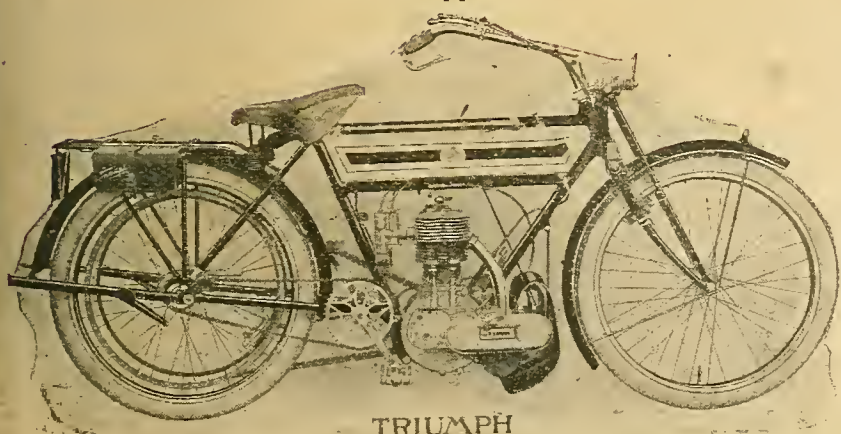
- Engine.** Increased to 85 x 88 mm. bore and stroke, improved pattern valves, lower compression, improved variable pulley allowing a greater reduction of gear, heavier rimmed flywheels.
- Tank.** Fitted with larger filler caps, ingenious air release valve, inclined pattern oil pump dispensing with oil cock, improved petrol injector, and permanent clips fitted on top for inflator.
- Silencer.** An entirely new method of working cut-out, no pull-up action (Proc. Pat. No. 25648).
- Brake.** Back foot brake operated from lug on frame and not from footrest.
- Stand.** Kick up, fitted with spring clip, automatic fastening (Pro. Pat. No. 25014).
- Handle-bar.** New design, with sloping ends, giving a most comfortable position.
- Magneto.** Improved method of fixing sprocket wheel (Pro. Pat. No. 25647).
- Hubs.** New Pattern, easily adjusted, and absolutely waterproof.

Triumph well-known special features, such as Ball-bearing Engine, Patent Carburetter and Handle-bar Control, Patent Spring Forks, Variable Pulley, are being retained in the 1910 Model.

**Stanley Stand
Show, No. 122.**

**TRIUMPH CYCLE CO., Ltd.,
COVENTRY.**

LONDON—4/5, Holborn Viaduct, E.C. LEEDS—4, King Edward St.
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DUBLIN (Wholesale only)—62, William Street.



In answering this advertisement it is desirable to mention "The Motor Cycle."

THE **LODGE** SPARKING PLUG.

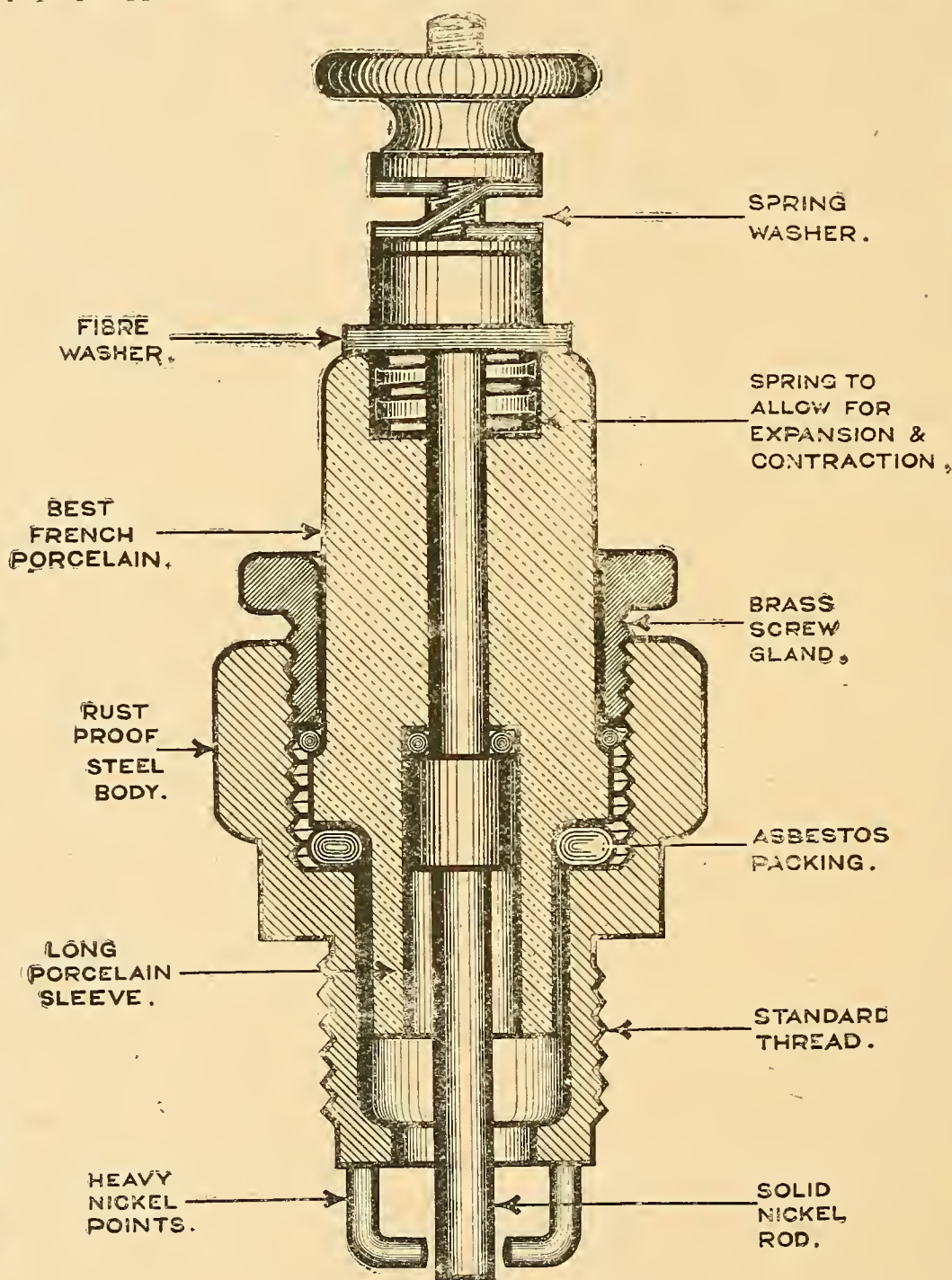
Every plug supplied with special steel gauge for accurately setting sparking points.

**DESIGNED
FOR
MAXIMUM
POWER.**

**THE MOST
PERFECTLY
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STRUCTED
PLUG.**

PRICE
4/-
**Fully
Guaranteed.**

**THE BEST
PLUG FOR
MAGNETO
IGNITION
(OR
ACCUMULATOR).**



This illustration is exactly twice actual size.

**EVERY
DETAIL OF
IT CLAIMS
YOUR
ATTENTION.**

3 POINT SPARK GAP.

The name "LODGE" is clearly visible on the porcelain. Special pattern suitable for the Triumph engine.

... ASK TO SEE THESE PLUGS AT YOUR GARAGE ...

If you should have any difficulty in obtaining them, they may be had direct from us, but cash should in every case be enclosed with order. They will be sent off by return (post free in U.K.) Money back if not approved.

PRICE 4/- EACH NET.

Not at Stanley Show.

Descriptive pamphlet sent post free on application.

LODGE BROS. & Co., DEPT. E., 14, NEW ST., BIRMINGHAM.

wording of the Act somewhat differently in two three instances which have come to our notice. The latest case we have heard of is explained in a most interesting article which we publish below. In this particular case the correspondent (who for various reasons wishes to remain anonymous) has been allowed to use motor vehicles in the past without taking out a licence, but is now threatened with a summons if he does not provide himself with one forthwith. He claims that his vehicle is used solely for the delivery of goods, and is constructed for that purpose. The local council refuse exemption on the grounds that "it is possible to use the vehicle for pleasure purposes"—an elastic remark applicable to motors constructed for the sole purpose of carrying goods.

One of the bodies governing motoring was approached on the subject, and agreed to fight the case as a test of the powers of the councils. Almost immediately the council was apprised of this intervention through its clerk, the tactics were changed, and the motorist was not accused of having used his vehicle for pleasure purposes. He assures us that he has not, but the accusation alters the legal aspect of the case, and the

body which previously signified its willingness to contest the point now declines to do so. There are no doubt good grounds for such a decision, but we think action should be taken to prove whether exemptions (which were previously allowed) cannot be insisted upon in the case of machines constructed for the purpose of carrying goods and those kept but not used during the year. These exemption clauses are printed on the declaration form. If all councils insist upon payment of the tax and refuse exemption in every case it will seriously hamper the use of motor cycles and cars by travellers and others who wish to carry goods on their machines in the form of samples and who should be fetter free.

To continue the argument, if it is possible for councils to insist on taxes in the case of vehicles kept but not used, presumably it would be within their rights to ask dealers and manufacturers who have machines in stock for sale to pay a licence on each of them. This may be somewhat far fetched, but it is not any more so than the action of some of the councils who appear to be determined to make all pay in utter disregard of the exemption clauses on the official declaration form.

LOCAL TAXATION: A WARNING.

BEING some discussion regarding taxation exemptions in *The Motor Cycle* recently, an experience of my own may be interesting, and at the same time prove a warning to others in like circumstances.

About September 20th I became the owner of a two-seated cycle, with platform at the back for the carriage of goods, and gave this information on the form when application was made for registration, also stating it was to be used for business purposes only, viz., the delivery of goods in the ordinary course of business. I also stated that the owner's name and address were painted on the body as prescribed by law, and, under these circumstances, claimed exemption from the £2 2s. tax, which had been previously allowed me on other vehicles used in a similar manner during the time they were under the control of the Inland Revenue authorities. A few days after registering I was served with a demand for the £2 2s. tax from the local town clerk, and exemption was refused on the grounds that it was "possible" to use the cycle for pleasure purposes. Although I was in point of fact using it only as stated, that was not sufficient. Failing payment of the tax prosecution was to follow. Being a member of a club affiliated to one of the motoring bodies, I read the facts before the secretary. The solicitor to this club at once wrote the town clerk that if he decided to prosecute the case would be treated as a test case, and fought my behalf.

A Change of Tactics.

The town clerk then changed his tactics for the exaction of the tax by saying he had evidence that I had used the car for pleasure. I had done nothing of the kind, however. I pointed this out to the solicitor, and told him I had kept a complete diary of my journeys. The solicitor conveyed this to the town clerk, and also advised me, as the matter turned on a question of fact and not of law, that I had better engage a local solicitor to defend me, and the motoring body would consider assisting me in the payment of expenses. These preliminaries occupied about a month—up to October 1st. On October 27th the solicitor, or rather the secretary of the association, wrote the town clerk, saying his association did not propose going any further with the matter. As soon as this information reached the town clerk the final twist was given to the screw, the matter was placed before the local watch committee, who gave instructions for a summons to be issued, and at this point, convinced of the folly of fighting a test case without assistance, I paid the tax.

The Kind of Vehicle Really Exempt.

In an interview I had with the town clerk I enquired what kind of vehicle would be considered exempt. His answer was interesting and illuminative of the spirit in which local

authorities seem inclined to act, as contrasted with the Inland Revenue Board. I was informed that exemption would practically be non-existent, and nothing short of a steam or petrol waggon, with solid tyres and waggon body, would be exempt. The use to which the owner of any other kind of motor vehicle could put it, and the fact of his name and address being painted thereon, had nothing to do with the matter.

The Inland Revenue Definition.

Now as the form when dealing with exemptions distinctly says:—"That any vehicle made or adapted for the carriage of goods, and used solely for the purposes of husbandry or trade, shall be exempt from carriage licence," I cannot but think that the town clerk is wrong, and I do not think the tax was ever intended to oppress those who, like myself, simply wish to make use of a vehicle to assist them in earning their living.

Under the Inland Revenue Board we were at least assured of one standard view of ruling. Under the latest arrangements it seems possible, and likely, that every town clerk or clerk to a county council will have the power and exercise it to set up his own ruling and interpretation of exemption, and those motorists within his area must abide by it. That this power should be divided among so many is surely a mistake, and likely to cause endless confusion, expense, and friction. If any of your readers are contemplating the use of a motor of any kind in their business I think they would be wise to ascertain the views of their local autocrat, or they cannot rely on escaping the tax.

A Case for the Motoring Associations.

The licensing Act with regard to motors requires reframing, and it is a pity that the various governing bodies cannot present a more united front, and endeavour to secure some measure of equity for that unfortunate milch cow, the common or garden motorist. If there is any one class of taxpayer singled out for plunder, interference, and persecution in various ways it is that unfortunate being who owns a motor cycle or car. I purposely leave out the district I reside in and the name of the association concerned, as no good purpose can be served by bringing their names to public notice, but, as my experience may serve to show that the shackles of officialism are likely to be drawn even tighter than before, and thus to put others on the alert, I trust you will be able to find room for my article *in extenso*.

PAY, PAY, PAY.

The R.O.M. Tyre and Rubber Co. (1909), Ltd., is being floated, with a capital of £30,000, the shares being of the value of £1 each. 20,000 shares are now offered for subscription at par.

Occasional Comments

By "IXION."

Order Early.

There are two classes of purchaser to be seen annually circling round the alluring gangways of a Stanley Show. The first is a man of excitable breed who allows himself to be hypnotised by glittering exhibits and glib salesmen into placing an ill-considered order on the first day of the exhibition at almost the first stand he approaches, and so gets saddled for twelve months with a machine that does not really suit him, finally disposing of it at a loss. The other is the ultra cautious individual who waits for the early spring competitions to see which novelties are going to make their mark, and ends by having to wait during two months of gorgeous riding weather before he can get delivery of the desire of his heart. There's an old maxim which advises us to sleep a night on every important decision; and buying a motor bicycle is rather like marrying a wife. You are taking a companion of your joys and sorrows, a companion not easily or cheaply to be got rid of, and haste does not pay. But while we dally, other lovers may propose. So I generally make up my mind at the Stanley Show what I am going to ride during the next year, though I never place my order on the first day, or before I have made my round of all the stands; and if my fancy pitches on something really new, my order is made conditional on a satisfactory road trial.

The Weight Factor.

Often and often when I have been hesitating between two machines which in technical excellence seemed indistinguishable, as they reposed lazily on their patch of carpet, I have solved the enigma and caused dark shadows to flit across the countenance of the show attendant by lifting the rear part of the machine off its stand. The weights of machines appear both in Stanley leaflets and in permanent catalogues in figures of a truly suspicious rotundity. It is always a case of "80" or "150" or "160." (Why I never saw a twin at the show that weighed more than 170 lbs.; did you?) It is only at hill-climbs and reliability trials that we sadly encounter the 110 lbs. lightweight, the 180 lbs. single-cylinder roadster, and the 2 cwt. twin. We cannot go to Islington with a spring balance and string up the jigger that smites our inflammatory affections to discover its actual weight. But when decision is just rolling over the brink of the irrevocable precipice we can take the wise precaution of seizing our choice just abaft the saddle and hefting its rear wheel an inch off the floor. It is often thus that the decision of the wilier motor cyclist is clinched or withdrawn.

Tools.

If there is one detail of the Stanley Show which seldom receives the attention it deserves from the average rider it is the handy little tool or accessory tucked away in small exhibits in the Gallery. He orders his machine, but he delays the purchase of such items as belt punches, valve spring compressors,

etc., until he returns home to the wildernesses of Devon or Northumbria. Then he goes in haste to his local petrol man what time the gorgeous mount is newly uncrated, and orders in haste. Presently on his summer tour, as he wrestles with an awkward job under the handicap of unsuitable tools, another rider comes along and complacently loans him some small accessory that shortens the time and reduces the weariness of the job by fifty per cent. I never come away from the Stanley without drooping pockets. I am no catalogue fiend, dear reader, but I set aside a few sacred hours for a minute inspection of the accessory stalls, and there I find the perfect little spanners, and pocket kits, and belt punches, and fasteners, and spring compressors, and what not, which make me almost welcome a broken belt or a snapped valve by the roadside when the time comes to use them.

Generators.

In particular the Stanley supplies a fine opportunity to obtain a better acetylene generator. Thousands of riders are limited to the daylight hours for the riding simply because they have started their motor cycling existence with an old-fashioned generator. When darkness comes on it takes a quarter of an hour to get it started, maybe, and oft in the still night it strikes work, and if they can coax it back to afford a few stray beams of very dubious illuminative value they have to wriggle home in constant terror of knocking with their front wheel at the back door of a hooded van or caressing the hindquarters of a cow. But the statistics of twenty-four hour runs show that there are motor cycle generators which will regularly supply enough gas for riding the night through without trouble or anxiety, and if you, dear reader, do not possess a generator of this type, just make a special examination of the innards of the beasties at the Stanley, and you will not go back home without at any rate one bulging pocket.

Another New Lightweight.

Recently I was permitted to examine an experimental lightweight motor bicycle of wonderfully neat design the product of a large firm of motor cycle manufacturers in the Midlands. At present I am not in a position to divulge the name, but may say that this little lightweight is thoroughly up to date in design, possesses spring forks, a vertical engine carried low down in the frame fired by magneto, mechanically operated inlet valves, and V belt drive. The total weight I should estimate to be not more than 85 lbs. Anyway one could lift it clear of the ground with one hand. I have noticed it running about more than once, and it seems to be a thorough success. Everytime I see the machine on the road it brings home to me how careful those firms are who have a reputation to consider place nothing on the market which is not bound to be a success in the hands of amateurs.

INDIAN

THE POINTS TO LOOK FOR ON STAND 132.

VALVES.—Overhead M.O.I.V. ensures easy starting and keeps exhaust valve cooler.

OIL PUMP.—Mechanical, on crank case, positive and regular lubrication in any temperature.

SILENCER.—No one has yet termed the INDIAN "noisy brute!"

CONTROL.—On handle-bar, positive and simple. No finger-ache—just a turn of the wrist.

TRANSMISSION.—Chain drive gives nearest 100% efficiency. And how neat!

CLUTCH.—The INDIAN clutch makes the chain drive as smooth as a belt.

FRAME.—You cannot see the strength from outside—ask to see a section.

SPRING FORK.—No vulgar display of springs and rockers—but the spring is there.

28in. WHEELS.—Large wheels spell C-O-M-F-O-R-T. Also speed, and longer life for tyres and the machine generally.

BRAKE.—The INDIAN band brake is a model of efficiency—it holds!

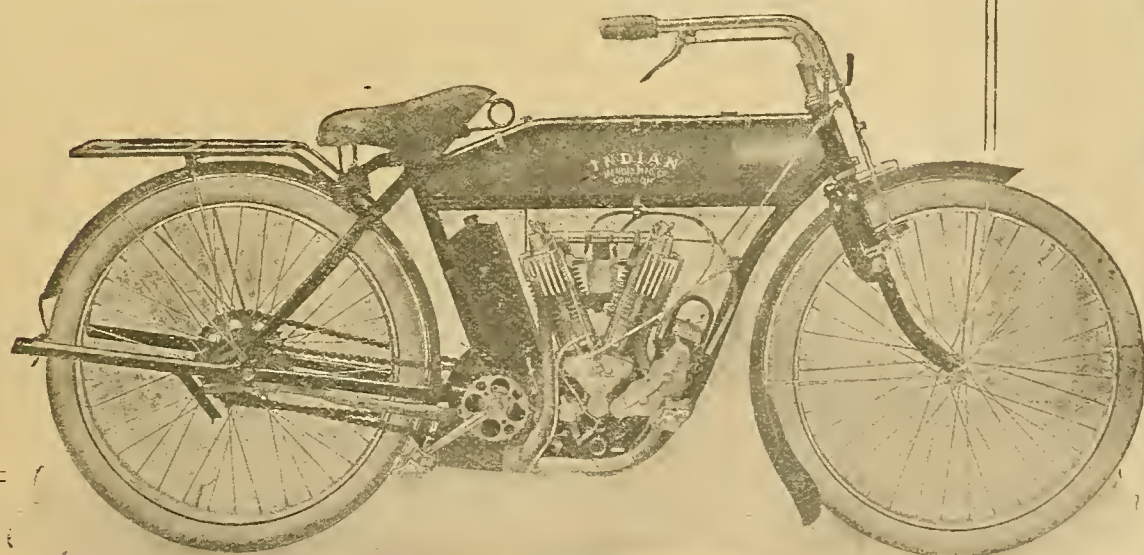
I still hold the RECORDS for 50 miles (53 mins. 58 4-5ths secs.), 100 miles (1 hour 50 mins. 24 2-5th secs.), 2 hours (108 miles 1,367 yds.)

NOV. 13th, 1900.

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S. & H.

The Man on the Saddle—

He knows the value of comfort—he knows that without it perfect pleasure is impossible—he knows, also, that upon the Saddle, more than any other fitment, his comfort is dependent—

He knows, further, that the name of BROOKS in such connection means that perfection in design, material, and workmanship, which alone can make that comfort possible.

Do you know?—if not, note that in every model of the

BROOKS' Anti-vibratory Saddles and Seats

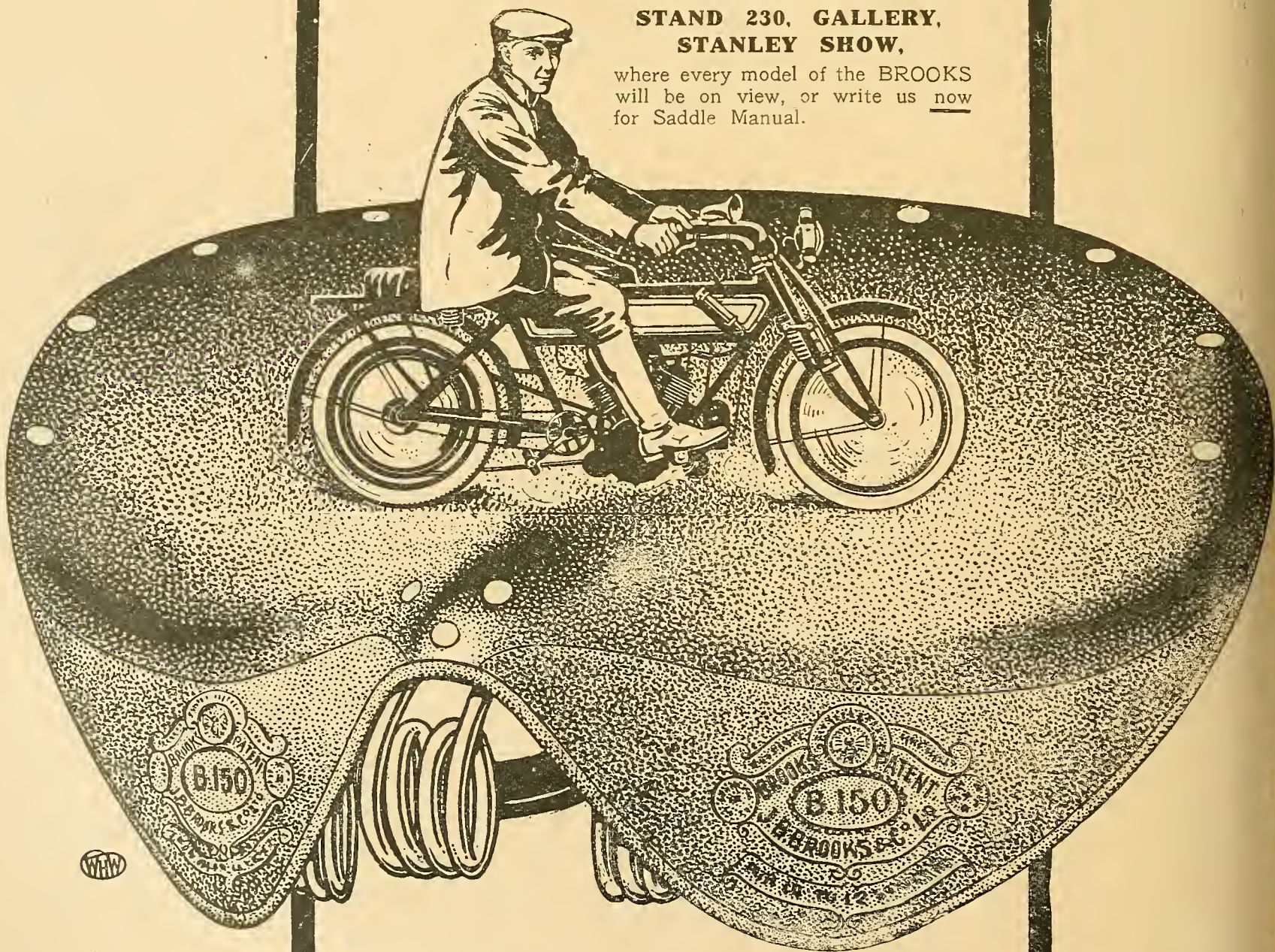
comfort and durability are ideally combined—

That embodied in their construction is that exclusive feature—the BROOKS Patent Compound Springs—which absorb vibration within themselves, and entirely eradicate that common fault—a tendency to bounce.

There are many other advantages, and if you would learn more of them, you should call at

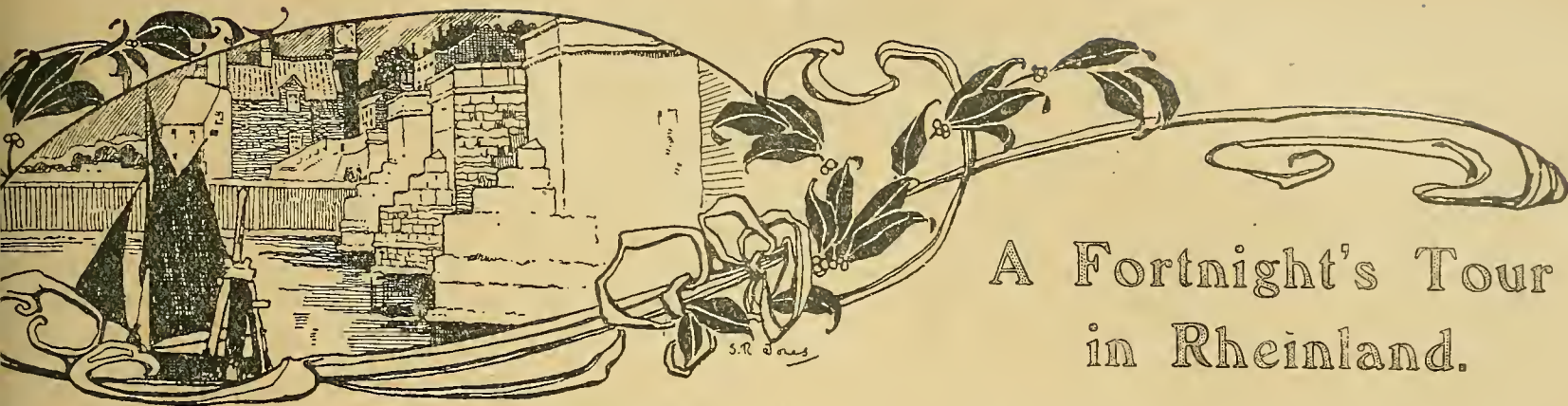
**STAND 230, GALLERY,
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where every model of the BROOKS will be on view, or write us now for Saddle Manual.



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J. B. BROOKS & CO., Ltd., BIRMINGHAM.



A Fortnight's Tour in Rheinland.

DURING part of last summer, I made an exceedingly pleasant tour as far as Bingen, which I think I can safely say was one of the most enjoyable I have ever experienced. Not only the trip a little out of the ordinary, and calculated to broaden the mind, but the expenses were small and the experiences so delightful that I can confidently advise my *confrères* of the noble pastime, if they have not already done so, to give this form of holiday a trial.

On the 9th of July I started off from London for Newhaven at about 6 p.m., so as to arrive in plenty of time in which to attend to the various preliminaries, such as emptying the petrol tank, getting the machine weighed, and, not the least important of all, securing berth on the steamer before the boat train arrived. The cost of the passage from Newhaven to Dieppe is 1. 6d. (second class) for the passenger and 10s. for the motor bicycle.

A Word of Advice.

Before embarking the traveller should make sure that his machine is being carefully handled on its passage from the quay to the steamer, and he would do well to remove all detachable accessories, such as a pump or tool bag, and thus by a little foresight avoid any possible difficulty which a loss of these necessities would occasion. Once assured that his mount has been safely stowed away, the motor cyclist should make himself comfortable for the night; after which, if he is a good sailor, he will awaken only when the steward informs him at 2 a.m. that the good ship is nearing Dieppe, which he will do as surely as the best alarm clock. The first thing to do after the machine and rider are ashore is to have the motor cycle cleared through the Customs House, and to the uninitiated it is a far more simple matter than at first sight appears, especially if he be a member of the A.C.U., A.U., or C.T.C., and this is a point on which I place particular emphasis. Even if he join merely for a tour, the advantages derived more than compensate for the nominal expense incurred. Moreover, the ticket lightens the traveller's burden in many ways, and is almost as good as a passport.

The First Ride on French Soil.

Once clear of the Customs grasp, the tourist should obtain a *permis de circulation*, 60c., which authorises the holder to drive his machine through France for a limited time without paying the usual tax exacted on permanent users of foreign machines. Having finished these formalities the motor cyclist should look to the wants of the inner man, and though it is still very early in the morning a good breakfast may be obtained in one of the cafés adjoining the quay which he will find

open. Breakfast over, the machine needs oil and petrol, and when this part of the business is over, the rider will still have a long day before him on which to begin his first journey in a foreign land. Petrol, or *essence* as it is called in France, is sold by the litre, at a price ranging from 25c. to 50c. per litre, the latter being equivalent to about a pint and threequarters. When all was ready I set out for Amiens, about seventy miles away, where anyone following my route may if he desire only to travel a short distance pass the night, and have a good look round that ancient military town of somewhat Flemish appearance, with its quaint old buildings and cobble-paved streets. A good hotel which I can thoroughly recommend is the Hotel Central. Next morning I made for Sedan, passing the famous battlefield *en route*. The roads were in perfect condition, straight as a die, and possessing an excellent surface, which, coupled with the fact that there is no enforced speed limit, rendered the going



The Steuerkarte which has to be obtained on arriving at the frontier. The writer paid a deposit at the Customs of 63 marks (£3 3s.), which is recoverable within a year providing the seal affixed to the card is unbroken.

in every sense ideal. Most of the main roads are planted with trees on either side, giving them the appearance of avenues, but the less important roads are similar to our own. Arriving at Sedan I put up at the Hotel de la Croix d'Or, which is both comfortable and moderate in price, while to those motor cyclists who are not *au fait* with the French language there is the Hotel de l'Europe, which is still cheaper, and has an Englishman for its host. Next morning I saw that the machine was filled up with petrol, and made a dash for Trier (Treves), the German frontier town, where petrol ceases to be known as *essence* and changes its name to *benzin*.

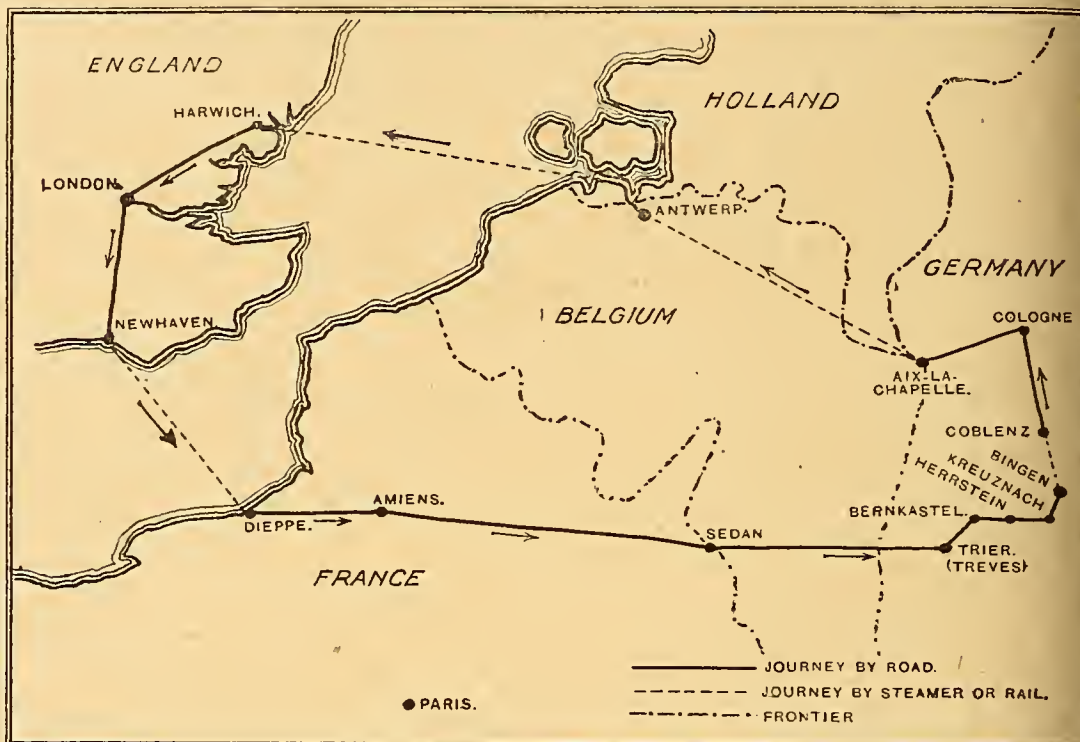
A Fortnight's Tour in Rheinland.—

On arriving at the frontier I had to pay a deposit at the Customs of sixty-three marks (three guineas), which is recoverable at any of the frontier Customs houses when leaving the country any time within a year of entering, provided the seal affixed to the card is unbroken. The *steuerkarte* which the editor has been kind enough to illustrate is similar in a way to the triptych issued by the Royal Automobile Club to car owners, only it is procured in Germany, and not in London, as is the case with the triptych. It states that it is good for a year from 13th July, 1909, to 12th July, 1910, that it is issued to me for a petrol-driven motor vehicle of $3\frac{1}{2}$ h.p. made by Antoine Fils and weighing eighty-five kilos., while overleaf it mentions that I have paid two and three marks respectively for its issue. The remaining ten pages of the booklet consist of spaces for stamping my entrances and exits. Of these there are only two showing that I came into Germany on July 13th and left the country on the 25th of that month. So much for the *steuerkarte*. I was then given a number big enough for a motor omnibus, to fasten to the back of the machine, and was once more free to roam.

Hilly Roads and a Change of Scenery.

From Trier onwards I was much struck by the change of scenery, so different from that I had just traversed. The roads, instead of being straight, now adopt a winding course, and become decidedly hilly, particularly after leaving Bernkastel, and thence on to a place called Herrstein, where most of the precious stones are cut. Proceeding on to Kreuznach, noted for its salt baths, I at last arrived at my destination, Bingen. Here I stayed the night in order that next morning I might take a ticket on the steamer to carry my mount and me up the Rhine as far as Coblenz. I may mention that on the Rhine boats it is not compulsory to empty the motor cycle tank, and the cost of the journey for the rider and his *motorrad*, as they term the machine, is about 3s. 6d. To describe the beauty of the scenery as it unfolds itself

at every turn of the river is beyond the power of the pen. I can simply sum it up in one word, "great." At Coblenz the famous bridge of boats stretching from the town across the river to the foot of the fortress of Ehrenbreitstein is well worthy of notice, especially as it is so constructed that it can be removed in a few hours. After landing I had time to look round the town, and then started for Cologne, traversing a fairly level road, the surface of which was excellent. I reached my destination at nightfall. Besides the world-famed cathedral there is nothing of interest. Next morning I resumed my journey, and travelled as far as Aachen (Aix-la-Chapelle), where there



Showing the route followed by the writer during his fortnight's tour in Rheinland. The route was London to Dieppe, Amiens, Sedan, Treves, Coblenz, Cologne, Aix-la-Chapelle, returning to England via Antwerp and Harwich.

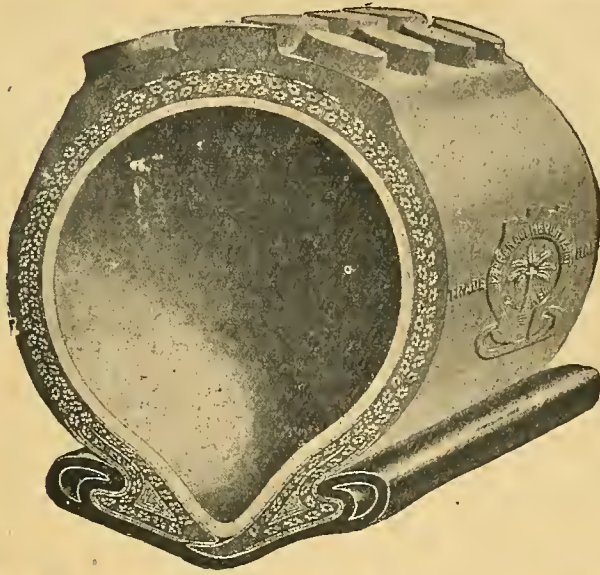
are some very fine examples of German statuary. Half an hour's ride from this town brought me once more to the German frontier, where I had my *steuerkarte* stamped and recovered my deposit. As I knew the Belgian roads to consist mostly of *pavé*, I took the train to Antwerp, and caught the night boat to Harwich. Thus ended a most enjoyable trip, of which the expenses, including everything, did not exceed a ten pound note.

J. SUMMERS.

A NEW ROTARY VALVE ENGINE.

ALTHOUGH primarily designed for cars, a new silent rotary valve engine designed by Mr. E. W. Lewis, of Coventry (who was responsible for the design of Rover motor bicycles several years ago), cannot fail to interest motor cyclists. It may be explained briefly as follows: The pistons and connecting rods are of ordinary design, and operate in conjunction with a standard crankshaft and base chamber, but the cylinders differ widely from those in general use. Running longitudinally over the cylinder or cylinders is a horizontal hollow shaft, which is perforated to form a series of ports. This shaft is rotated in the seatings formed in the heads of the cylinders by skew gearing from the crankshaft. By the continuous rotating of the valve tube with its various ports, the cycles of induction, compression, explosion,

and exhaust can be carried out in each cylinder in the desired sequence. This tube acts as a distributor, admitting the mixture on the right and releasing the exhaust gases on the left. It is a remarkable fact that the cylinders are not bolted to the crank chamber, but rest upon the flanges of the aluminium water jackets. The latter and the bearings of the valve tube are secured to the crank case, so the effect of explosion and compression is to force the seating portions hard up against the valve tube. We see no reason why an engine of this type could not be applied to a motor cycle, although at present we know nothing of its comparative efficiency or its capability of withholding compression for long periods. Its silence and simplicity, however, are points in its favour. An illustrated description of the engine appeared in Saturday's *Autocar*.



The
NEW PALMER
ALL-RUBBER STUDDED
CORD TYRE

THE IDEAL TYRE IN EVERY RESPECT.

The combination of rubber studs, which are recognised as most efficient non-skidders, with the well-known Palmer "Airless Cord" construction, is unsurpassed for perfect safety and strength and durability.

The rubber studs are moulded into and form an integral part of the tyre, and neither slow the machine nor heat the tyre.

The studs cannot come out and the tyre therefore retains its non-skidding properties longer than a metal studded cover.

Unlike metal studs, a rubber non-skid does not affect the resiliency, speed, and durability of the tyre.

**MAKE A POINT OF SEEING
 THIS TYRE AT THE
 STANLEY SHOW.**

STAND NO. 3
Stanley Show.

**THE PALMER
 TYRE, LTD.,**

119, 121, 123, Shaftesbury
 Avenue, London, W.C.

LONDON DEPOT:

103, St. John Street,
 Clerkenwell, E.C.

In answering this advertisement it is desirable to mention "The Motor Cycle."

GAMAGES

For Useful and Up-to-date Accessories.

BOSCH

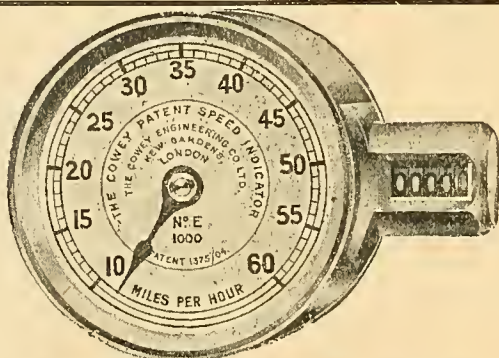
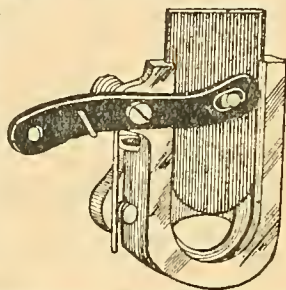
MAGNETO REPAIR PARTS.

A FULL ASSORTMENT ALWAYS IN STOCK.

THE GAMAGE CUT OUT.

One of the most useful fittings yet designed for the motor cyclist. Quickly and easily fitted. Cannot get out of order. The shutter fits snugly in the groove, and when down forms a perfectly gastight joint. Strongly made and beautifully finished off.

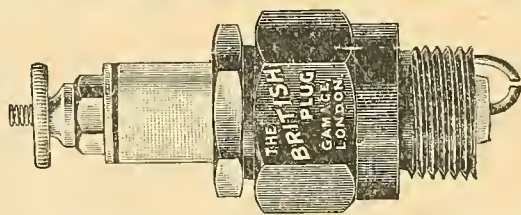
Price 6/- Postage 3d.



The Cowey Motor Cycle Speed Indicator.

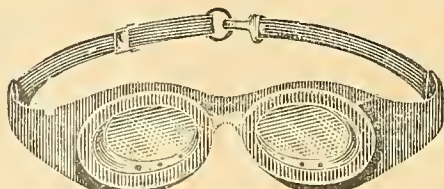
Can be fitted to any machine, either spring or rigid forks. Will fit on either right or left-hand side. Will register up to 60 miles per hour. Fully guaranteed. Price, with Odometer, £4 4 0. When ordering, please give the following particulars: Name of machine, horse-power of machine, size of front wheel, whether spring or solid forks; if spring forks, name of make.

THE 1909 BRITISH PLUG (Guaranteed).



Our leading Plug for 1909. Thoroughly guaranteed. A really dependable plug at the moderate price of 1/9.

THE "SHAMROCK" BELT PUNCH. Price 1/6.



Famous All Rubber Goggles.

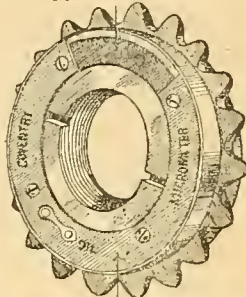
With unbreakable glasses, complete with spare set.

With plain and smoked detachable glasses. Original make.

Gamage's price 1/9

New Micrometer Frictionless Oil-tight and Dust-proof Free Wheel for Motor Cycles.

OIL AND WATER-PROOF PAD



DUST-PROOF WASHER FIXED BY FOUR SCREWS

With the exception of starting the machine, the free-wheel on a motor cycle is always free-wheeling.

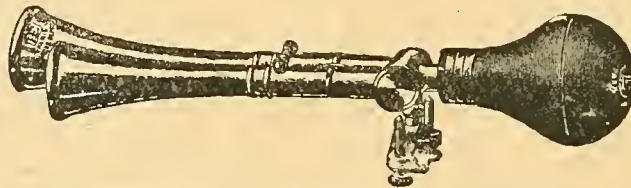
Besides this abnormal amount of wear, it runs under the very worst conditions as far as rain, mud, and dust are concerned.

It consequently requires more lubrication, while the excessive speed at which it continually runs tends to throw the oil out.

The ideal motor cycle clutch must be dust-proof, water-proof, and oil-retaining, and there is certainly no other clutch than the Micrometer having these qualifications, and which are covered by several patents.

Price, with any thread up to 1 1/2 in. bore, 11/-

Please send old clutch when ordering, otherwise fullest details as to chain line, pitch, etc.



The Compact Motor Cycle Horn.

Very deep and sonorous note, well made, good finish throughout. In nickel. Price, 8/6 large size, and 5/9 small. Postage 4d

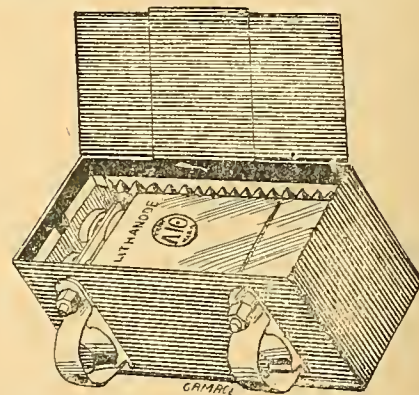
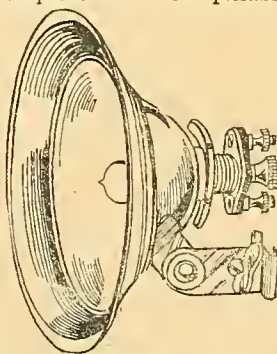
The "Fanfare" Horn.

New motor cycle size. Loud, sharp, sweet note. Two-note, price 7/6. Second quality, 4/6. Best quality, three-note, 10/6. Post 3d.

A NEW ELECTRIC LAMP.

Complete with non-spillable accumulator in case. Fitted with clips for attachment to frame. Gives an exceptionally brilliant light, and has an adjustable bulb, so that rider can focus light to suit his own requirements. Nickel-plated.

Price 37/6, complete.



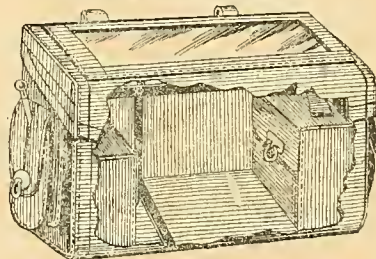
"PATCHQUICK" PATCHES

thoroughly amalgamate with the tyres, and will neither creep nor come off when the tyres get hot. They require no Vulcaniser, are fixed in five minutes, and will expand when tyres are inflated.



Price 6d. and 1/- per tube. Patches 2d. each. Repair Outfits, 3/- Can be sent by post or rail.

The 1909 Motor Cycle Bag. With pockets for oiler, plugs, and springs. Price 7/6, postage 3d.

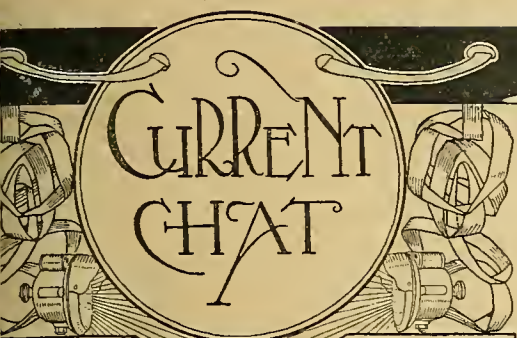


A.W. GAMAGE LTD.
HOLBORN.

BENETPINK LTD.
CHEAPSIDE.

LONDON E.C.

In answering this advertisement it is desirable to mention "The Motor Cycle."



TIME TO LIGHT LAMPS

Nov. 22	..	..	..	5.1 p.m.
" 24	..	..	..	4.59 "
" 27	..	..	..	4.56 "
" 29	..	..	..	4.55 "

"The Motor Cycle" Supplement.

Owing to the amount of space devoted to the description of the Show exhibits, a coloured supplement is included with this issue. Incidentally, we may mention that the supplement feature has been very favourably commented upon by numerous readers, and it is our intention to include it regularly in the future.

Lin's Postal Carrier Tricars.

The Berlin Post Office employs very few motor cycles for transport work, but three electric-propelled tricycles and as many three-wheelers fitted with internal-combustion motors representing its rolling stock. In point of fact, the Berlin authorities are displaying an extreme cautiousness in the adoption of mechanically-propelled vehicles.

Balloon Chase on Motor Cycles.

Fifty motor cyclists participated in a balloon chase organised by the Saxon branch of the German Motor Cyclists' Association. The balloon rose in the vicinity of Dresden. The first prize was withheld owing to a technical omission on the part of the balloonists, but the second prize, consisting of a silver cup, fell to a motor cyclist named Demmler, who reached the balloon four minutes after it had landed.

Important Resignation.

Mr. Robert Todd, for many years honorary chairman of the Stanley Show Committee and president of the Stanley Cycling Club, has resigned. An alteration in the arrangements for the conduct of the business side of the show has brought about this retirement. We have not space to deal with all the circumstances, but it will suffice to point out that previous to this year's exhibition the show has been carried on by the Stanley Cycling Club, a club of amateur cyclists who derived no personal advantages from the profits of the show. Lately an important change was made in the ownership of the show, the goodwill and property being transferred to a limited liability company. Mr. Todd's chairmanship of the club extends back twenty-five years; it can therefore be surmised that he is not severing such an old connection without general regret on all sides. Mr. Todd, of course, still retains the chairmanship of the Auto Cycle Union.

SPECIAL FEATURES

THE STANLEY SHOW EXHIBITS. DESCRIPTIVE REPORT BY OUR OWN STAFF.

—Numerous Illustrations—

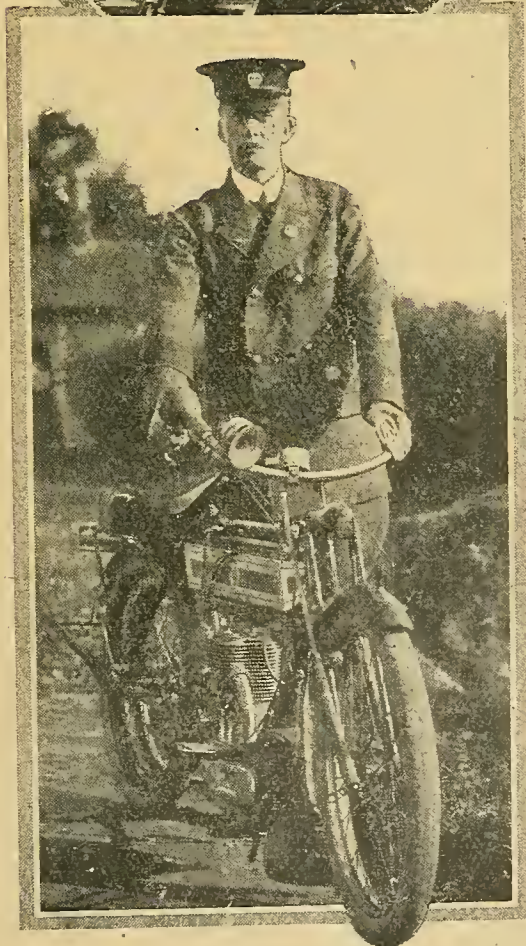
A FORTNIGHT'S TOUR IN RHEINLAND.

Criticisms of 1910 Models.

Mr. Basil H. Davies's criticisms of the new pattern motor cycles at the show will appear in an early issue of *The Motor Cycle*. Few motor cyclists have had as much riding experience as Mr. Davies, and his opinions are always interesting.

A.A. Scouts on Motor Cycles.

The enormous growth of the Automobile Association from 100 members to nearly 12,500 in four years has now induced the executive to arrange for a special and distinctive uniform to be issued to its patrols and patrol officers, as illustrated in the accompanying photographs. The uniforms have been



The smart uniform adopted for the A.A. cycle and motor cycle scouts. (1) Special cape for adverse weather. (2) The distinctive ordinary uniform.

carefully chosen with a view to affording the greatest possible protection from the weather, while rendering the men more prominent, and more easily seen by the occupants of cars approaching them.

Grant Towards a Heavy Fine.

As already reported, F. W. Applebee was fined £5 and costs at Retford recently for driving to the common danger in the 10 m.p.h. limit area. The A.C.U. promised to defend him, but the R.A.C. solicitor, through an oversight, failed to turn up. The R.A.C. and A.C.U. have since granted £5 to the expenses.

A Feature of "The Motor Cycle" Show Report.

This year we have adopted a novel and original method of arranging the description of the motor cycles exhibited at the Stanley Show, which we feel sure will be generally appreciated. It is usually necessary to scan a whole column description to ascertain the main features of any particular machine, but in *The Motor Cycle* Show report a brief specification is given under the heading of each make of machine, a commentary by our staff following. Prospective purchasers visiting the Show need only carry a copy of this issue to avoid much needless questioning of busy stand attendants.

Suggestions for the Auto Cycle Union.

The Midland Centre of the A.C.U. has decided to promote a speed contest at an early date on a private estate if a suitable course can be found. At a recent meeting of the centre in Birmingham the following resolutions were also passed: (1.) That the R.A.C. be asked to reserve in the "Year Book" a few pages to be devoted to the most useful and popular competition formulæ with examples, etc. (2.) That the A.C.U. be asked to vary the course of the quarterly trials. (3.) That the A.C.U. be asked to take the matter up re the lighting of cattle on the roads at night.

Germany's Imports and Exports of Motor Cycles.

Germany's foreign sales of motor cycles during the first nine months of the current year underwent expansion in comparison with figures for a similar period in 1908. It exported 1,751 machines as against 1,348 in the preceding year, with respective values of £55,550 and £41,950. The British market absorbed 497 double cwts. (double cwt. = 100 kilos), or an excess of 138 double cwts. over its tonnage in 1908. Russia ranks next to Great Britain as a customer for German motor cycles, its share being 166 double cwts. As to imports, Germany only received 202 machines, or seventy-seven less than in 1908.

Police Traps.

We have received information of a police trap two miles from Leeds, on the Otley Road, and another on the Chapeltown Road, near Leeds.

A Motor Cyclist's Light Monoplane.

Piloted by M. Campbell, of Bromley, Kent, a member of the M.C.C., initial trials of an all-British monoplane took place at Orpington. The combined weight of pilot and monoplane is 400 lbs. A 7ft. propeller made of wood is used and a J.A.P. aero engine. The machine travelled several hundred yards at five or six feet from the ground, when the propeller became loose on the shaft. A 50 h.p. engine will be fitted shortly.

An Unjust Police Trap.

A correspondent writes: "There is a trap working just on the London side of Pulborough, Sussex. It is over a quarter of a mile in length, and is worked at the foot of rather a steep hill named Codmore, just where a motor cyclist would accelerate a little to get up the hill. A policeman stops him at the top and keeps him waiting until the sergeant (Marsh) comes up. From what I could gather in Pulborough he is most energetic, and motorists should go carefully when in the district. I think its position right at the foot of a hill most unjust."

A Novel Magneto Makeshift.

Has any other reader ever heard of a similar case to this one? A correspondent in India mentions a curious experience with a magneto ignited machine. His engine refused to fire after it had stood for some time, and eventually he found the cause to be due to the fact that the small carbon pencil on the left or contact breaker side of the magneto had crumbled to pieces. As it meant four or five days' delay to obtain a new carbon pencil, he ingeniously contrived a new one out of a piece of vegetable charcoal, which acted quite well except that when exhaust was raised a good deal of back-firing occurred. The makeshift was used for over a week.

Motor Cycling in Ceylon.

On September 15th we published a letter from T. Denham Till as to motor cycling conditions in Ceylon. In the letter he deplored the scarcity of motor workshops, and referred to the high prices charged for repairs or replacements and the difficulty and delay in obtaining them. This letter was copied and published in the *Ceylon Observer*, the result being a reply from D. J. Maitland (whom many readers at home will remember as a rider of a Bat), who contends that Mr. Till's letter did not truly represent the conditions obtaining in Ceylon, and that fuel, spares, and replacements are not so extremely difficult to procure, although he admits the very high prices charged for them, and the inconvenience of having to send home. Mr. Maitland says he carries no more spares on his 8 h.p. two-speed motor bicycle in Ceylon than he did when touring in England. Mr. Till's retort was that, as far as the district of Dumbura-Kandy is concerned, his letter to *The Motor Cycle* is quite true, as can be witnessed by four or five motor cyclists.

M.U. Membership Badges.

Over 600 of the button badges which are supplied free of charge to all motor cyclists who join the Motor Union have been issued during the last nine months.

Missiles Thrown at Motor Cyclists.

A case of considerable interest to motor cyclists was heard at the New Forest Petty Sessional Court last week, when an information was laid by Major E. T. Dixon, J.P., of Hythe, a well-known motor cyclist, against Charles Davey, a boy, of Totton, for

FUTURE EVENTS.

Nov. 19-27—Thirty-third Stanley Show, Royal Agricultural Hall, Islington, N.

" 23—Meeting of the Trade and competitors to consider conditions for the 1910 Tourist Trophy Race.

" 27—A.C.U. Council Meeting at 112, Piccadilly, W. at 5.30 p.m.

Dec. 11—M.C.C. annual dinner and distribution of prizes at the Trocadero Restaurant.

Jan. 20—Auto Cycle Union annual dinner at the Waldorf Hotel.

throwing a missile on the highway to the annoyance of passengers. Major Dixon stated to his brother magistrates that he was riding a motor cycle through Totton on October 21st, when there were several children playing in the road. A cap was thrown at him, and struck the cycle between the front wheel and the fork. He stopped within ten or fifteen yards, for he was not going fast, and told the children playing there that he was going to the police. A police sergeant deposed to tracing the owner of the cap, who denied throwing it at Major Dixon, stating that the wind had blown it off. A little girl, however, in the presence of the officer said she saw the lad throw the cap, but the boy adhered to his denial. Major Dixon informed the bench that he had brought it forward as a test case, for the practice of throwing caps at motor cyclists was frequently indulged in. He wanted it

known throughout the country that it was not merely a question of annoying people, but was a serious thing, which might result in an accident or even death. The bench, in dismissing the case, expressed the view that Major Dixon had been quite right in bringing it forward, as the act complained of was a most dangerous one. The boy, however, had not been identified.

Well-known Motor Cyclists Experimenting with Aeroplanes.

W. H. Bashall is at the present moment devoting his attention to gliders and aeroplanes. He has got a glider and contemplates gliding down the Surrey Downs near Dorking at no distant date. If his experiment proves successful he will fit an Anzani engine (which he tells us he has already got) and he and A. G. Fenn will commence aeroplaning in real earnest.

New South Wales Motor Cycle Trials.

The following is the result of the two days' trial to Goulburn and back held by the Motor Cycle Club of N.S.W. on October 2nd and 4th, and referred to in these columns last week:

Absolute winner, J. E. Yee (3½ h.p. Triumph), 6 points.

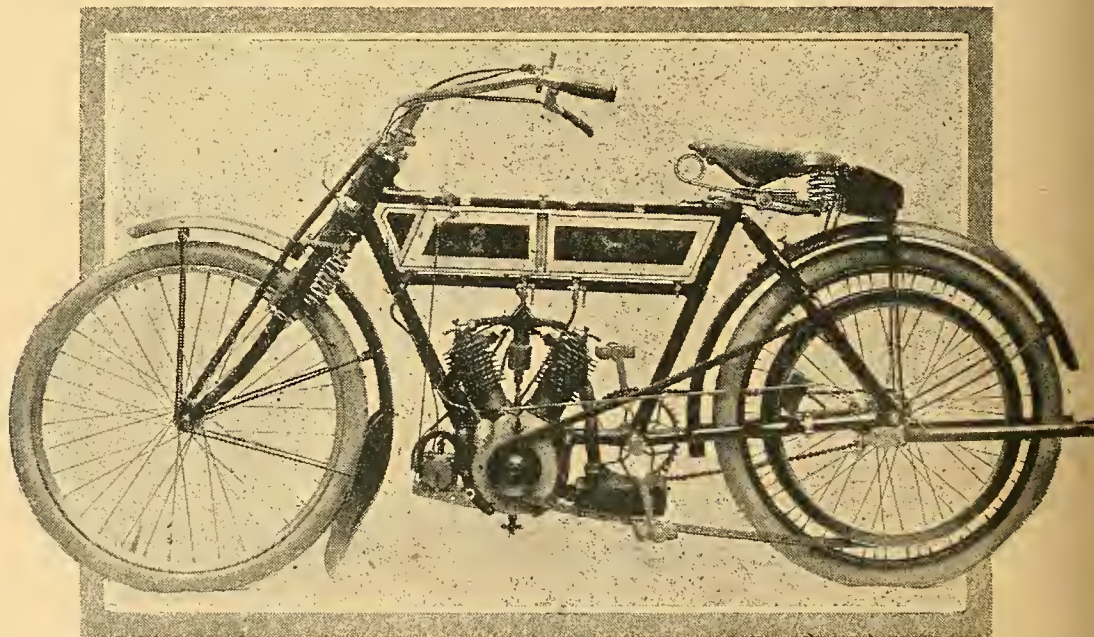
Winner of Class A, up to 3 h.p., R. R. Upcroft (1¼ h.p. Motosacoche), 53 points.

Winner of Class B, over 3 h.p., A. E. Morton (5 h.p. J.A.P.), and F. S. Roberts (5-6 h.p. F.N.), tie with 7 points each.

The following are the points lost by the other competitors:

L. W. Firth (3½ h.p. Triumph), 20; H. J. Clement (6 h.p. Clement), 46; C. Merry (5 h.p. J.A.P.), 54; W. Stevenson (3½ h.p. Lewis), 105; C. Sanderson (3½ h.p. Brown), 296; W. Foulis (2¼ h.p. Foulis), 299.

A. Foy (4 h.p. Buchet), retired; L. J. Astley (3½ h.p. Triumph), lost 27 points on Saturday, and retired on Monday owing to machine catching fire; H. Saunders (3½ h.p. Bradbury), lost 74 points on Saturday, retired at Liverpool from tyre troubles; W. W. Reynolds (3½ h.p. Triumph), lost 34 points on Saturday, retired on Monday at Picton, tyre troubles.



Next year's pattern 3 h.p. twin Wolf shown on Stand 54, Stanley Show. The oil inlet to the crank case is discernible immediately above the driving pulley.

THE STANLEY SHOW EXHIBITS

On Friday last, at the Royal Agricultural Hall, Islington, N., the thirty-third Stanley Show was opened to the public by Sir Albert K. Rollit. The exhibition will be open each day from 11 a.m. to 10 p.m. until Saturday next, the 27th inst., and those of our readers who can spare the time would be well advised to pay a visit to the Show. The numerous motor cycles on view show great skill on the part of the designers, and much ingenuity and care in production. Never were so many perfectly-designed motor cycles grouped together under one roof. The description of the exhibits hereunder has been written by our own staff after a personal examination at the stands. Under the name of each machine will be found a short specification useful to buyers, followed by a commentary.

OPENING CEREMONY.

For the twenty-first year the official opening ceremony of the Stanley Show was entrusted to Sir Albert K. Rollit, who performed the ceremony at the opening lunch on Friday. After the chairman (Mr. C. W. King) had proposed the health of the King, Sir A. K. Rollit proposed the toast of the Stanley Show, and remarked that the cycle was the pioneer of the motor cycle and aeroplane. The motor cycle was the first word of mobility in the world of perpetual motion, and the period of invention has not yet ended. In remarking that this was the first year that aeroplanes had been shown, the speaker said that he remembered taking Li Hung Chang to see an aeroplane made by Sir Hiram Maxim.

Sir Albert then welcomed Mr. King as the new chairman. In response, Mr. King claimed that England was pre-eminent in the manufacture of motor cycles.

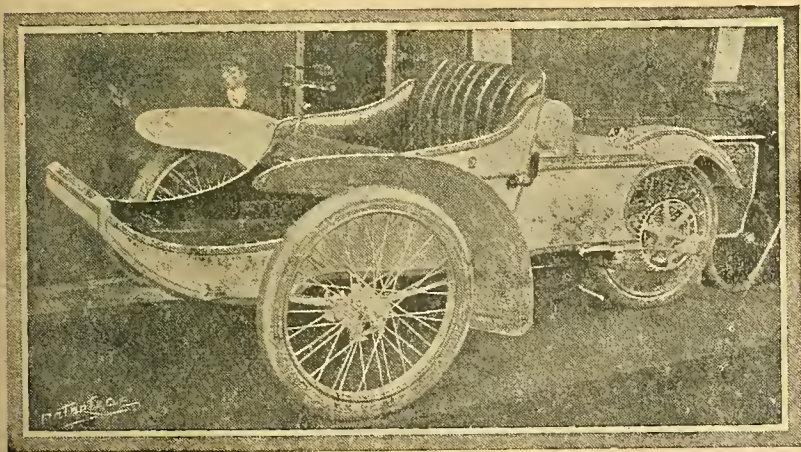
In a brief and witty speech Sir Thomas Lough, M.P., proposed the health of Sir Albert Rollit, and said that motor cycles covered a different field from cycles. Mr. D. S. Waterlow, M.P., then proposed the health of the Chairman, Mr. C. W. King. The Chairman, in responding, performed an interesting ceremony in presenting Sir Albert Rollit with a handsome silver cup, suitably inscribed, in memory of his "coming of age," as opener of the show. Sir Albert Rollit having returned thanks the assembly dispersed.

MOTOR CYCLES.

A.C., No. 129.

5 h.p. MODEL: 90 x 102 mm.; m.o.i.v.; Bosch magneto; A.C. carburetter, h.b.c.; 4 and 8 to 1 gears; 66 mm. Michelin car tyres; chain transmission.

AUTO CARRIERS, LTD., West Norwood.—The A.C. tricar is attracting much interest in the show, and deservedly so, for it is one of the smartest designed three-wheelers on the road to-day. In the case of this tricar it can truly be said that it is the survival of the fittest, for it is built on right



A new pattern two-seated A.C. racing tricar, christened "The Mighty Atom." When completed it will have a Lanchester type of dashboard.

lines—not too heavy, and simplified in every possible way. To refer to some of the details of its construction: The engine is situated under the driver's seat, and is air-cooled, the radiating fins being of exceptionally large size. Two outside flywheels are used, one on each side of the crank case. Each of these drives by means of a friction wheel (which automatically adjusts itself) a fan which deflects cold air

on to the cylinder head. Dual ignition, which is the subject of a patent, is fitted to special order. With this device, when the revolutions drop below two hundred per minute, a form of governor allows the engine to switch itself over from magneto to accumulator ignition. The carburetter, which is of the simplest possible construction, possessing no balance weights and levers, is located in front of the engine, whilst the valves are situated fore and aft. The two-speed gear is of the epicyclic type, and contained within the rear hub, whilst a multiple disc clutch working in oil (a miniature example of those fitted to high-class cars) is also used. The engine and its appurtenances are well enclosed by an under-screen extending from the front of the machine. The petrol tank is situated at the rear of the passenger's seat. The steering of this excellent little runabout is by means of a tiller, a lever over the tiller operating the change-speed gear. The comfort of the driver and passenger has been well attended to, the front portion of the frame being suspended on semi-elliptic springs, whilst the rear wheel is attached to the ends of laminated springs.

A special low-built model A.C. has side by side seats, and is of very racy appearance. It has been christened the "Mighty Atom," and is nicely finished in French grey. The gears of this model are $3\frac{1}{2}$ and 7 to 1.

Two tricars for business purposes are shown on the stand built to special order. There is ample space in front for goods and samples, and this vehicle has been adopted by several large London firms.

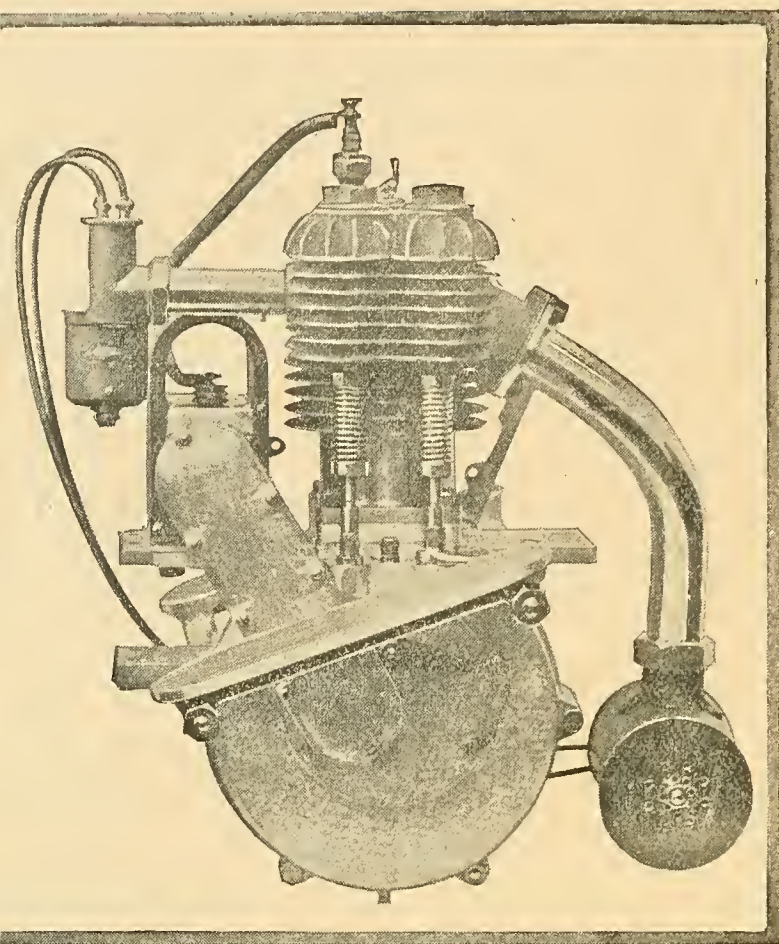
ARNO, No. 133.

$3\frac{1}{2}$ h.p. MODEL: 85 x 90 mm.; m.o.i.v.; Simms magneto; Brown and Barlow carburetter, h.b.c.; 4 to 1; Continental tyres; rubber V-belt transmission.

ARNO MOTOR CO., LTD., Coventry.—The Arno motor bicycle is shown in two distinct models, the Speed model, and the Modèle de Luxe. The former is fitted with rigid forks, has shorter wheelbase, and no pedals, and is lighter. The engine is easily detachable from the frame by the removal of four bolts. The Modèle de Luxe is provided with a type of

KEY TO ABBREVIATIONS: M.O.I.V., mechanically-operated inlet valve; A.O.I.V., automatically-operated inlet valve; B.B., ball bearing; H.B.C., handle-bar control; ADJUSTABLE, adjustable pulley.

the Stanley Show Exhibits.—



A very neat combination. Power plant of the 3 1/2 h.p. m.o.i.v. Arno, showing disposition of carburettor, magneto, and footboard.

Spring forks brought out by the Arno Co., in which the springs are concealed in a tube. This model is sold fitted for the road with luggage carrier, stand, and number plate. The magneto, which is gear driven, is placed behind the crank case.

AUTO WHEEL, No. 88.

1 1/2 h.p. MODEL: 1 1/2 in. x 2 in.; two-stroke; Bosch magneto; A. W. Wall carburettor, h.b.c.; Clincher tyres; direct transmission.

A. W. WALL, LTD., Aston Road, Birmingham.—The Wall Auto Wheel is decidedly an ingenious motor attachment, by means of which a pedal bicycle can be converted into a motor-propelled vehicle. The power unit is absolutely independent of the cycle, and is attached to the frame by means of two clamps, one on the off side back forks and the other on the off side chain stay. It is entirely self-contained, and carries a small two-stroke engine fed by a floatless carburettor, Bosch magneto, automatic oiler, and a petrol and oil tank, which are formed out of the mudguard. In the hub are contained the flywheel and the epicyclic reduction. By means of an internally expanding brake the free engine is obtained. This is coupled up to a Bowden wire by a lever on the handle-bar. As the Auto Wheel is flexibly attached to the cycle it follows its direction at every movement. (For illustration see next page.)

BAT, No. 96.

3 1/2 h.p. MODEL: 85 x 85 mm.; m.o.i.v.; Bosch b.b. magneto; J.A.P. carburettor, h.b.c.; 4 1/2 to 1 gear; 2 1/4 in. rubber-studded ROM tyres; V-belt transmission.

THE BAT MOTOR MFG. CO., Penge, S.E.—This model remains much the same as the 1909 model. The J.A.P. engine is of the side by side valve type, and a drip

feed automatic oiler is relied upon solely. The magneto is carried in the tank above the engine, where it is well protected from any mud or dirt. The spring frame is the special feature of the Bat, and it gives most luxurious riding. Footboards are fitted in place of pedals. Two brakes of the external contracting type are fitted, one on each side of the rear wheel. On this machine, as well as on all the other 1910 Bat models, a metal toolcase is fitted on the underside of the carrier.

5-6 h.p. TWIN MODEL: 76 x 85 mm.; m.o.i.v.; Bosch b.b. magneto; J.A.P. automatic carburettor, h.b.c.; 4 to 1 gear; 2 1/4 in. rubber-studded ROM tyres; V-belt transmission.

In general design this machine is identical with the single-cylinder model just described, but the engine is of the twin-cylinder V type. It may here be mentioned that all Bat models for 1910 are fitted with side by side mechanically-operated valves and J.A.P. automatic carburettors controlled by a single lever on the handle-bar (although there is a lever to vary the opening of the main air intake to suit varying temperatures), J.A.P. automatic drip feed lubrication, petrol gauges to the tanks, and also the Bat patent system of spring suspension.

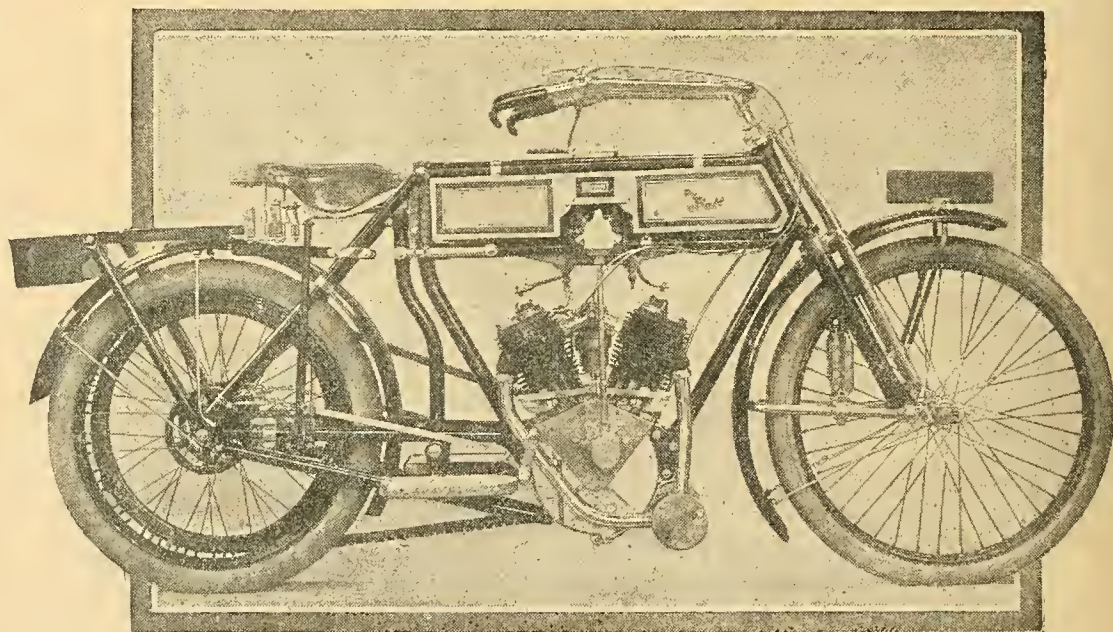
7-8 h.p. TWIN MODEL: 85 x 85 mm.; m.o.i.v.; Bosch b.b. magneto; J.A.P. carburettor, h.b.c.; 3 1/2 to 1 gear; 2 1/4 in. rubber-studded ROM tyres; V-belt transmission.

This particular model can be obtained either single-gear or fitted with the Phelon and Moore two-speed gear and chain drive. In case the machine is variably geared, the Bat Co. alter the gear to enable the final drive to be by belt, a Whittle link grip being used. Two of the machines are shown fitted with wickerwork rigid type sidecar attachments, and altogether these machines make a very imposing exhibit.

BRADBURY, No. 77.

3 1/2 h.p. MODEL: 87 x 87 mm.; m.o.i.v.; Simms magneto; Brown and Barlow carburettor, h.b.c.; adjustable pulley; Clincher tyres; rubber V-belt transmission.

BRADBURY AND CO., LTD., Oldham.—These old-established makers are confining their attention to the one model specified above. The following improvements have been embodied for 1910: Improved form of handle-bar, longer head, giving more support, stronger spindles in rear wheel, and a more substantial and larger tank, lubricating pump placed in a more convenient position near the rider, larger diameter flywheels, and many other improvements in detail. Amongst these we may mention Druid spring forks, with front rim brake, improved luggage carrier, which can be swung down, carrying with it part of the mudguard, detachable footrests, and a detachable bottom bracket, enabling the whole pedalling gear to be easily removed. Another point, which will appeal especially to Colonial riders, is that there



The new pattern 7-8 h.p. twin Bat-J.A.P. This machine is not only powerful but comfortable as it has spring frame and forks.

KEY TO ABBREVIATIONS: M.O.I.V., mechanically-operated inlet valve; A.O.I.V., automatically-operated inlet valve; B.B., ball bearing; H.B.C., handle-bar control; ADJUSTABLE, adjustable pulley.

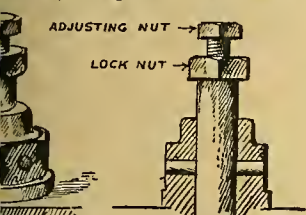
anley Show Exhibits.—

ter clearance than usual between the crank case and the l. The machine has also been made lighter and more ble. It is interesting to note that Messrs. Bradbury profited well by the lessons they have learnt in this competitions.

BROWN, No. 267.

.p. MODEL: 85 × 85 mm.; m.o.i.v.; Simms magneto; B. and B. carburetter, h.b.c.; 4½ to 1 gear; Clincher tyres; belt transmission.

WN BROS., LTD., Great Eastern Street, E.C.—The 3½ pouring model Brown is a very elegant and well finished ne. The engine is placed in the usual vertical position, as its magneto carried forward between the front mud-



able valve tappets fitted to the pattern 3½ h.p. Brown engine.

guards and the down tube, where it is driven by enclosed gearing. Both valves are mechanically operated. Druid spring forks are fitted to the front wheel, but Messrs. Brown Bros. have a new pattern spring fork of their own, which was illustrated in *The Motor Cycle* last week (see page 894). The lubrication is by hand, the pump for that purpose be-
placed at the forward end of the combined petrol and oil n the right-hand side. In addition to this three Tourist y models, of very similar design, except that they have dalling gear and no spring forks, are shown on the together with a 5½ h.p. twin with a bore and stroke × 90 mm.

CALTHORPE, No. 59.

.p. MODEL: 84 × 86 mm.; m.o.i.v.; Simms magneto; Amac carburetter, h.b.c.; single gears; Dunlop 26 × 2¼ in. tyres; rubber belt transmission.

STREL AND REA CYCLE CO., LTD., Birmingham.—A uilt and substantial modern motor bicycle, which is for the first time, is exhibited by the above firm, as the Calthorpe, since it is made by the makers of althorpe car, which has performed so well ever since been built. The machine under consideration is fitted a 3½ h.p. White and Poppe engine, 84 × 86, light- Simms magneto, chain-driven, with ain enclosed in an aluminium case, foot- fitted in the usual position, to which e pedal is attached, Amac h.b.c. carbu- and Druid spring forks. The silencer ecially worthy of attention, as it is ed to eliminate all back pressure and silent even when the cut-out is open. rea of the silencer is equivalent to that cylinder. The frame is well designed, e points of convenience are well studied, he luggage carrier is of substantial sions, a partial chain guard is fitted to dalling chain, and a good stand is pro-

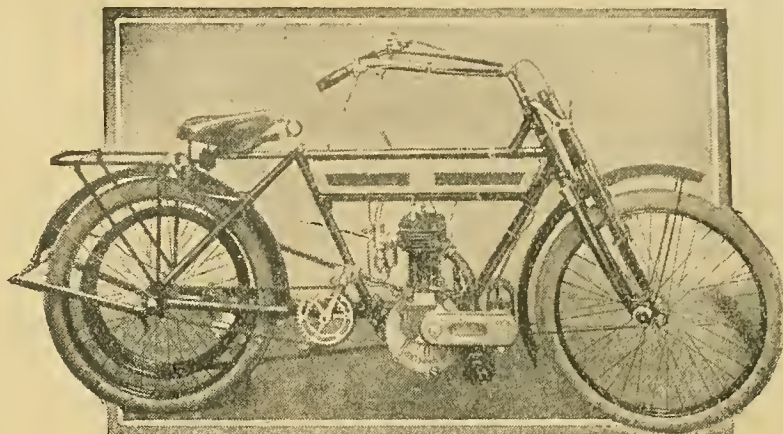
Another machine is also shown by rm resembling the one we have just bed in most details. The engine, how- is not the same, and the machine is t a slightly lower price.

CHATER-LEA, No. 228.

.p. MODEL: 84 × 86 mm.; m.o.i.v.; Bosch magneto; B. and B. carburetter, h.b.c.; 4½ to 1 gear; Dunlop tyres; V-belt transmission.

TER-LEA, LTD., Golden Lane, E.C.— motor bicycles are shown, one being with a 4 h.p. J.A.P. engine, Chater-Lea forks, belt rim brake, wheel stand,uggage carrier. Another is fitted with ter-Lea engine and the same refinements e way of spring forks, etc., as the one usly mentioned. The third machine lightweight model fitted with 2½ h.p. . engine and magneto ignition. Spring are not included in the specification. A ard pattern sidecar is included in the t, also a spring wheel attachment for rs. Amongst the motor cycle fittings

shown are hubs, pedals, seat pillars, handle-bars, lngs for trailers, three-speed gear boxes, clutches, etc. Sidecar enthusiasts should not miss this stand, for on it is to be seen one of the finest examples of the combination passenger machine on the market. The motor bicycle part of the combination is, of course, constructed of Chater-



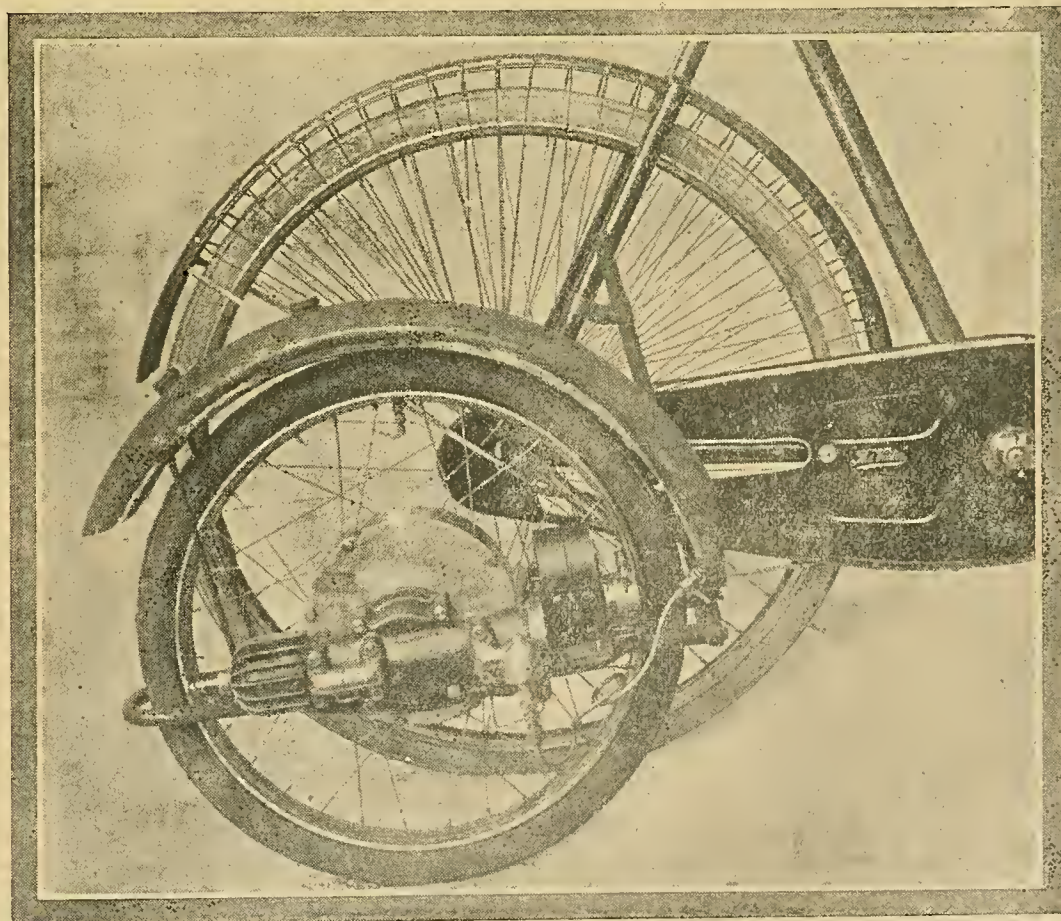
This model is built practically throughout in the Chater Lea works, including the engine, which has a mechanically operated inlet valve.

Lea fittings. The engine is a 7 h.p. twin-cylinder air-cooled J.A.P., disposed in the usual position amidships. The change speed gear is of the sliding type, the gear box being disposed behind the engine, a single chain connecting the drive, and a cone clutch being interposed. The final transmission is by chain. A new patent spring fork is fitted, ensuring a maximum of comfort. Regarding the sidecar attachment, this is of the coach-built type, and is equipped with special joints, which enable it to be attached or detached with a minimum of trouble.

CORAH, No. 85.

3½ h.p. MODEL: 85 × 85 mm.; m.o.i.v.; Simms magneto; Brown and Barlow carburetter, h.b.c.; two-speed gear; Kempshall tyres; chain transmission.

THE CORAH MOTOR MFG. CO., King's Norton, are showing a 3½ h.p. Corah motor bicycle fitted with P. and M. two-speed gear and chain transmission. The mudguard is attached to



The Wall Auto Wheel, a most ingenious self-contained device for attaching to a pedal bicycle, described on the previous page. It is attracting considerable attention at the Show, and may revolutionise pedal cycling.

The Stanley Show Exhibits.—

the carrier, so that the latter can be swung away and the greater part of the tyre exposed. J.A.P. drip lubrication, tapless oil pump, and wide tank fillers are provided.

The machine shown is attached to an Appleby Flexio-Regia sidecar—an exceedingly novel device which was fully described in *The Motor Cycle* of April 7th, 1909. The principle of the parallel rule has been adopted, so that when the machine leans over the sidecar remains quite parallel to it, yet the passenger keeps his normal position. By means of a lever the sidecar can be made rigid when the machine is brought to rest.

A neat rotary pump for motor cycles is shown on the Corah stand, which marks the re-introduction of an old feature in motor cycle lubrication. The pump is extremely simple, as it consists merely of a worm which forces the oil up from the reservoir. Another interesting accessory is Dall's petrol gauge, described in the last issue of *The Motor Cycle*.

CLYNO, No. 260.

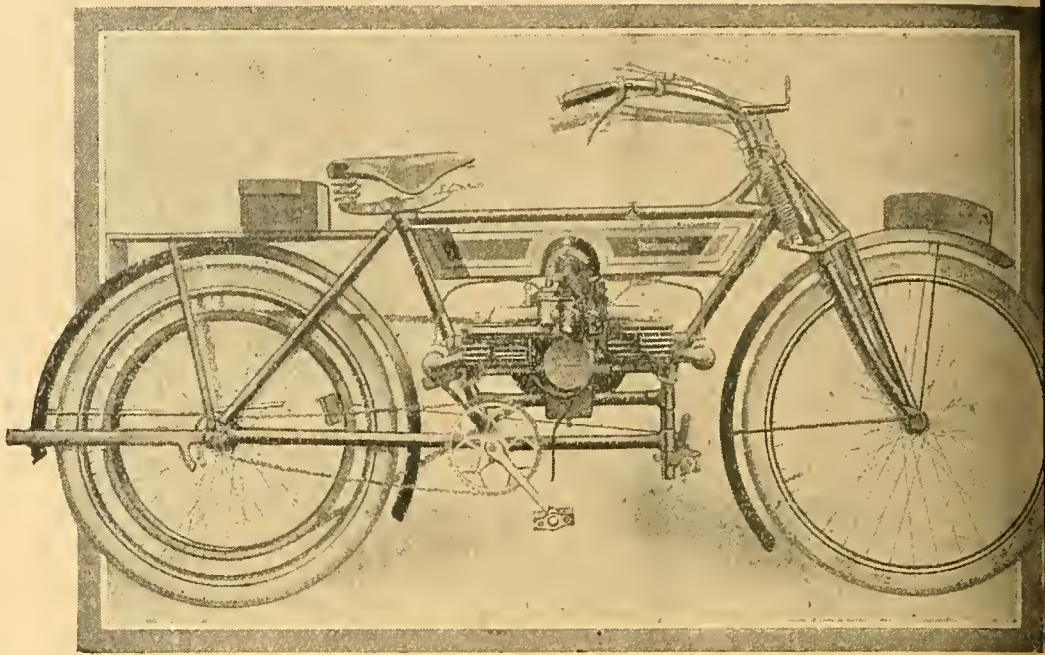
3 h.p. MODEL: 76 × 85 mm.; m.o.i.v.; Simms magneto; B. and B. carburetter, h.b.c.; $3\frac{3}{4}$ to 1 gear (adjustable), Shamrock-Excelsior tyres; belt transmission.

THE CLYNO ENGINEERING Co., Thrapston.—The 3-3½ h.p. Clyno is a nice looking machine on standard lines, with the engine in a vertical position forward of the bottom bracket. The magneto is carried forward of the engine close against the front mudguard, and is driven by gearing enclosed in an aluminium case. Chater-Lea spring forks are fitted, and tyres of very ample dimensions are installed. Both brakes take effect on the rear wheel, the hand brake acting on the tyre rim and the foot brake on the belt rim. The lubricating pump is carried at the forward end of the petrol tank, which is provided with a gauge. A special point in the construction of this machine is that the engine, carburetter, magneto, silencer, and foot-rests form a complete independent unit, which can be detached by removal of two bolts. The Clyno patent adjustable pulley is used, which gives a fairly wide range of gear, and is operated in a very simple manner. The stand is of the Clyno tubular adjustable type, a feature of which is that as the two legs are separately operated, the stand can be made to adapt itself to any unevenness in the road.

5-6 h.p. TWIN MODEL: 76 × 82 mm.; m.o.i.v.; Simms magneto; B. and B. carburetter, h.b.c.; $3\frac{3}{4}$ to 1 gear (adjustable); Shamrock-Excelsior tyres; belt transmission.

This machine is similar in design to the smaller model

except as regards the engine, which has the magneto placed in the rear just ahead of the rear mudguard, where it is driven by a long chain enclosed in an aluminium case which is provided with means of adjustment. The B. and B. carburetter is placed between the cylinders in a very accessible position. Stevens engines are used.

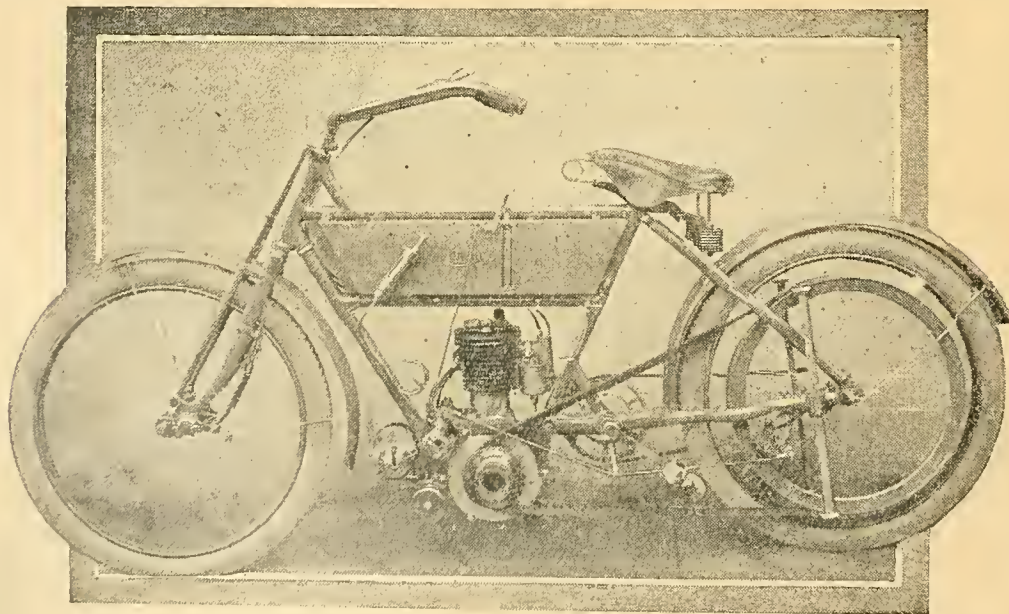


The 1910 model Douglas, with horizontally-opposed twin-cylinder engine. In the new model at the Show, the engine is placed lower in the frame than on the '09 pattern.

DOUGLAS, No. 62.

2½ h.p. TWIN MODEL: 60 × 60 mm.; a.o.i.v.; Bosch magneto; Douglas carburetter, h.b.c.; $5\frac{1}{2}$ to 1 gear (adjustable); ROM 2in. non-skid tyres; Stanley-Dermat $\frac{3}{4}$ in. belt.

DOUGLAS BROS., Kingswood, Bristol.—The Douglas motor bicycle, of the excellence of which we can speak with enthusiasm from personal experience, has been considerably improved for the coming season. On the stand no fewer than thirteen machines are shown, of which one is a last year's model showing how the improvements have been carried out. The engine unit is shown separately, and dealing with this it will be noticed that the engine is very easily detachable from the frame by removing four bolts, which are attached to part of the crank case casting on to a special bracket brazed on to the frame. The inlet valve domes are provided with ball lubrication through which petrol or paraffin may be easily injected. The carburetter has been improved considerably and the piston valves admitting gas and air are held in position by means of a bridge, through which a central screw passes into the body of the carburetter, thus rendering the sleeves very easily detachable. The jet also can be easily removed by undoing a screw at the bottom of the spray chamber. The inlet pipe has been redesigned, and is now in one piece, and is clamped by means of a screw on to the top of the inlet valve chamber. The lightweight Bosch magneto, specially designed for the Douglas, is driven by means of enclosed gear wheels. The standard pulley is adjustable, the inner flange being mounted on a threaded shaft, and between the two flanges there is a brass ring, so that in the event of excessive belt or pulley wear a ring of narrower diameter can be easily inserted. In addition to the above, Messrs. Douglas Bros. have also introduced an adjustable pulley, which can be altered without the aid of tools. In the bicycle itself several alterations have been embodied. The front forks have been improved by fitting springs in tension instead of in compression, and a larger clearance is provided to the tyre. On the handle-bar two special brackets are cast, one in front of the other, the foremost being for the lamp, and the rearmost for the generator. The frame is slightly lower than last year's model. An absolutely dust and waterproof free-wheel cover is provided, which when greased, will last for 2,000 miles.



3 h.p. Clyno, with 76 × 85 Stevens single-cylinder engine, Ruthardt magneto, and B. and B. carburetter.

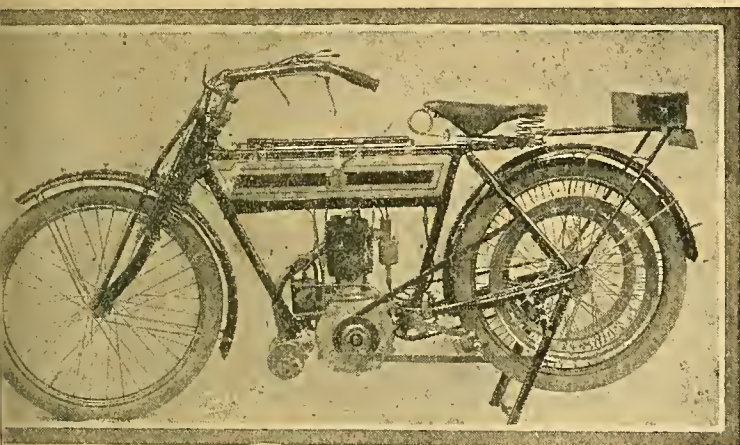
Stanley Show Exhibits.—

oil pump is in the tank, and below is a three-tap, and on the side of the tank are words showing the position of the tap, so that it is impossible to make any mistake in lubrication. The bottom bracket is provided with an eccentric adjustment, and the adjusters have been eliminated. Both wheels can be dropped out should it be found necessary to change outer cover. A useful refinement is the drilling of the rim with large holes to allow mud, etc., to escape. In cleaning a machine it is a most difficult matter to get rid of the collection of mud and dust unless such holes are added.

EXCELSIOR, No. 66.

h.p. MODEL: $84\frac{1}{2} \times 89$ mm.; m.o.i.v.; Bosch magneto; Brown and Barlow carburetter, h.b.c.; plate clutch in hub; $4\frac{1}{2}$ to 1 (adjustable), Dunlop tyres; V rubber belt transmission.

LYLIS, THOMAS, AND CO., LTD., Coventry.—The 1910 Excelsior is certainly a handsome machine. The engine is placed with side by side m.o.i.v., while the magneto is gear driven, and not placed so low down as to catch the mud and which may be thrown up by the front wheel. Druid spring forks are fitted, while the frame is well designed and substantially constructed. The rear mudguard is extra, so as to prevent mud being thrown on the rider from the belt. A special belt rim is attached to the off side of the rear wheel, upon which bears a foot-operated brake. The machine is provided with hinged stoppers both for the oil and petrol, and there is also a small hinged stopper which, when raised, allows a float wire gauge to rise, indicating how much oil there is in the tank. Between the tank and the 1910 model B. carburetter there is a flexible pipe. One of the



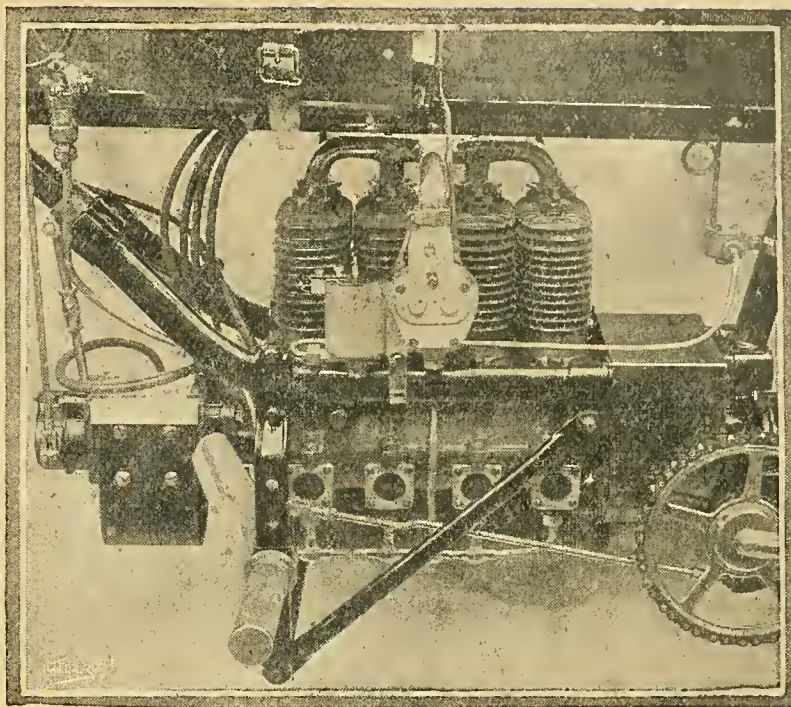
The 1910 model $3\frac{1}{2}$ h.p. Excelsior, with plate clutch in rear hub.

models shown is provided with a plate clutch in the rear hub operated by a lever on the handle-bar. An excellent carrier and a good carrier are provided. Either a Brooks or a saddle may be had to order.

F.N., No. 130.

h.p. four-cylinder MODEL: 52×70 mm.; a.o.i.v.; Bosch magneto; F.N. carburetter, h.b.c.; Englebert tyres; propeller-shaft transmission.

N. MOTOR AGENCY, Great Portland Street, W.—The new four-cylinder F.N. is a distinctly attractive model. The dimensions have been slightly increased. The spring has been improved, and the excellent system of lubrication obtaining in the small model has also been introduced. The sparking plug instead of being on the top of the cylinder is inserted in a special pocket, thus obviating the difficulty of any possibility of their becoming foul. The oil is drawn from the pump and drip lubricator into the bottom of the crank chamber. A new and improved carburetter, which works automatically, has been fitted. Inside are two wheels, which operate an adjustable choke tube, expanding and contracting the choke tube as the throttle is opened. The little $2\frac{1}{2}$ h.p. single-cylinder with two-speed leather to metal clutch, and propeller-shaft drive remain unchanged. This machine is one of the most practical two-cylinder lightweights in the show. One is shown converted into a cycle for use in winter weather, while the parts of the machine, namely, the engine, carburetter, and propeller-shaft, are



The 6 h.p. model four-cylinder F.N. engine, showing the new carburetter, petrol filter, drip feed lubricator, and pedal brake.

shown separately in the centre of the stand, where on account of their compactness, ingenuity, and good workmanship they attract considerable attention.

GRANDEX, No. 107.

$2\frac{1}{2}$ h.p. MODEL: 70×76 mm.; a.o.i.v.; Simms magneto; B. and B. carburetter, h.b.c.; $5\frac{1}{2}$ to 1 gear; 2in. tyres to order; V-belt transmission.

GRANDEX CYCLE Co., 28, Grays Inn Rd., W.C.—This is a neat little lightweight motor cycle of good design shown for the first time. The magneto, which is located behind the cylinder, is gear driven. Footrests and Druid spring forks are used, as is also the efficient little $2\frac{1}{2}$ h.p. J.A.P. engine. The machine is Bowdenised throughout, and a rim brake is fitted to both front and rear wheels. The oil pump is concealed in the tank, and the handle is inclined towards the rider. A petrol gauge is fitted in the tank.

HOBART BIRD, No. 172.

$2\frac{1}{2}$ h.p. MODEL: 69×78 mm.; m.o.i.v.; Bosch H.T. magneto; automatic carburetter, h.b.c.; Michelin or Dunlop tyres; V-belt transmission.

HOBART BIRD AND CO., LTD., Coventry.—This new motor cycle is an extremely light, simple, and, as its name implies, handy machine. The engine is placed over and slightly forward of the bottom bracket, and is inclined at an angle of forty-five degrees with the horizontal, the gills on the cylinders being cast horizontally. Both the valves are on the right-hand side, and are equal sized and interchangeable. The carburetter is placed above the crank chamber, between the cylinder head and the magneto, which is attached to the upper side of the aluminium crank chamber, where it is driven by enclosed gearing from the mainshaft. The carburetter has an extra air valve, easily operated from the saddle, and is of an entirely automatic type, specially made for this machine. Druid spring forks are fitted as standard, except on a smaller machine with 24in. wheels, which has a fork that springs horizontally and vertically. On both models a special back-pedalling rim brake is fitted. This is operated directly by the pedalling cranks, and is provided with a catch, which allows the machine to be wheeled backwards. The petrol tank is placed in the usual position under the top bar of the frame, is cylindrical, and comprises an oil tank with pump at its forward end. The machine ready for the road weighs under a hundred pounds.

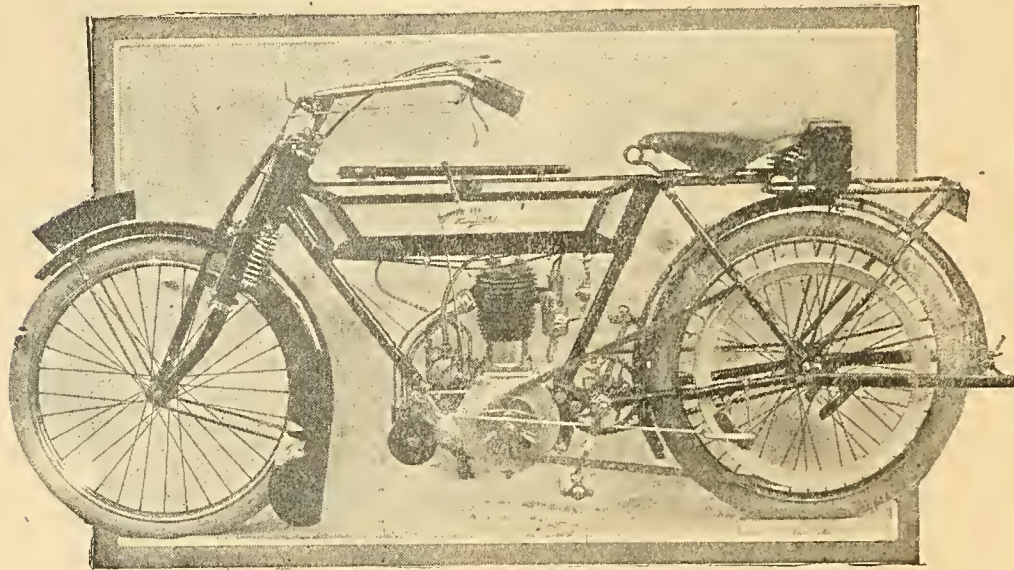
HUMBER, No. 97.

$3\frac{1}{2}$ h.p. MODEL: 83×90 mm.; m.o.i.v.; Bosch b.b. magneto; Brown and Barlow carburetter, h.b.c.; $4\frac{1}{8}$ to 1 gears (adjustable); $2\frac{1}{4}$ in. Dunlop tyres; V-belt transmission.

HUMBER, LTD., Coventry.—The new pattern belt-driven Humber motor bicycles have not been altered materially from

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last year's design, but many improvements have been made in detail. The single-gear model is fitted with pedalling gear, but in other respects it is similar to the two-speed machine, which we will describe hereafter. It needs but a close examination to prove that the 1910 pattern Humber machines have received very careful attention at the hands



3½ h.p. Humber single-gear model, fitted with pedals and footrests. Humber motor cycles have attained much popularity since the last Stanley Show.

of its designers. They are splendidly-finished models, and are complete with every necessity the present-day motor cyclist desires, such as spring forks, long handle-bars swept well back, adjustable pulley, stand, and carrier. The magneto on the new machine is placed in a very sensible position between the crank case and the down tube. In this position it is well protected from the mud thrown up from the front wheel, even if there were not a very effective mud flap attached to the guard. The exhaust pipe is swept down in a very neat curve, thus permitting an easy path for the exhaust gases. The petrol tank is divided longitudinally, and all the machines have a petrol filter. The models on view are extremely well finished and well up to the standard of Humber workmanship.

3½ h.p. MODEL: 83×90 mm.; m.o.i.v.; Bosch b.b. magneto; Brown and Barlow carburettor, h.b.c.; 4 and 5½ to 1 gears; 2¼ in. Dunlop tyres; V-belt transmission.

As we have already stated, the two-speed geared model is in general appearance much the same as the single-gear machine except that it has footboards, to which are fitted the controlling levers of the two-speed epicyclic gear fitted in the back hub and made under Roy licence. This gear, as is well known, permits of the engine being started by means of a handle on the back axle. This model has no pedals—in fact, they would be unnecessary but for warming up the engine on the stand—as the emergency gear enables the machine to climb almost any main-road hill encountered in the United Kingdom. It is worthy of special mention that the two-speed gear is operated by rods, and the method of adjustment of the brakes operating the gear has been much simplified. The exhaust valve lifter is also operated by fine rods, which give a very neat appearance to the machine and should render this part of the machine practically immune from trouble. The lubricating pump, which is enclosed in the tank, is inclined towards the rider, thus enabling one to inject a charge of oil with the greatest ease. The two-speed gear model is easily distinguishable in another way from the single-gear model, in that the tool case is attached to the handle-bars, whereas in the single-gear model it is fitted to the carrier.

INDIAN, No. 132.

5 h.p. TWIN MODEL: 638 c.c.; m.o.i.v.; Bosch magneto; Indian carburettor, h.b.c.; chain transmission

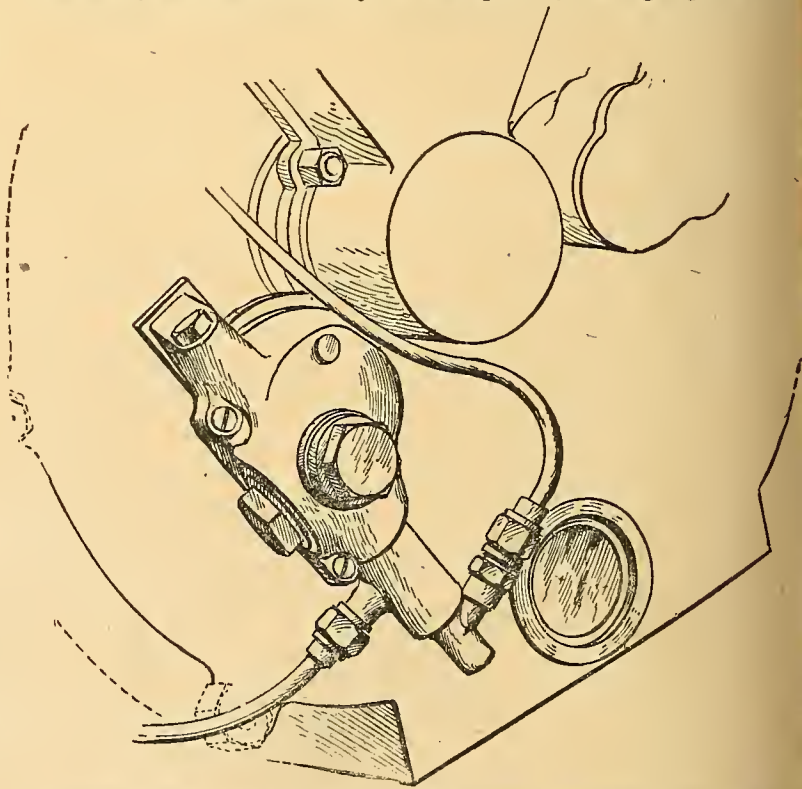
HENDIE MANUFACTURING Co., Great Portland Street, W.—The whole of this stand is given over to a display of 5 h.p. twin-cylinder motor bicycles, which have created such a good impression since their recent introduction. The cylinders are arranged V form, and differ in construction from usual practice in being held down by their heads, long bolts passing downwards into the aluminium crank chamber.

The inlet valves are overhead, and are operated by the same camshafts which work the exhaust valves. The magneto, attached to the crank chamber forward of the engine, and driven by gearing enclosed in an aluminium gear case. The throttle on the Indian carburettor, which is an extremely neat instrument, is adjusted by a twisting grip on the handle bar, which operates a bell crank attached to the frame head through a couple of universal joints. A similar arrangement serves to lift the exhaust valves, the same handle-bar grip also actuating the ignition advance when twisted further to the right. The front forks are of the special Indian patent double spring type, the spring being covered by a cylinder. The drive is from the main engine sprocket through a Renold roller chain to a large sprocket on the counter-shaft, which is concentric with the pedalling bracket, and thence by another Renold roller chain to the chain wheel on the rear wheel. The petrol tank is of large capacity, and is fitted to the upper bars, whilst the oil tank, which is rectangular, is placed behind the engine against the main down tube of the frame. A Bowditch front rim brake is used, together with a special band brake on the rear wheel operated by a small pedal.

JAMES, No. 108.

3½ h.p. MODEL: 86 × 96 mm.; m.o.i.v.; Bosch b.b. magneto; carburettor to order 4½ to 1 gear (adjustable); 2¼ in. Dunlop tyres; lin. V-belt transmission.

JAMES CYCLE Co., Birmingham.—The new James has been much improved since it was last at the Stanley Show, and is now exhibited in a very perfect form, the result of many hundreds of miles of road testing. The casting of the radiators on the cylinders is quite novel, and can be best described by a pack of cards, every other one with its corner in the opposite position to the one above it. This should result in very efficient cooling. The valve pockets are very large, and the valve stems are situated well away from the hot cylinder which should result in the valve springs keeping the tension much longer than in the case of the ordinary engine. The magneto is located behind the crank case, and with the special design of frame the weight has been kept very low down, which improves the stability of the machine. The special type of frame will be understood from the illustration on next page. The bottom of the front tank contains oil, and the top part is a recess for tools. An interesting feature of this oil tank is the fact that the filler is inside the top of the tank, and thus if any oil is spilt in filling up the tank



A step in the right direction. The slow-running mechanical lubrication pump fitted to Indian motor cycles. It is driven by means of worm gearing off one of the half-time shafts. Observe the oil level inspection window.

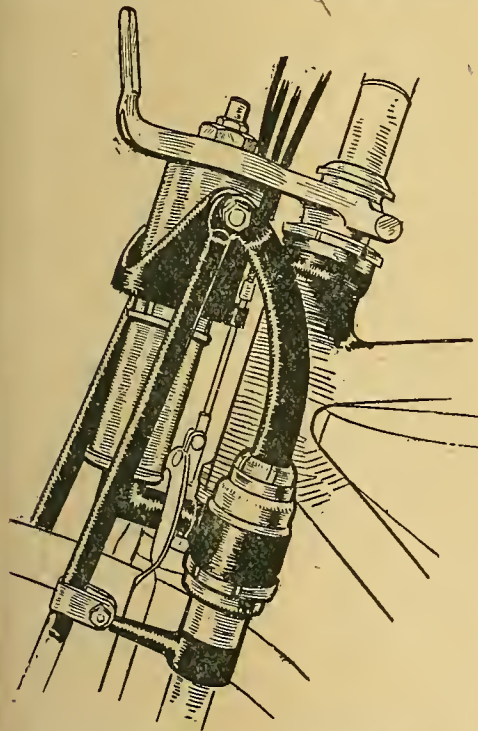
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it is not splashed on to the machine. The petrol tank is of special shape, and fits over the top tube of the frame. Above the petrol tank will be noticed a rod. This rod controls the movement of the saddle, and the front end of it is connected to a special coil spring encased in the tube shown. This, together with laminated springs fitted to the front portion of the frame, should make the machine very easy riding. The brakes are of special design, and are really car brakes in miniature form. They are of the internally expanding type, and there is ample surface to enable the machine to be stopped in a very short distance. For the purpose of tuning up the engine on the stand, a handle is provided which fits into a recess on the rear axle. Foot plates affording a most comfortable riding position are also fitted. The silencer cut-out on this machine is operated from the left handle-bar, and the exhaust valve lifter, as well as the front internal expanding brakes, are operated by inverted levers.

KERRY-ABINGDON, No. 115.

3½ h.p. Model: 84×86 mm.; m.o.i.v.; Bosch b.b. magneto; Amac carburetter, h.b.c.; 4 to 1 gear (adjustable); 2¼ in. Clincher rubber-studded tyres; V-belt transmission.

EAST LONDON RUBBER CO., Great Eastern Street, E.C.— This machine is a good sample of the latest design in motor cycles. It possesses no really new features, with the exception of the spring forks. It is substantially and well made, and likely to give thorough satisfaction in road use. The magneto (which is chain driven) is carried on a special bracket in front of the crank case, the forward end being



New type spring fork on the 3½ h.p. Kerry-Abingdon. It consists of a plunger working in a cylinder.

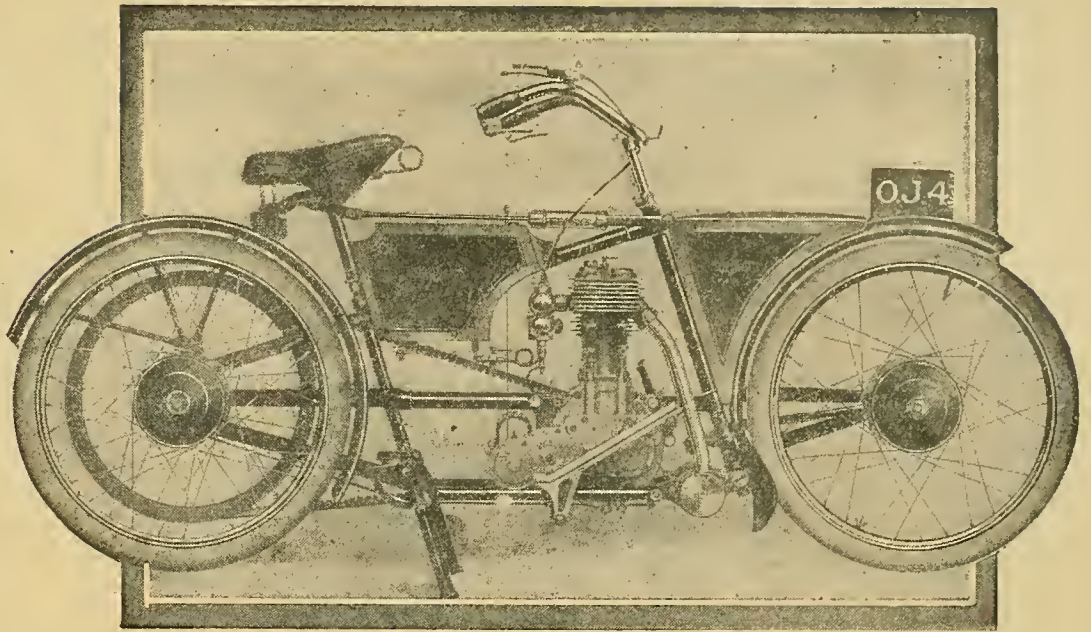
supported by a rod from the down tube. The special type of spring fork permits a vertical movement for the front wheel. Broadly, it consists of a plunger working against a strong encased spring. Its operation and neat appearance will be gathered from the sketch. The new pattern Amac carburetter with variable jet is used on this machine. Large rubber pads are fitted on the footrests, which should give long wear. A petrol gauge is fitted in the tank, and the lubricating oil pump is concealed. The handle-bars are gracefully swept back, so that the rider assumes an almost upright position, thus minimising the likelihood of fatigue on

a long journey. The machine throughout is finished in first-class style. The stand fastening is of special design, no screws or bolts being used. This is the only model produced by the Abingdon-Ecco Co. for the British market, and the East London Rubber Co. have the sole selling rights.

L.M.C., No. 71.

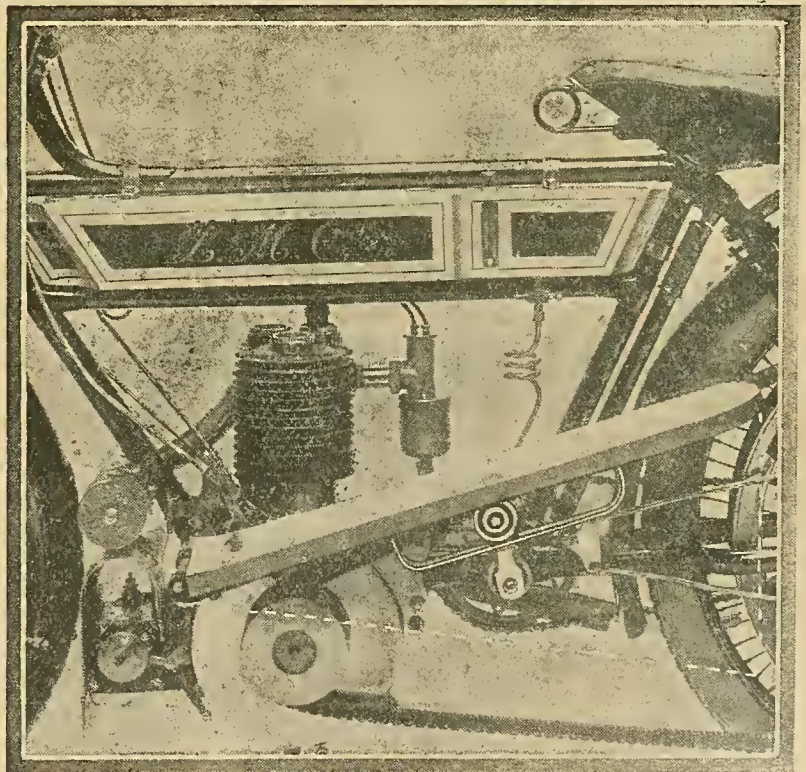
3½ h.p. Model: 85 mm. × 88 mm.; m.o.i.v.; Bosch magneto; Brown and Barlow carburetter, h.b.c.; Lloyd variable pulley and free engine; Clincher tyres; V-belt transmission.

LLOYD MOTOR ENG. Co., Monument Road, Birmingham.— The exhibit of the above company is of particular interest.



The new pattern James motor bicycle, which has been much improved since it was first exhibited to the public gaze at the last Stanley Show. Novel points of design are observable on this machine.

The chief novelty for 1910 is a distinct improvement in Lloyd's variable free engine pulley. Our readers will remember that this pulley is put into operation by wedging apart the flange with the aid of a phosphor bronze wheel. This wheel is now operated by means of a lever working in a quadrant, which gives the low, high, and neutral positions. The engine is now fitted with a m.o.i.v. valve, placed side by side with the exhaust valve. Some good improvements have been made in detail. Two clips for the control wires are fitted each side of the steering head. These are in the form of a small spiral cable which can be inserted in the clips without threading, and yet without any fear of their working loose. The luggage carrier fitted also holds the tool-bag which is flush with the carrier, thus preventing it from interfering with the luggage in any way. A partial chain protector, which serves to protect the free wheel adequately from wet, is also provided. Care has also been taken to provide a substantial cover to exclude any wet or moisture from the magneto. The most interesting machine on this stand is one provided with long flexible rubber-covered foot-



A novel and ingenious arrangement for starting the engine of the new pattern L.M.C. by means of the left footboard. Under the footboard a channel bracket is arranged, a ball bearing fitted to a short crank travelling along this channel. The dotted white line shows the extent of the movement of the footboard. One push down is enough to start the engine.

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boards. The rear side one is hinged, and if lifted up revolves a crank connected with the rear hub by means of chain. When pressed down this gives the engine a smart impulse, with the result that the engine is easily started. No pedalling gear is provided. The foot brake is arranged so as to be worked by the hand as well if required, a Bowden wire control by a lever on the handle-bar being attached to the operating pedal. This brake also simultaneously applies two shoes to the rear belt rim. The cut-out is provided with a short serrated quadrant which is easily operated by means of the toe. It is also interesting to note that in addition to the throttle and air lever the magneto advance is controlled by a lever on the handle-bar. Machines are shown on this stand fitted with 1909 and 1910 engines, and one is shown fitted to a sidecar. Such well-known points as the universally jointed connecting rod and the well-known magneto drive are still retained. It is interesting to note that the Lloyd free engine device can also be fitted to other makes of machines.

M.A.E., No. 305.

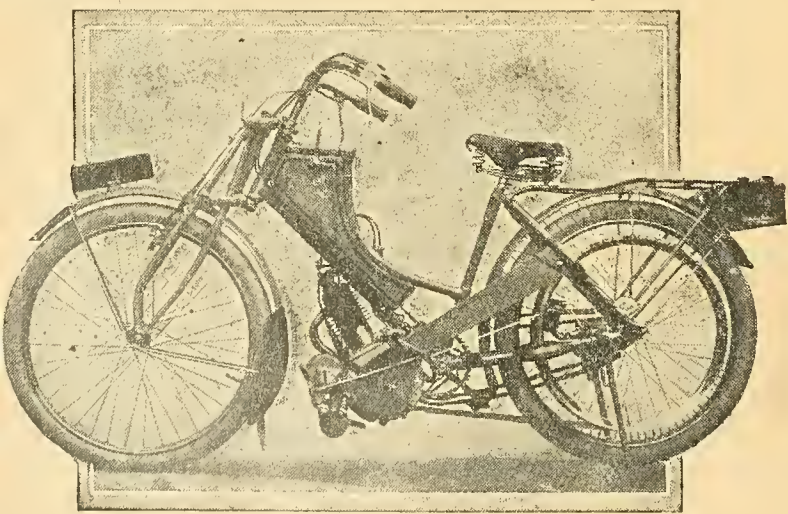
2 $\frac{3}{4}$ h.p. MODEL: 85×60 m.m.; m.o.i.v.; coil and accumulator; Amac carburetter, h.b.c.; adjustable pulley; ROM tyres; belt transmission.

A. G. FENN AND CO., Tottenham Court Road, W.C.—The principal exhibit of this stand is a 2 $\frac{3}{4}$ h.p. Mab. This machine presents a very neat appearance, devoid of any complications. A special point of the frame is the webbed head, which is extremely strong. The valves of the J.A.P. engine are both overhead, and worked by rockers from half-inch gears on the side of the engine. The silencer is forward of the cylinder head, whilst behind it is the Amac carburetter, which is fed from the rectangular tank between the two top bars of the frame through a special flexible petrol tube. This is practically a Bowden wire cable covering, enclosed in a special composition which petrol does not attack. Lubrication is automatic through a drip feed placed at the forward end of the tank, which also is provided with a petrol gauge. Two brakes are fitted—one a band brake acting on the front wheel, the other a belt rim brake actuated by the foot, the pedal for this purpose being placed adjacent to the left footrest. There is also shown on this stand a $\frac{1}{2}$ h.p. Peugeot engine with twin cylinders, 65 mm. by 70 mm. This engine is fitted with a Bosch gear-driven magneto, in contrast to the motor bicycle above described, which is ignited by coil and accumulator only. There are also shown on this stand spare petrol tanks, repair kits, various other tools for motor cycles, and the Reliance plug.

MATCHLESS, No. 104.

2 $\frac{1}{2}$ h.p. MODEL (Ladies'): 70 × 76 mm.; a.o.i.v.; Ruthardt magneto; B. and B. carburetter, h.b.c.; 5 $\frac{1}{2}$ to 1 gear; 2in. Hutchinson tyres; V-belt transmission.

H. COLLIER AND SONS, LTD., Plumstead, S.E.—The fine range of Matchless models for 1910 will surely suit the



The 2 $\frac{1}{2}$ h.p. Matchless motor bicycle for the gentler sex.

most fastidious motor cyclist. H. Collier and Sons have evidently satisfied themselves that no one type of machine will ever appeal to the average motor cyclist, and consequently they list seven or eight different models, and all of them are of excellent design and really substantial construction.

tion. Matchless motors are by no means new to our readers, their consistent performances in competition during the last few years having brought them into great prominence. One of the few ladies' machines in the show is on the Matchless stand, and it is a nicely-designed machine deserving of inspection by reason of the neat arrangement of the engine and its fundamental parts. Footrests as well as pedals are provided, and this same model is also made for the male sex with the ordinary diamond frame.

3 $\frac{1}{2}$ h.p. MODEL: 85 × 85 mm.; m.o.i.v.; Bosch b.b. magneto; B. and B. carburetter, h.b.c.; 4 $\frac{1}{2}$ to 1 gear; 2 $\frac{1}{2}$ in. Hutchinson tyres; V-belt transmission.

This machine is made in two models—one the ordinary tourist machine with pedalling gear, and the other a T.T. model with ball bearing engine, but minus pedals. The design does not differ from the accepted lines of up-to-date motor bicycles, consequently no more than this brief reference is necessary.

6 h.p. TWIN MODEL: 70 mm. × 95 mm.; a.o.i.v.; Bosch b.b. magneto; J.A.P. carburetter, h.b.c.; 4 to 1 gears; 2 $\frac{1}{2}$ in. Hutchinson tyres; V-belt transmission.

This machine should appeal to speed lovers. It is fitted with spring forks, hog skin padded top saddle, gracefully shaped handle-bars, stand and carrier, at the rear of which latter the toolbag is located, but be it noted on the underneath side, leaving the whole of the top of the carrier free for a large touring bag.

7 h.p. MODEL: 76 mm. × 95 mm.; a.o.i.v.; Bosch b.b. magneto; J.A.P. carburetter, h.b.c.; 4 and 8 to 1 gears; 2 $\frac{1}{2}$ in. Hutchinson tyres; V-belt transmission.

This model is, of course, intended for passenger work, and a really excellent sidecar mount it makes. The gear is the new Matchless of the epicyclic type, giving a fifty per cent. reduction on the low gear. It is shown fitted with a Lowen two-wheeled sidecar, and is undoubtedly one of the finest passenger combinations in the whole show.

8 h.p. TWIN MODEL: 85 mm. × 85 mm.; m.o.i.v.; Bosch b.b. magneto; J.A.P. carburetter, h.b.c.; 4 to 1 gear; 2 $\frac{1}{2}$ in. Hutchinson tyres; V-belt transmission.

This machine possesses an ample reserve of power, and is particularly suitable for those who desire to use a sidecar attachment on occasion. The J.A.P. engine has the ordinary type side-by-side mechanical valves and single gear. It is shown fitted with a rigid pattern sidecar. The actual machine on which H. A. Collier won the Tourist Trophy Race is exhibited on the stand, and by reason of its success it has naturally been decided to place this model on the market.

MIDGET BICARS, No. 106.

3 $\frac{1}{2}$ h.p. MODEL: 80 × 80 mm.; m.o.i.v.; Simms b.b. magneto; carburetter to order; patent variable pulley gear; 2 $\frac{1}{4}$ in. Kempshall tyres; V-belt transmission.

J. T. BROWN AND SONS, Reading.—The Midget Bicar for 1910 possesses some interesting features, chief among which is a patent variable gear, obtainable by expanding and contracting the engine pulley by means of a suitable lever extended easily within the rider's reach. To take up the slack of the belt the wheel is movable, and when the pulley is giving a low gear, by pressing down the footboards the back wheel is extended, thus taking up the slack of the belt. The axle slides in suitable guides at the extremity of the special sheet-steel frame, which is a feature peculiar to the Brown Midget Bicar. The magneto is gear driven, and carried in an accessible position at the rear of the crank case. Druid spring forks are fitted, as well as large tank filler caps and a very neat type of stand which automatically springs out of action. Another good idea is a leg fastened out of the way to the gear-operating lever by a rubber band, which supports the front wheel clear of the ground. This is a point many riders ask for, and shows the attention Mr. Brown pays to the detail work of his machine. A hand starting device is also incorporated in the design, this being by means of a small chain wheel driving on to a sprocket on the rear axle. Thus the turning movement is geared up, enabling an easy start.

MILLFORD, No. 67.

MILLS AND FULFORD, Coventry.—This firm has brought the sidecar to the last stage of luxury. The sidecar wheel is suspended on spiral springs carried in vertical tubes. On each sidecar frame is a special carrier, on which a two-gallon petroltin may be carried. Underneath the seat there is a

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locker for tools, while a Cape cart hood, celluloid wind screen, and a spring cushion leave nothing to be desired, so far as comfort is concerned. In addition to these, a motor cycle trailer and samples of the well-known castor wheel and rigid sidecars are shown. Motor cyclists who use sidecars should on no account miss this stand, as all sorts of neat fittings, such as boxes and platforms for luggage, are exhibited fitted to different models. The first side car to which we refer is fitted with a handsome coachbuilt body, and the remainder are made in either wicker or cane, and one of these is provided with an extra detachable seat for a child. Illustrations of three of the latest designs are published on page 922. A fine model aeroplane designed and built in the Millford works is attracting much attention.

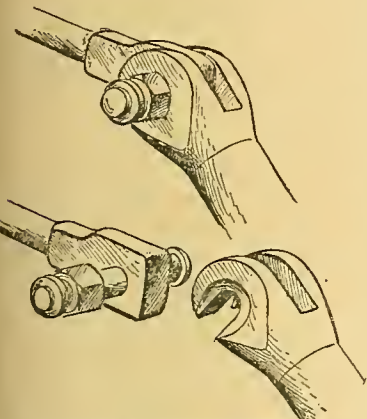
MONTGOMERY, No. 64.

3½ h.p. MODEL: 80 × 90 mm.; m.o.i.v. overhead; Bosch magneto; Brown and Barlow carburetter, h.b.c.; two-speed gear (Millennium); Michelin tyres; chain transmission.

W. MONTGOMERY AND Co., Coventry.—The M.S. motor bicycle shown on the Montgomery stand is a thoroughly practical machine. The motive power is a 3½ h.p. engine, with overhead m.o.i.v. The frame is well designed and strongly constructed, and is provided with lugs built into it for the attachment of a sidecar. Druid spring forks are fitted, and on the handle-bars two brackets are attached, one for the generator, and the other for the lamp. The rear portion of the frame is built specially to take the Millennium two-speed gear. The power is transmitted from the engine

to the rear wheel by means of chains. The offside pedal is provided with a strong free-wheel clutch, and acts as a starting device. The frame is low, and a good luggage carrier and wide mudguards are provided. Altogether the machine is highly suitable both for sidecar work and as a solo machine.

The Montgomery sidecars have been considerably improved in detail. In the newest model the sidecar wheel is now suspended on a shackled leaf spring in the same way in which a car wheel is supported. A leaf spring is also fitted underneath the foot-



The quick-detachment fitting on the latest types of Montgomery sidecars.

board. A further improvement is the fitting of a device for rapid detachment of the sidecar, which we illustrate. The bolt for this is slipped through the saddle-pillar clip, and remains there permanently. Besides this the castor wheel and the flexible sidecars are shown. A particularly neat combination is the M.S. motor bicycle and spring wheel sidecar.

MOTO-REVE, No. 87.

2½ h.p. MODEL: 52 × 70 mm.; a.o.i.v.; Moto-Rève magneto; Moto-Rève carburetter, h.b.c.; two-speed epicyclic gears; Continental tyres; chain transmission.

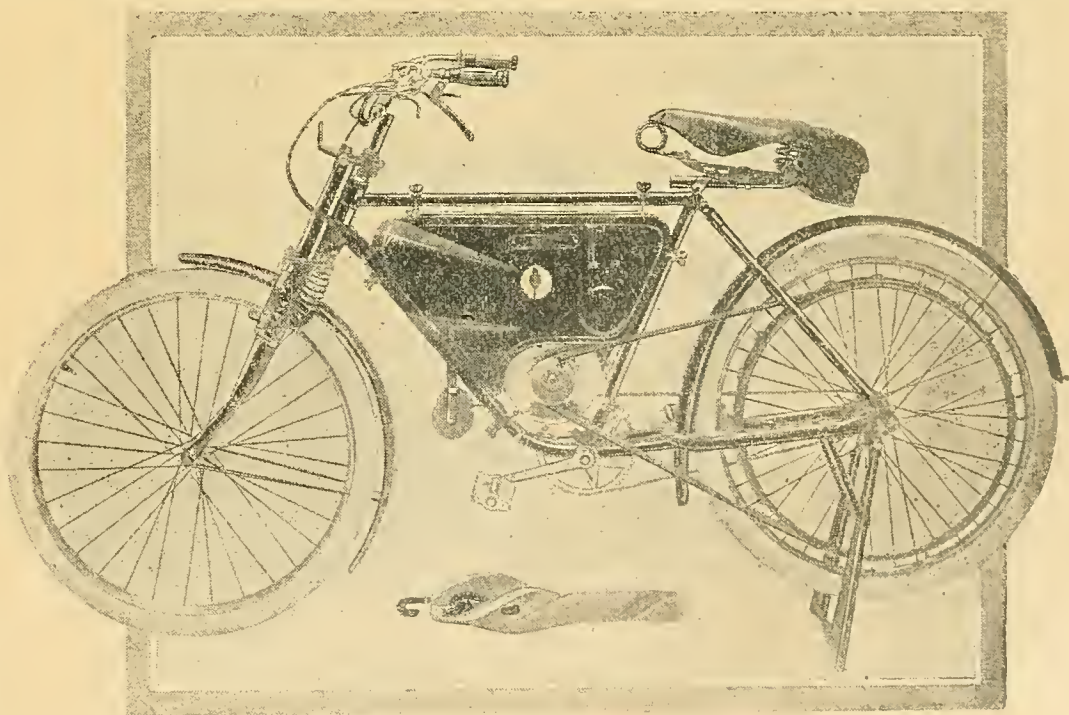
MOTO-REVE Co., LTD., Acton Vale, W.—The Moto-Rève motor bicycle, as our readers have known it for several years, remains to outward appearances the same as before, except that the carburetter is an entirely novel pattern, since float and spray chambers are both in the one casting. Two separate jets and two separate throttles are included. The Moto-Rève carburetter is easily dismantled by simply undoing one large milled screw at the bottom, which allows all the parts to fall clear. A good petrol filter is also supplied. This particular machine is shown in three different models: Model A, 50 × 70 mm., 3.9 h.p. R.A.C. rating; Model AA, a similar machine with an engine 52 × 70

mm., 2½ h.p.; Model AAA, similar to the above, fitted with an engine 50 × 85 mm., 2¾ h.p. Two totally new models are the Model B (60 × 85 mm.), fitted with a single-cylinder engine, 1½ h.p., similar in general arrangements to the well-known twin, provided with variable magneto timing, footrests, cut-out, spring forks, stand-carrier, and number plates, sold to the public at an exceedingly moderate price. This is one of the machines that should be exceedingly valuable to the trade, and enable them to get hold of fresh converts to motor cycling. A totally new model is Model C, recently illustrated in *The Motor Cycle*. The bore and stroke is 52 × 70 mm. The two cylinders are placed tandem fashion, and each has its separate miniature flywheel in a separate crank case. In the forward part of the front crank case is a gear driving the magneto, while the leather-faced clutch serves as an additional flywheel. The inner portion of the clutch is mounted on a short shaft carrying a bevel gearing, through which the power is transmitted to the back wheel by means of a chain. The magneto is fitted with a neat leather cover to exclude wet and moisture. In the back hub is a planetary gearing. Altogether the machine is an interesting one, and is well worth the closest inspection. The gear, clutch, and carburetter are all controlled by means of levers on the handle-bars. A novelty shown for the first time is the Moto-Rève Couplo-Cycle, which is shown attached to the AAA machine. The attachment is practically a rigid one, but a small amount of movement is allowed. The handles on the lady's machine and the motor bicycle to which it is attached are coupled together. It should appeal to those readers who do not care for a more powerful machine and sidecar. The general arrangement and the finish of the Moto-Rève motor bicycle should not fail to attract visitors.

MOTOSACOCHE, No. 102.

1½ h.p. MODEL: 62 × 75 mm.; a.o.i.v.; Motosacoché magneto; Motosacoché carburetter, h.b.c.; 6½ to 1 gear: 1½ in. Clincher tyres; round or V-belt transmission.

MOTOSACOCHE, LTD., Holborn Viaduct, E.C.—This popular little lightweight has undergone one or two alterations since it was last exhibited at the Stanley Show. It will be noticed that the stroke has been increased to 75 mm., and the engine is now rated at 1½ h.p. The lubricating oil pump is of different pattern in that it has no tap, but is of the two-way type. Drawing up the pump handle fills the barrel, and turning the handle round and pressing the plunger down injects a charge of oil into the engine. Buyers of the Motosacoché have the option of two kinds of transmission for the magneto, as on the latest model a gear drive is used, although the worm drive from the flywheel can still be had if desired. There are also two types of engine transmission, viz., by round and V belt. We illustrate the V belt-driven model.



A V belt-driven Motosacoché—a new departure for 1910. An improved type of double link fastener for round belts is shown in the inset.

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and also a new pattern fastener for the round belts which is calculated to avoid all future transmission trouble. The only alteration necessary to fit a V-belt to the lightweight Motosacoche is a new engine pulley. Druid spring forks are fitted, and to special order a free-engine device can be supplied. This consists of a small lever on the handle-bar operating the jockey pulley fitted to these machines. In traffic when it is desired to free the engine, the lever simply lowers the jockey pulley, which slackens the tension on the belt, thereby allowing the belt to slip. The machine is supplied complete with a tubular stand and a large toolbag. A low-priced model Motosacoche is now obtainable. This machine has rigid forks, 1½ in. roadster tyres, accumulator ignition, and round belt transmission. It is sold at a remarkably low figure, considering the extreme care taken in the production of the machine.

1½ h.p. MODEL (Ladies'): 62×75 mm.; a.o.i.v.; Motosacoche magneto; Motosacoche carburetter, h.b.c.; 6½ to 1 gear; 1½ in. Michelin tyres; round belt transmission.

This model is unchanged from last year, having proved to be so entirely satisfactory. It is an ideal machine for ladies' use, being so simple and the working parts so well protected. The engine is carried very low down in the frame, the magneto in this case being situated in front of the engine. It is controlled by three levers only, and an intelligent lady would learn to drive the machine in a very few minutes. This machine has spring forks.

N.L.G., No. 125.

3½ h.p. MODEL: 85 × 85 mm.; m.o.i.v.; Bosch b.b. magneto; J.A.P. carburetter, h.b.c.; 3½ to 1 gear; 2½ in. ROM tyres; V-belt transmission.

NORTH LONDON GARAGE, Corsica Street, N.—N.L.G. motor cycles have built up a name for themselves by their fine performances on the Brooklands track. On the other hand, these machines are not only built for racing purposes, but are constructed as excellent touring mounts to customers' desires. Three different types of machines are shown on the stand, all of them having torpedo tanks, handle-bar control, and footrests or footboards. Two models of single-cylinder machines are shown, but they are precisely the same in construction, the only difference being that one has a new Peugeot m.o.i.v. 84 × 86 engine fitted, and the other a 3½ h.p. side by side valve J.A.P. Spring forks are fitted to order, as well as carriers and other fittings; in fact, one of the specialities of the N.L.G. Co. is to build up racing or touring machines to motor cyclists' own specifications.

7 h.p. TWIN MODEL: 80 × 94 mm.; a.o.i.v.; Bosch b.b. magneto; Longuemare carburetter, h.b.c.; 3 to 1 gear; 2½ in. ROM tyres; V-belt transmission.

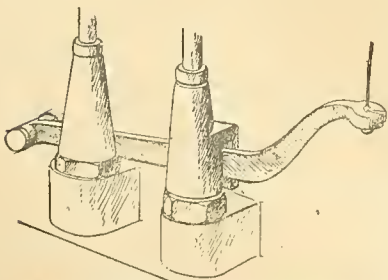
This twin-cylinder machine is, of course, intended for fast touring work in hilly districts, or occasional use with a sidecar attachment, for which purpose we should imagine from inspection, it would well fill the bill. Another machine shown on the stand is the 16-20 h.p. N.L.G.-Bat, on which W. E. Cook attempted world's record at Brooklands a week last Saturday. It was unfortunate for him that the electrical timing apparatus failed when he was doing his fastest speed. The machine is a huge projectile, and may be heard of yet in connection with record speeds.

NORTON, No. 86.

3½ h.p. MODEL: 82 × 94 mm.; a.o.i.v.; Simms magneto; Brown and Barlow carburetter, h.b.c.; fixed gears; Clincher tyres.

NORTON MFG. Co., LTD., Floodgate Street, Birmingham.—

The Norton motor bicycle remains practically unaltered for the coming season. One or two interesting improvements in detail have been embodied. One of these is the new exhaust lifter, which consists of a sleeve slipped over the exhaust lifter guide, on which there is a lug. A long arm hinged on one of the crank case bolts works underneath against this, thus lifting the valve in a particularly neat manner.



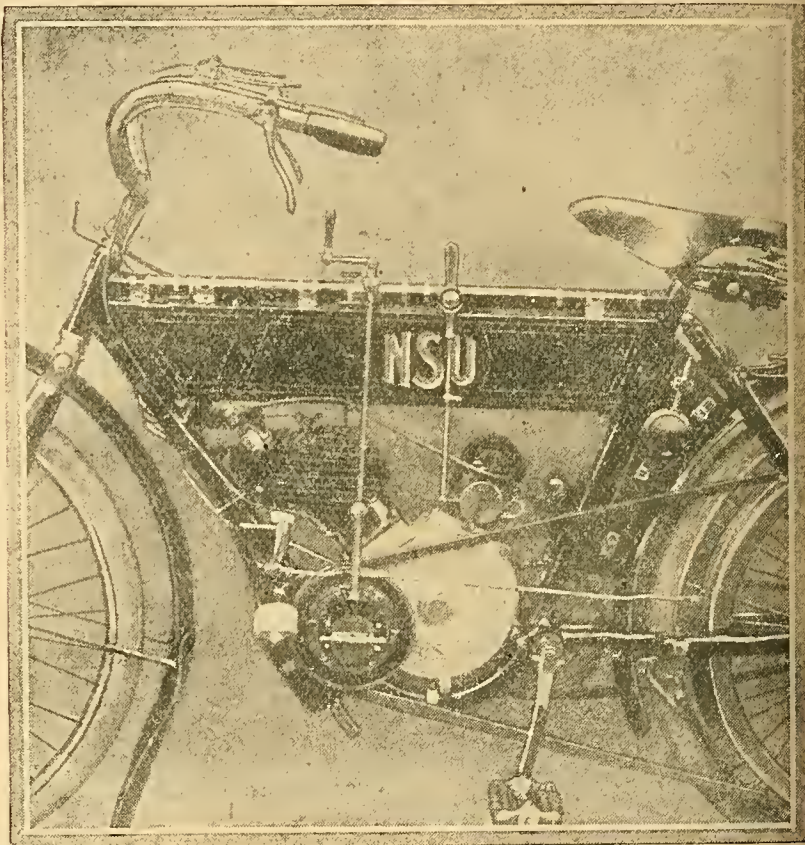
A neat exhaust valve lifter fitted to the single-cylinder Norton.

Three Norton machines are shown of standard length, and a specially short touring model is also exhibited. The design of the silencer is worthy of inspection, and is a distinct novelty, as the latter is practically of aluminium, the ends of which are turned over and clamped together. The Norton Mfg. Co. also show the new Simplex belt, consisting of chains, to the links of which V-shaped slips of leather are attached.

N.S.U., No. 264.

4 h.p. TWIN MODEL: 64 × 85 mm.; m.o.i.v.; Bosch magneto; N.S.U. carburetter, h.b.c.; 4½ and 6½ to 1 variable gears; Peter Union tyres; belt transmission.

THE N.S.U. MOTOR Co., LTD., Great Portland Street, W.—As usual, the N.S.U. Co. have a fine show of motor cycles in the Gallery, prominent amongst which is a 4 h.p. twin-cylinder machine. This is fitted with a two-speed gear and



The new pattern two-speed geared lightweight N.S.U. of 1½ h.p., a motor bicycle particularly adapted for all-weather riding, on account of its stability and ability to climb hills slowly.

free engine, the driving pulley being mounted on a countershaft carried forward of the engine, and driven by gearing from the mainshaft. The effect of this is to very largely reduce the size of the pulley on the back wheel, the belt reduction being only some 1½ to 1. The two-speed pulley is worked through a handle on the vertical shaft carried on a bracket mounted on the top tube. The N.S.U. special carburetter is fitted, and is arranged at the extreme rear of the engine, where it is connected in series, not as is the general practice in parallel, with the two cylinders, the gills of which are cast so as to be horizontal. A Bosch magneto is placed underneath the carburetter, bolted to a special platform attached to the crank chamber, and driven by enclosed gear. This model is also made without the two-speed gear, but with a gear-reducing pulley, which in this case is provided with a vertical shaft, by means of which the belt can be slackened and tightened in a very ingenious and simple way. Spring forks are fitted to this and to all other N.S.U. models. The brakes are especially notable for their power; the hand brake applies external expanding shoes to a drum mounted on the belt side of the driving wheel hub, whilst the foot-applied brake takes effect on the V of the belt rim.

6 h.p. TWIN MODEL: 75 × 90 mm.; m.o.i.v.; Bosch magneto; N.S.U. carburetter, h.b.c.; 4½ and 6½ to 1 variable gears; Peter Union tyres; belt transmission.

This model is exactly similar, except in engine dimensions, to the 4 h.p. model, and is shown as a solo machine, as a racer, and also with a sidecar.

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1½ h.p. MODEL: 63 × 78 mm.; m.o.i.v.; Bosch magneto; N.S.U. carburetter, h.b.c.; 6 to 1 gear; Peter Union tyres; belt transmission.

Two types of lightweight machines are shown, both with the same size engine as indicated above, and also similar as to other details except as to drive, one of them having a direct belt drive, while the other is fitted with a geared pulley provided with a belt tightener similar to that of the larger models.

3½ h.p. MODEL: 85 × 88 mm.; m.o.i.v.; Bosch magneto; N.S.U. carburetter, h.b.c.; 4 to 1 gear; Peter Union tyres; belt transmission.

This is the N.S.U. Tourist Trophy model, and except that it is a single machine, and is provided with a direct belt drive, is the same in design as the twins above described.

4 h.p. MODEL: 82 × 105 mm.; m.o.i.v.; N.S.U. carburetter, h.b.c.; 4 to 1 gear; Peter Union tyres; belt transmission.

Another model on similar lines to the Tourist Trophy model, except that it is provided with a larger engine and pedalling gear, is the 4 h.p. N.S.U.

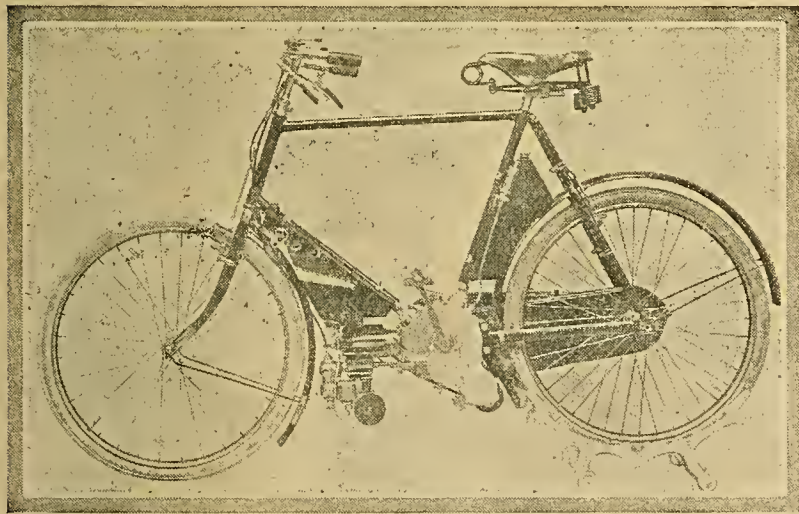
2½ h.p. MODEL: 52 × 74 mm.; m.o.i.v.; N.S.U. carburetter, h.b.c.; 4 to 1 gear; Peter Union tyres; belt transmission.

A very interesting type of lightweight machine is shown in the form of the 2½ h.p. twin-cylinder N.S.U., the engine of which is quite tiny, and is practically an exact reduction of the larger N.S.U. models, except that the carburetter is carried between the cylinders, not behind them. This is fitted with a gear reducing pulley and external contracting band and hand-operated brake on the rear wheel.

OMEGA, No. 313.

1½ h.p. MODEL: 63 × 65 mm.; Simms high tension magneto; Amac 1910 carburetter, h.b.c.; 6 to 1 gear; Clincher 25 × 1½ tyres; chain transmission.

OMEGA MOTOR CYCLE CO., Wolverhampton.—The machine shown on this stand is very distinctly a novelty, and has been specially designed to be what may be described as an incidental motor cycle. The main feature of this is the position of the engine, which is horizontal, the crank chamber taking the place of the bottom bracket of the



The Omega motor cycle hails from Wolverhampton, and has a horizontal engine, epicyclic reducing gear, and chain transmission enclosed in a metal case.

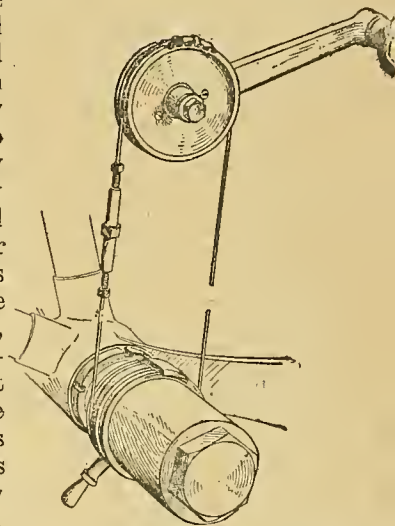
ordinary cycle. The crankshaft is hollow, and instead of having an ordinary throw is provided with an eccentric sheave, to which the connecting rod is attached. Through this crankshaft passes the spindle of the pedalling gear, which runs free therein. The drive from the motor to the back wheel is through a chain having a reduction gear of 6 to 1. The engine crank chamber is split straight down, and on one side is the connecting rod and eccentric throw, whilst in the other compartment is the epicyclic gear, through which a reduction of speed is obtained. The engine is ignited by a Simms magneto placed underneath and slightly behind the crank chamber, to which it is bolted, and is driven by enclosed gear. An Amac carburetter is fitted in the front of the combustion chamber, fed from a tank fastened to the down tube; this tank practically takes the place of a front

mudguard. An oil tank is arranged between the rear mudguard and the saddle tube, and is fitted with a pump. The operation of the driving clutch is by a hard lever with finger trigger on the right handle-bar; the front brake and ignition and throttle levers being placed on the left-hand. The driving chains are enclosed in a gear case, as is also the magneto. This design lends itself particularly to the construction of a lady's motor bicycle, and we understand that one is shortly to be put on the market.

P. & M., No. 72.

3½ h.p. MODEL: 82 × 88 mm.; m.o.i.v.; Bosch magneto; P. and M. carburetter, h.b.c.; P. and M. gear (two speed); Dunlop tyres; chain transmission.

PHILON AND MOORE, LTD., Great Portland Street, W., have a particularly fine exhibit of their well-known machines. The 3½ h.p. has been considerably improved in detail, especially as regards the control of the two speed gear, which is now worked by a lever fitted to the lower of the two horizontal frame tubes, and is situated very near the saddle. Though this control is effected by means of wires, there is no possibility of their giving any trouble; they are simply wound round two pulleys, and fitted to a stop in the upper of the two pulleys, thus preventing any slip. In the event of the wires stretching, a means of adjustment is provided with the aid of a right and left-hand thread. The lower of the two pulleys operates the expanding rings in the gear through a screw action. The new 3½ h.p. engine has this year m.o.i.v., and it is interesting to note that adjustable tappets are provided. The new carburetter is now rendered most accessible, and the jet is easily removed. The P. and M. two-speed gear is one of the simplest and most efficient on the market, and the neutral position of the lever renders the gears absolutely free. The lightweight model has been recently dealt with in our pages. We would, however, remind our readers that it scales but 125 lbs., and is fitted with a.o.i.v., Druid forks, chain transmission, and the well-known P. and M. gear. In the case of both machines rubber covered rests and a foot-operated band brake are provided. The P. and M. All Weather machine is especially worthy of attention, as the only bright parts about it are the handle-bar and any nuts to which spanners need to be applied.



The latest method of operating the P. and M. change-speed gear.

PREMIER, No. 78.

3½ h.p. MODEL: 85 × 90 mm.; m.o.i.v.; Simms magneto; Brown and Barlow carburetter, h.b.c.; 4½ to 1 gear; Dunlop tyres; rubber V-belt transmission.

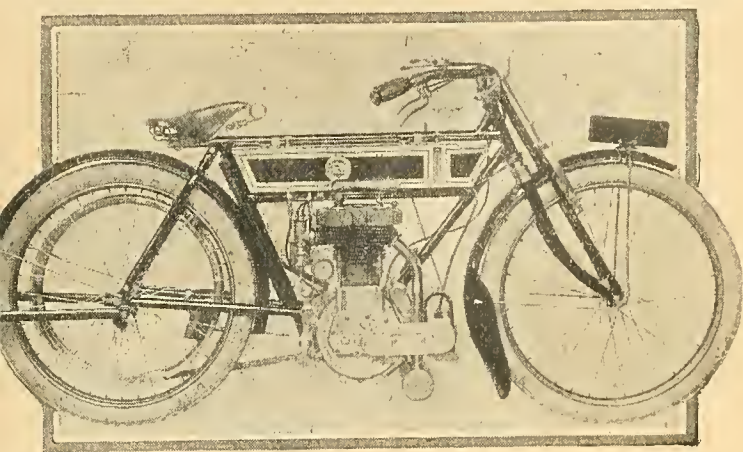
PREMIER CYCLE CO., LTD., Coventry.—The motor cycle exhibit of the Premier Cycle Co. is particularly interesting. The first Premier made its appearance last year, and since then the machine has met with almost universal approval and many well-deserved successes in public trials. Since the last show, with the exception of an addition of 5 mm. to the stroke, the single-cylinder engine has undergone no startling alterations, but its good design and splendid finish deserve the closest inspection.

3¾ h.p. TWIN MODEL: 66 × 80 mm.; m.o.i.v.; Premier type Brown and Barlow carburetter, h.b.c.; 4 to 1 gear; Dunlop tyres; V-belt drive.

The 3¾ h.p. twin is a particularly interesting machine. The radiating fins are cast parallel with the ground, so that the cooling is highly efficient. Cooling is also ensured by the cylinders being staggered, so that one does not shield the other. A double throw crankshaft is set at the same angles as the two cylinders, allowing both pistons to reach the top of the stroke absolutely simultaneously, so that perfectly even firing is obtained. The carburetter is specially constructed by Brown and Barlow for the Premier Cycle Co., Ltd. The chief alteration to the standard B. and B. lies in the fact that the whole of the air is admitted below and not part below and part above, the jet. Two sets of

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rests are provided—one behind and the other in front of the crank case. Spring forks of a particularly neat design, provided with a front rim brake, are fitted, but the remainder



A new model Premier. It is a $3\frac{1}{2}$ h.p. Tourist Trophy type, similar to those used with great success in this year's competitions.

the machine follows standard lines. Altogether, the Premier twin is one of the most interesting of its type in show. It is worthy of note that the frame is absolutely d, and straight tubes only are employed.

PREMO, No. 200.

$\frac{1}{2}$ h.p. MODEL: 84×88 mm.; valveless; Bosch magneto; Amac carburetter, h.b.c.; 4 and 8 to 1 gears (adjustable); $2\frac{1}{4}$ in. Clincher rubber-studded tyres, or to order; V-belt transmission.

PREMIER MOTOR CO., LTD., Birmingham.—Special interest attaches to this machine on account of it being fitted with a two-stroke engine. It will be remembered that this machine entered in the Tourist Trophy Race, but was debarred from competing. The general lines of the machine follow conventional practice, the rear angle of the frame, however, being built similar to the Rex, ensuring an extremely low riding position; incidentally this design enables the firm's special Premo shock absorber to be fitted without the saddle assuming a high position, which is the drawback of many other devices. Coming to the engine, the absence of valves is, of course, conspicuous, otherwise there is little to distinguish it from the four-cycle type. The cylinder has radiating fins at the top half only, and the cylinder head is of the detachable type, this carrying a petrol tap and a compression release valve, which is operated by Bowden wire and lever on the handle-bar. The carburetter is the latest type, placed behind the engine, and the magneto is dismounted in the front and driven by enclosed chain. Druid front forks are fitted, and the wheels on the machine exhibited are fitted with $26\frac{1}{2}$ in by $2\frac{1}{4}$ in. Clincher rubber-studded tyres. Such up-to-date refinements as handle-bar control, wide extended mudguards, aluminium finished tank, adjustable pulley, etc., are included, and the price is moderate. The adjustable pulley is one of the simplest and neatest we have seen, consisting of only three parts. Amongst the numerous specialities is a

seat-pillar which clips to the seat tube of the machine and enables one to obtain a very low riding position. The back of this seat tube is a T piece, adjustable along the length of the tube which rests on the back stays of the machine, so giving extra support. An extra long handle-bar is also made, which, of course, will be necessary in some cases where this long seat tube is fitted. Tubular back carriers and stands are included in the exhibit, the former being fitted with a detachable number plate at the back. These stands can be had with any form of clip to suit different machines. A tool roll shown at a moderate price contains no fewer than eleven useful tools, including Footprint, Quick Grip, Billing's pattern pliers, belt punch, ordinary steel punch, set of box spanners, screwdriver, etc. Amongst the other goods shown are a wooden case for carrying a spare engine valve, a new patent switch, a magneto switch, a belt fastener having particularly large bearing surfaces to the wearing parts, and a valve lifter. A good variety of motor cycle head lamps and generators is also shown.

QUADRANT, No. 109.

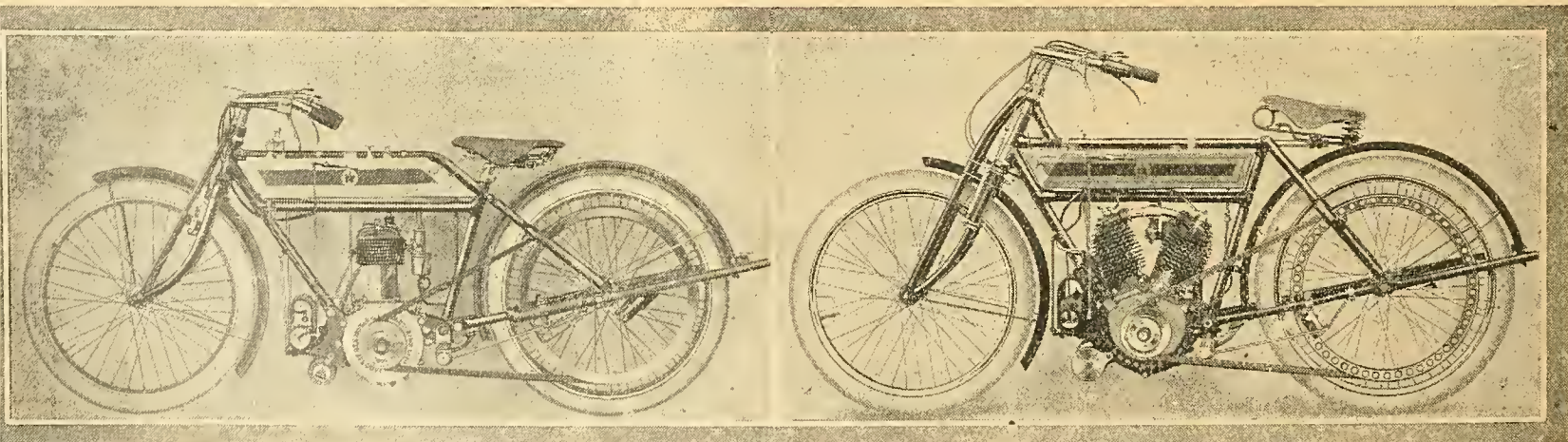
$3\frac{1}{2}$ h.p. MODEL: 84×100 mm.; m.o.i.v.; Bosch b.b. magneto; Quadrant carburetter, h.b.c.; 4 to 1 gear (adjustable); $2\frac{1}{4}$ in. Dunlop tyres; V belt transmission.

QUADRANT MOTOR CO., LTD., Coventry.—The $3\frac{1}{2}$ h.p. Quadrant exhibited on this stand resembles in outward appearance last year's design, but a closer inspection will reveal the fact that several small but important details have been improved. A really good point about the Quadrant is its clean crank case. There are no unsightly projections on which mud, dirt, or oil could quickly collect, as in the average engine. The gear driven magneto reposes on a special bracket behind the engine cast integral with the aluminium crank case. All the gears are enclosed and run in an oil bath. The valves are situated fore and aft, the exhaust valve being in front and receiving a full blast of cold air. The exhaust valve lifter is much improved. The carburetter is controlled by a single lever on the handle-bar, thus reducing the personal element in driving. The machine throughout is of substantial construction. Two brakes are fitted to the rear wheel, one is of the belt rim type, the other an external contracting type. The petrol and oil compartments are large, and the lubricating pump is concealed in the front portion of the tank. The original Quadrant spring forks are retained.

REX, No. 75.

$3\frac{1}{2}$ h.p. MODEL: $84\frac{1}{2} \times 89$ mm.; m.o.i.v.; Bosch magneto; Brown and Barlow carburetter, h.b.c.; $26 \times 2\frac{1}{4}$ in. Continental tyres; belt transmission.

REX MOTOR MFG. CO., LTD., Coventry.—The Rex stand bristles with novelties. Of course, the most startling of all is the two-stroke engine, which has the same bore and stroke as the standard single. This engine has been recently dealt with extensively in our pages, but it is worthy of note that the crank case is an exceedingly clean casting, the magneto chain case forming part of the crank case. This enables the latter to be easily kept clean. A number of parts are shown, including the new Rex patented connecting rod, in which there are a series of narrow slots at the bottom of the big end and the top of the small end bearing, which enable the oil to get to the gudgeon pin and crank pin respectively without difficulty. The plate



The single and twin-cylinder Rex Speed King machines for 1910. It will be noticed that both these machines have rigid forks. At present there is a diversity of opinion as to whether spring or rigid forks are better for speed work.

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clutch is also shown, dismounted, in which there are no less than forty-two plates, also a new operating rod which operates the clutch by means of a worm. The 1910 piston of the four-stroke motor, to which there are two rings at the top and a domed head, an interesting two-stroke piston with deflecting flange, and other Rex points, are shown, which clearly illustrate the fine work which the company put into their machines. The Speed King twin is a mount to attract many visitors to the show. It and its single-cylinder sister are enamelled in French grey, and it and all other Rex models are provided with patent cantilever seats—one of the most comfortable seats on the market. All the machines are fitted with drip feed lubricators worked by suction in the crank case, and a tapless oil pump in the tank. In addition to this the B. and B. carburetter on the four-stroke machines is fitted with a connection to the crank case which was found so successful in the T.T. race. The Rex Sidette is also an interesting combination, and the foresight of the Rex Co. in making the motor bicycle with lugs built into the frame, to which the sidecar is attached, was a very enterprising action on their part. In all the models the magneto is protected by means of an efficient shield. The tanks in all the types are provided with hinged stoppers and a float to indicate the level of the petrol. A compression tap, provided with a cup, is fitted into the head of each cylinder. Immediately above this is a pipe, in the entrance of which there is a small needle valve, which, when unscrewed, allows a few drops of petrol to enter the cylinder in order to free it. The rear brake pedal and cut-out control are covered with large rubber blocks, which render them most comfortable, and good footrests are also provided. Altogether the Rex exhibit is one which will not fail to attract the practical rider.

ROC, No. 80.

6 h.p. FOUR-CYLINDER MODEL: 2in. \times 2½in.; m.o.i.v.; Bosch magneto; Amac carburetter, h.b.c.; epicyclic two-speed gear; Dunlop tyres; propeller-shaft transmission.

A. W. WALL, LTD., Aston Road, Birmingham.—This firm are showing a four-cylinder machine which is quite different from any four-cylinder motor bicycle yet shown. The makers have endeavoured to render it as far as possible a car on two wheels. M.O.I.V. are used, and are situate on the off side of the motor. The camshaft is extended past the 2 to 1 reduction gear at the end of the motor, through a long bearing to the epicyclic gear, and is then coupled to the propeller-shaft. Pedal starting is also provided. The frame is especially interesting, as it is all pressed out of one piece of steel, and into it the head is electrically welded. The reduction on the top gear is 4 to 1; that is to say, 2 to 1 in the distribution gear, which also serves as transmission, and 2 to 1 in the bevel. A heavy flywheel is fitted to the front of the engine. The frame is of considerable width, and serves as an efficient mudguard. The well-known types of 5½ h.p. single and 6 h.p. Roc motor bicycles are also shown. The chief improvements for this year are the spring fork, which totally avoids any lateral displacements in relation to the wheel, while a special feature is made of the Roc conversion set, by means of which the well-known Roc two-speed gear can be fitted to any make of machine. This gear has been considerably improved in detail, and is now fitted with ball bearings.

ROYAL ENFIELD, No. 3.

2½ h.p. TWIN MODEL: 52 \times 54 mm.; m.o.i.v.; high-tension magneto; H.A.D. carburetter, h.b.c.; Dunlop tyres; belt transmission.

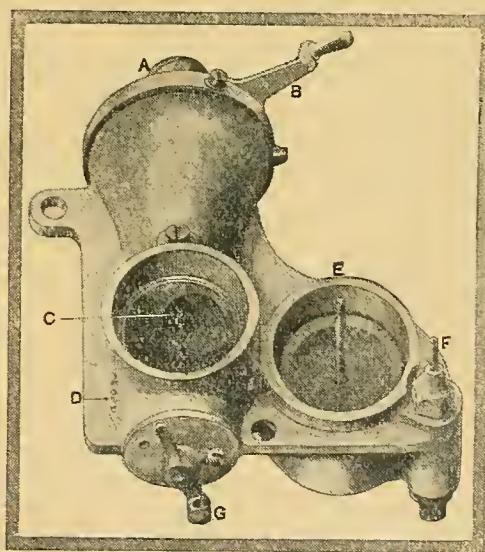
ENFIELD CYCLE Co., LTD., Redditch.—This exceedingly smart little lightweight is fitted with a well-designed twin-cylinder V engine, the valves being placed between the cylinders, and all operated from a single camshaft. The carburetter, which is an exceedingly neat one, is also between the two cylinders on the near side of the engine, and is fitted with a small extra air valve readily accessible from the saddle. Handle-bar control is provided for the throttle, ignition and the exhaust valve lifter. A feature of the engine is the manner in which the exhaust and inlet pipes are secured to their ports. This is by means of stirrups, or dogs, secured with a single bolt. The high-tension magneto is placed with the magnets downwards and behind the

bottom bracket. A very special feature of this magneto, which is quite unique in motor bicycle practice, is the fact that for altering the timing of the ignition the position of the armature is advanced and retarded relatively to the break of the contacts, instead of as usual moving the contact breaker. This is unquestionably the best possible practice, and has hitherto only been found in cars. A belt drive is used with a gear of about 5½ to 1. The front brake is of the ordinary rim type actuated through Bowden wire mechanism, whilst the rear brake is on the belt rim worked by a pedal on the left footrest. A point that is well worthy of attention on this machine is the provision of a small paraffin pump by which paraffin can be forced into the cylinders for easy starting. Each cylinder is provided with a tap leading through a small pipe to this pump, which is on the right-hand side. On the left-hand side is a similar pump for lubricating oil. Each compartment of the tank is provided with a glass gauge. Druid spring forks are fitted to the steering wheel, and throughout the accessories are of the very best. The stand is separate from the carrier, and allows the back wheel to be very easily taken out and replaced.

SCOTT, No. 105.

3½ h.p. MODEL: 2½in. \times 2½in.; Bosch b.b. magneto; Scott carburetter, h.b.c.; 4.3 and 7.3 to 1 gears; 2½in. Palmer tyres; chain transmission.

SCOTT ENGINEERING Co., LTD., Bradford.—The Scott makes its first public appearance at any show at this year's Stanley, where it is bound to create a great amount of interest. It is without doubt the most talked of motor bicycle on the market at the present time, for its specification is well nigh perfect on paper. Since this machine was last described in *The Motor Cycle* we notice that several improvements have been made. To deal first with the engine, this as most readers know is of the two-stroke type, and therefore has no valves. The water-cooling arrangements have been perfected. To keep both sides of the cylinders at an even temperature a water jacket has now been fitted at the base of the crank case just below the exhaust outlet. The cylinder head is also water-cooled, and the radiators and tank are very neatly arranged on the machine; in fact, the whole machine presents an exceptionally smart appearance.



The specially-designed carburetter fitted to the two-stroke Scott, the casing of which is an aluminium casting.

A. Automatic air valve. B. Extra air lever. C. Jet. D. Air inlet holes. E. Float chamber. F. Needle valve. G. Throttle lever.

is driven by means of a chain from the counter-shaft, and the whole of the power mechanism, including the engine, two-speed gear, magneto, and operating levers, is protected from mud by an efficient under screen. A cut-out is fitted to the silencer, and the stand is spring operated. Other features of this machine are a pedal starting arrangement, a round petrol tank embodied on the seat tube, and an efficient spring fork which enables a front rim brake to be used. Lubricating oil is carried in one of the frame tubes. On the stand there is a working diagram showing the action of the Scott two stroke engine, and those who are not acquainted

The flywheel is fitted between the two cylinders, and a sprocket on each side of the flywheel drives to a two-speed gear on the counter-shaft. From this counter-shaft there is a final drive on to a large sprocket fitted on the left-hand side of the back wheel. This sprocket is of exceptional width to enable a brake to operate on the inside of the rim, thus giving very powerful retardation. A metal cover is fitted over the rear chain wheel to prevent any likelihood of oil carried by the chains being splashed on to the machine or rider's clothes. The magneto

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the working of this simple type of valveless engine are recommended to closely examine the model. The Scott carburetter used on the two-stroke machine is an aluminium one. There is an automatic air valve with extra air adjustment. An excellent feature of the design is that the jet, needle valve, and needle valve are all instantly removable without taking down the carburetter. A synchronised throttle effect is obtained by the twisting movement of the two annular air sleeves, which rotate in opposite directions, giving a movement similar to that used in cameras for the diaphragm shutter. When the throttle is completely closed the airholes (see previous page) are simultaneously opened, so that the engine draws in pure air only, resulting in the engine being started readily, and also economising the petrol consumption. Details of the Scott machine are shown on the stand for demonstration purposes, and to illustrate the construction of this very well designed machine. One of the machines at the show is fitted with a Millford spring wheel sidecar—a very attractive combination.

SERVICE CO., LTD., No. 114.

THE SERVICE CO., LTD., Holborn, W.C.—On this stand will be found various makes of new pattern motor cycles for which the Service Co. are special selling agents. There are models of the two-stroke Scott, 1910 Triumph, twin-cylinder Douglas, two-speed F.N., Bradbury, L.M.C., Moto-Re, and A.C. sociables. These machines are dealt with separately in detail in another part of this report. A sidecar which is exhibited on this stand only is the Miller, which completed the Six Days' Trials. This sidecar seat, it will be remembered, is placed over the centre of the wheel. Another sidecar is the Mills and Fulford castor wheel, shown complete with coachbuilt body, wind screen, and Cape cart mud shields. Miller mud shields are also to be found on this stand, which is one of the largest and most varied in the show. Accessories include Druid spring forks, Albion plate clutch, and adjustable pulley; also another type of Albion adjustable pulley and Mabon multiple disc plate clutches for attaching to the engine-shaft of existing machines.

SINGER MOTO-VELO, No. 120.

4 h.p. MODEL: 62 x 70 mm.; a.o.i.v.; Bosch magneto; Dufaux carburetter, h.b.c.; 6½ to 1 gear; 1½ in. Clincher tyres; round or V-belt transmission.

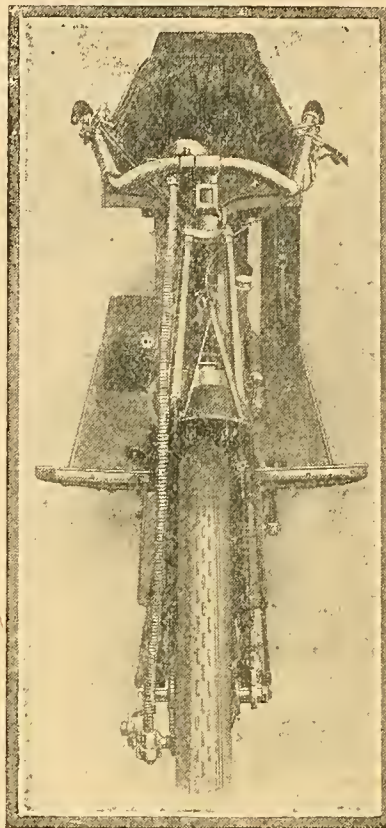
SINGER AND Co., Coventry.—This firm has made a new feature this year in exhibiting a light motor cycle at the Stanley Show. The machine is splendidly finished, and is sure to attract a good deal of attention during the Show week. The engine is inclined and has horizontal radiating fins. The magneto is very neatly bolted to the uppermost portion of the crank case, and is driven by means of gear wheels from the crankshaft. A tank carrying an ample supply of petrol for 140 miles' running is suspended on the top tube in the usual way, and a petrol gauge is fitted. A good point of detail work is not flimsy; that is, the parts have been reduced in weight to risk the liability of trouble. Control levers are fitted to the handle-bar, as well as good-sized Bowden control levers for the carburetter, giving a delicate adjustment. The machine is obtainable with either a round belt (in which case a jockey pulley is used) or a direct V-belt drive. Two efficient brakes are provided, one operating on the rear belt rim, the other being a drum rim brake of the ordinary type. Druid spring forks are included in the equipment, also a light tubular stand, and a tool case tucked away in the recess between the rear mudguard and seat tube.

T.A.C., No. 73.

4 h.p. MODEL: 60 x 60 mm.; a.o.i.v.; Simms magneto; Amac carburetter, h.b.c.; three-speed sliding gears (T.A.C.); ROM tyres; propeller-shaft and worm drive transmission.

WILKINSON SWORD CO., LTD., Acton Green, W.—It is so recently that we described this interesting machine in *The Motor Cycle* that a detailed description is unnecessary. However, two splendid examples of the work executed by Wilkinson Sword Co. are to be seen on this stand. The machine is fitted with a large steering wheel, which carries the control levers to the carburetter, clutch lever, and two brakes, one operating the front brake, and the other the rear. The starting gear by means of a bevel wheel and a rack has been greatly improved. When the engine

has once been started the lever may be thrown forward, and the bevel wheel comes out of engagement. The gear box has been slightly altered, and now one of the feet is hollow, and is provided with a screw plug at the bottom which may be removed to allow the oil to be drained away. The front fork has also been considerably improved, and with it an internal-expanding front brake is fitted. The wheel steering, the makers assure us, is most effective, and gives the greatest satisfaction. The other machine on the stand is fitted out for scouting purposes. Riders interested in the T.A.C. machines would do well to make a most careful inspection of this exhibit. The seat is luxuriously upholstered, and fits the back nicely, while the position of the handle-bar is all that could be desired. The scouting machine is shown fitted with a new short Army rifle slung behind the rider's seat, a neat case of opera glasses, a water bottle, a leather case, and a holster for a revolver. Members of the A.C.L. would do well to inspect this machine. Our readers will be interested to hear that the T.A.C. went through a private trial recently at Brooklands, from which it emerged with flying colours, and it possesses



Front view of the T.A.C., showing the long comfortable footboards and bucket seat.

the distinction of being the only four-cylinder motor bicycle ever fitted with a three-speed sliding gear.

TEE BEE, No. 258.

2½ h.p. MODEL: a.o.i.v.; Bosch magneto; Brown and Barlow carburetter, h.b.c.; non-skid Bates tyres; belt transmission.

TEMPLETON BROS., Glasgow.—This machine is modelled on standard lines, with the engine in a vertical position forward of the bottom bracket. The J.A.P. engine is too well known to need description now, and it is provided with a Bosch magneto placed in the rear of the engine, where it is driven by enclosed gear from the mainshaft. The Brown and Barlow carburetter is slightly in the rear of the magneto, and is in a very accessible position. The ignition advance lever is attached to a bracket carried by the top bar of the frame. The mainshaft of the engine is extended outwardly on the left-hand side, and carries a N.S.U. two speed gear operated in a special manner by the foot, the position for this being very convenient for the footrests. Three special features of this bicycle are the Tee Bee spring forks, which are extremely neat, the springs being carried up against the head. An ingenious and simple hand-starting mechanism is contrived by coupling up the ordinary free-wheel on the back hub through a small hand-driven sprocket carried in a detachable bracket on the rear forks. The saddle is mounted on a special bracket with laminated spring, which gives great comfort in riding, and which allows the height of the saddle to be altered.

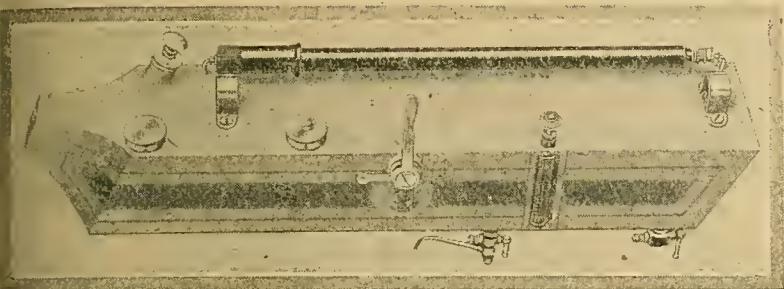
TRIUMPH, No. 122.

3½ h.p. MODEL: 85 mm. x 88 mm.; m.o.i.v.; Bosch b.b. magneto; Triumph carburetter, h.b.c.; 4½ to 1 gear (adjustable); 2½ in. rubber-studded Clincher tyres; V-belt transmission.

TRIUMPH CYCLE CO., LTD., Coventry.—We have already referred to the more important improvements in the new pattern Triumph motor bicycle, and have acquainted our readers with the news that the 1910 engine has been slightly increased in size, and the ratio of compression lowered, thus reducing the tendency for the engine to knock. Heavier rimmed flywheels are now used which give greater flexibility to the engine and smoother running. The valves are of improved pattern, the exhaust valve head being exceptionally strong. The adjustable pulley has been made much neater

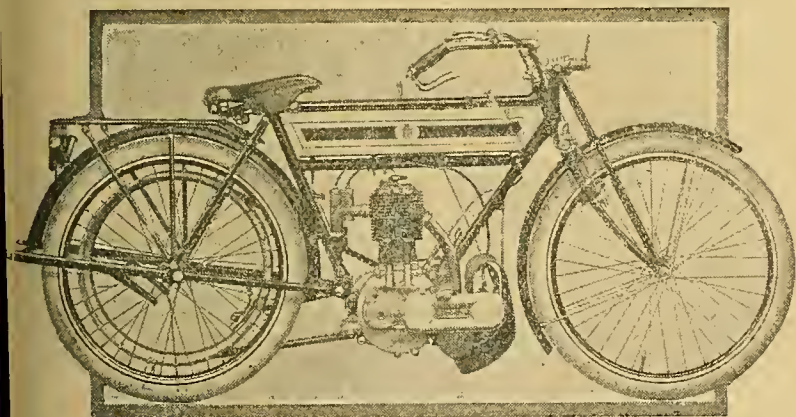
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by reducing the size of the boss, which therefore permits of a greater reduction in the gear ratio. The silencer cut-out is a very ingenious fitment, and has a continuous rotary action, i.e., it always requires pressing down whether to open or close the outlet holes. A very clever method of quickly removing the sprocket wheel on the magneto has been devised, and visitors to the show should examine this and the various other parts which are beautifully finished and repose on tables at each end of the stand. Referring to the



Showing some new fittings on tank of 1910 Triumph. The oil-pump is inclined, the tyre pump is carried in clips attached to the tank, the tank stoppers are very large, and the petrol injector is now provided with a tap.

tank, the capacities for petrol and oil remain as before, but the pump is now inclined, the handle pointing towards the rider, which makes it an easy matter to force a charge of oil into the engine. The tyre pump is fitted on the tank and secured by special clips. The inflator connection is worthy of special notice, for the usual flexible connection has been done away with, and in its place a special push-on pump connection is used. It will be found much handier and reliable than the ordinary connection. The handle-bars, which are made of high carbon steel, are of slightly different shape on the new model and are very gracefully swept back, and the handles dropped down to enable the greatest comfort in riding. The tank stoppers are very large in diameter, and a



The 85×88 mm. Tourist Trophy Triumph which asserted itself in this year's competitions.

any lubricator to admit air prevents the petrol splashing out of the carburetter when the tank is full. The belt rim applied foot brake is now mounted separately from the foot-stands. Two toolbags are of the pannier type, one on each side of the carrier, thus leaving the whole of the carrier space for touring bag, etc. The stand is of the kick operated type, i.e., the rear mudguard is fitted with a spring clip which automatically locks the stand out of the way when pulled sharply upwards. Although three entirely distinct patterns of Triumph motor cycles are shown on the stand this year, we only give the specification of one, as in the main they are precisely the same, that is including engine and frame design. The two models we have not yet referred to are the free engine clutch model (our experience with which we gave in *The Motor Cycle* of November 1908), the other being the Tourist Trophy model, which is now too well-known to need a detailed description. On account of the rise in the price of tyres Triumph motor cycles have been slightly increased in price.

ARIEL, No. 131.

3½ h.p. MODEL: 85 mm. × 85 mm.; m.o.i.v.; Bosch magneto; B. and B. carburetter, h.b.c.; fixed gears; Liberty tyres; rubber V-belt transmission.

ARIEL WORKS, Bournbrook, Birmingham.—The 1910 3½ h.p. Ariel motor bicycle is an exceedingly handsome model, and motor cycling connoisseurs will not fail to appreciate its good points. The machine is, as may be expected, beautifully finished. We have already dealt with its features in our forecast issues.

V.S., No. 128.

3½ h.p. MODEL: 82 × 98 mm.; a.o.i.v.; Bosch b.b. magneto; B. and B. carburetter, h.b.c.; 4½ gear (adjustable); tyres to order; V-belt transmission.

V.S. CYCLE AND MOTOR CO., LTD., Great Portland Street, W.—This model is sold with an F.N. or Peugeot engine fitted. The F.N. measures 82 × 98 mm. bore and stroke, whereas the Peugeot is 80 × 95 mm. V.S. motors are becoming increasingly popular among practical riders by reason of their up-to-date design, splendid finish, and absolute reliability. The Truffault spring fork is fitted exclusively to V.S. motors, and the comfort of this fitment has to be tried to be appreciated. Handle-bars adjustable as to their position are one of the special features of the V.S. machine, and enable a tourist machine to be quickly turned into a racing type for those who like to indulge in track work on occasion. Foot-rests form one of the items of the complete equipment, as also a petrol gauge, rods throughout for operating the exhaust valve lifter, a rear external contracting band brake, and a belt rim foot applied brake.

5 h.p. TWIN MODEL: 75 × 76 mm.; a.o.i.v.; Bosch magneto; B. and B. carburetter, h.b.c.; 4½ to 1 gear (adjustable); V-belt transmission.

This model is much the same as the one exhibited last year, except that the shape of the induction pipe has been somewhat altered, and the carburetter is now in a much more accessible position, in case adjustments are necessary. The V.S. Co. cater very thoroughly for all classes of motor cyclists, and give the option of two-speed and free engine hub gears on all their models, viz., 3½, 5, and 7 h.p. In each case the operating rod is fitted in a handy position in the middle of the tank. Brooks hogskin padded top saddles are used in each case, as also comfortable sponge rubber handle grips.

7 h.p. TWIN MODEL: 80 × 95 mm.; a.o.i.v.; Bosch magneto; B. and B. carburetter, h.b.c.; 3 to 1 gear (adjustable); tyres to order; V-belt transmission.

This model is identical with the 5 h.p., except that it has larger cylinders. An efficient mudflap is fitted at the extremity of the front mudguard, as also a large magneto cover with patent fastener, which was the subject of an illustration in last week's issue. A magneto cut-out can be fitted when desired, the cut-out taking the form of a fibre push button on the left handle-bar. All the models shown are finished in French grey, and present a very handsome appearance. The 7 h.p. two-speed twin shown is fitted with a rigid patent sidecar attachment, and compares favourably with any combination of its kind in the show.

WANDERER, No. 116.

1½ h.p. MODEL: 60 × 70 mm.; a.o.i.v.; Bosch b.b. magneto; Wanderer carburetter; 5¾ to 1 gear; 2 in. Shamrock-Gloria tyres; V-belt transmission.

THE SERVICE CO., LTD., High Holborn, W.C.—The Wanderer machines, which make their bow to the British public at this year's Stanley Show, are most excellently designed, and will well repay a close inspection. It would be difficult to find any machines in the show which are better finished in detail work. The 1½ h.p. model, as also the 2½ h.p. and 3 h.p., which we will describe later, have geared-down engine pulleys. The magneto is fixed to a special aluminium bracket cast with the crank case, and is located behind the engine, which position is becoming increasingly popular. The magneto on the Wanderer is gear driven in the case of each of the three models. Another interesting point about the Wanderer machines is the fact that the rear wheel is sprung, and so neatly is this arrangement carried out that at first sight one does not notice that the frame is sprung at all.

2½ h.p. MODEL: 70 × 80 mm.; a.o.i.v.; Bosch b.b. magneto; Wanderer carburetter; 5¾ to 1 gear; 2½ in. Shamrock-Gloria tyres; V-belt transmission.

This machine is on the same lines as its smaller brother, and it has already proved in competition that it has a particularly efficient engine. The arrangement of the carburetter control is very neatly carried out, as will be seen by referring to the sketch in last week's issue.

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3 h.p. TWIN MODEL: 60×72 mm.; a.o.i.v.; Bosch b.b. magneto; Wanderer carburetter, h.b.c.; 5 $\frac{1}{4}$ to 1 gear; 2in. Shamrock-Excelsior tyres; V-belt transmission.

The castings of the V-type twin engine fitted to this machine are very clean and nicely made. The rear cylinder is vertical, while the front one is inclined parallel with the front down tube. The carburetter is situated between the two cylinders, and in the same way as the other models. The cut-out, operated by lever on the tank, opens a port in the exhaust pipe immediately after the two cylinder outlets have merged into one pipe. The three models are fitted with toolbag and tools, an internal expanding brake of special design, the gripping surfaces of which are V-shaped. The band is controlled by a spring, and is foot operated. Foot-rests are fitted to the 3 h.p. model.

WOLF, No. 54.

2 h.p. MODEL: 70×70 mm.; a.o.i.v.; Bosch magneto; Wolf-Stevens carburetter, h.b.c.; fixed gears; Wolf tyres; V-leather belt transmission.

2 $\frac{1}{2}$ h.p. TWIN MODEL: 76×76 mm.; a.o.i.v.; Bosch magneto; Amac carburetter, h.b.c.; fixed gears; ROM tyres; V-leather belt transmission.

WOLF ENGINEERING CO., LTD., Wolverhampton.—No less than seven different models of motor bicycles are shown by the above company. Standard Model A is a 1 $\frac{1}{2}$ h.p., 63×66 mm., single-cylinder, accumulator and coil ignition, Stevens carburetter, 6 to 1 gear, rigid frame and forks, sold at a very moderate price. It is fitted with round belt. Standard Model B is a 2 $\frac{1}{2}$ h.p., similar to the above, but with Bosch magneto, round belt, weight 80 lbs. The Royal Model A, fitted with the same size engine, accumulator ignition, with one hand and one foot brake instead of two rim brakes, weight 83 lbs. The Royal Model B, fitted with a similar engine, with Bosch magneto, weight 85 lbs. To the above Druid spring forks are fitted as an extra. The Grand Model B is quite a new one, 76×76 mm., 2 h.p. engine, Bosch magneto, Druid spring forks, weight 92 lbs., frame exceptionally low. The carburetter is of particularly neat design, fitted with a bayonet-jointed float chamber top, and a very accessible jet, while a means is provided of injecting petrol by a pipe fitted with a tap leading straight from the tank into the compression tap. The stand fitted to this and to other models is a neat one, inasmuch as it is rigid, and is released by a catch which can be operated by the foot. A neat cut-out is also operated by a clip situated close to the rubber footrests. The machine is a thoroughly practical lightweight mount.

A.S.L., No. 142.

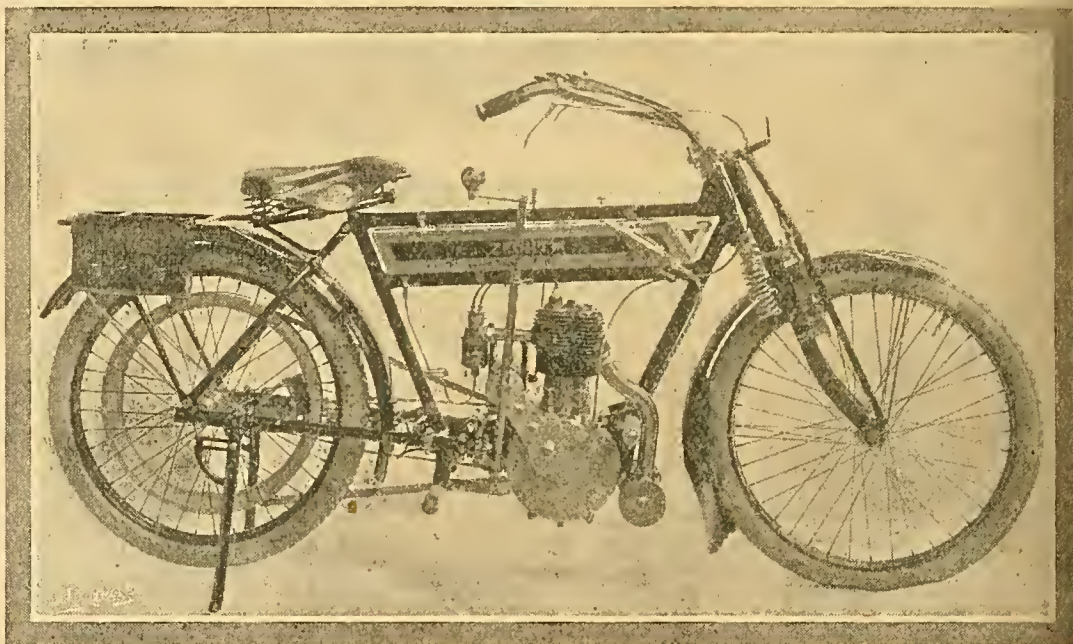
3 $\frac{1}{2}$ h.p. MODEL: 80×90 mm.; m.o.i.v.; Bosch b.b. magneto; B. and B. carburetter, h.b.c.; 3 $\frac{3}{4}$ to 1 gear; 2 $\frac{1}{2}$ in. Shamrock-Excelsior tyres; V-belt transmission.

AIR SPRINGS, LTD., Kingsway, W.C.—The A.S.L. machine is new to the show, and also to many readers of *The Motor Cycle*. The firm, however, have decided to market two models of their spring frame motor cycle for 1910, and splendidly finished specimens are staged on their stand at the show. The spring frame enables small sized wheels to be used without any undue vibration being noticed. Of course, the advantage of small wheels, as most readers know, is to lower the centre of gravity, and thus increase the stability of the machine on grease. Professor Sharp's air spring is a patent device which has already been dealt with in these columns. These springs give most luxurious riding, even on bad roads, and have many advantages over steel springs; but the trouble with devices of this nature in the past has been to keep the air in the cushion. The twin-cylinder model is the same in general construction as its single-cylinder brother, but we might draw attention to the special shape of the induction valve, which renders the carburetter much more accessible than other machines in the show—a desirable feature. The engine used is a 5 h.p. twin Peugeot, otherwise the specification agrees with the single-cylinder.

ZENITH, No. 127.

3 $\frac{1}{2}$ h.p. MODEL: 85×88 mm.; m.o.i.v.; Bosch b.b. magneto; B. and B. carburetter, h.b.c.; infinitely variable gears; 2 $\frac{1}{2}$ in. Clincher N.S. tyres; V-belt transmission.

ZENITH MOTORS, LTD., Weybridge.—The 1910 model Zenith has been redesigned throughout, and is a great improvement on the 1909 model both in the matter of design of the frame and the operation of the infinitely variable gear. The engine used is one made by Zenith Motors, Ltd., and has a ball bearing mainshaft and very large valves. A diamond frame is now used very much on the lines of the ordinary motor cycle frame, which spells increased strength. It will be gathered from the illustration below that the method of operating the gear lever is now much handier, and the ratio easily altered by means of the handle placed in a convenient position at the top of the tank. The magneto, which is gear driven, is placed at the rear of the cylinder, and is carried on a special platform cast integral with the crank case. The carburetter is situated imme-



A new model Zenith Gradua, showing the improved method of operating the change-speed gear.

diately behind the magneto, so that no flooding, which is almost bound to occur with all carburetters, can drop on to the magneto, which would be likely to cause a conflagration. The lubricating oil pump is placed in an almost horizontal position, so that the amount of oil injected into the engine can be readily seen. A petrol gauge is fitted to the tank, and other refinements include a stand and carrier (the tool case being fitted at the side), handle-bar control levers, Druid spring forks, and large sized tank stoppers. The handle-bars are nicely shaped and brought well back to enable a natural riding position. Old readers of *The Motor Cycle* know that with the Gradua gear a variable ratio is given by expanding and contracting the engine pulley by means of a lever, the slack of the belt being taken up by extending the back wheel on specially designed guides. The ratios can be varied between 3 to 1 and 9 to 1. The latter ratio with an efficient 3 $\frac{1}{2}$ h.p. engine is low enough to enable a motor cycle to climb any hill in the United Kingdom. Another pattern 3 $\frac{1}{2}$ h.p. motor cycle shown on the stand is the Zenette spring frame, the action of the springs being similar to that of a pair of scissors.

THE MOTOR UNION (No. 319).—At this stand motor cyclists may obtain particulars of the increased benefits which the Motor Union is offering to members. In addition to those for which a large body of motor cyclists have already joined the Union, free legal defence is now to be included in the benefits offered in return for an annual subscription of 10s. 6d. It will, however, be impossible to continue the subscription at this small figure, which will accordingly be raised to 12s. 6d. in February next.

Next week we intend to deal with some of the more interesting of the accessories, and shall also publish a number of further illustrations of show exhibits.



Motor Cycles

TAND No. 128.

-END

and's End)

BROKEN

2 MINUTES

**H SIDECAR AND PASS-
OURS 45 MINS.**

chine for passenger
chine for breaking
for long hard tour-
bad weather and
machine for you.

The Machine.

The machine used was a 7 h.p. V.S. standard model from stock, fitted with the famous V.S. two-speed gear. In this connection we would again emphasize the fact that we have never made special machines for competitions and trials, always preferring to use our standard models. Absolute perfection in design, workmanship, and material alone could have carried our machines so triumphantly through all the big competitions, and earned for us the enviable reputation we enjoy. We cannot detail all the many unique details of our machines here, but our catalogue will give you full particulars of models, prices, and specifications. Or you can see us at the Stanley Show.

S. & H.

Telephone: 3414 Mayfair.

Telegrams: "Vinmotes, London."

Goods and Repairs: 89, BOLSOVER STREET, W.

In answering this advertisement it is desirable to mention "The Motor Cycle."

BEST AT THE STANDS TANLEY HOW.

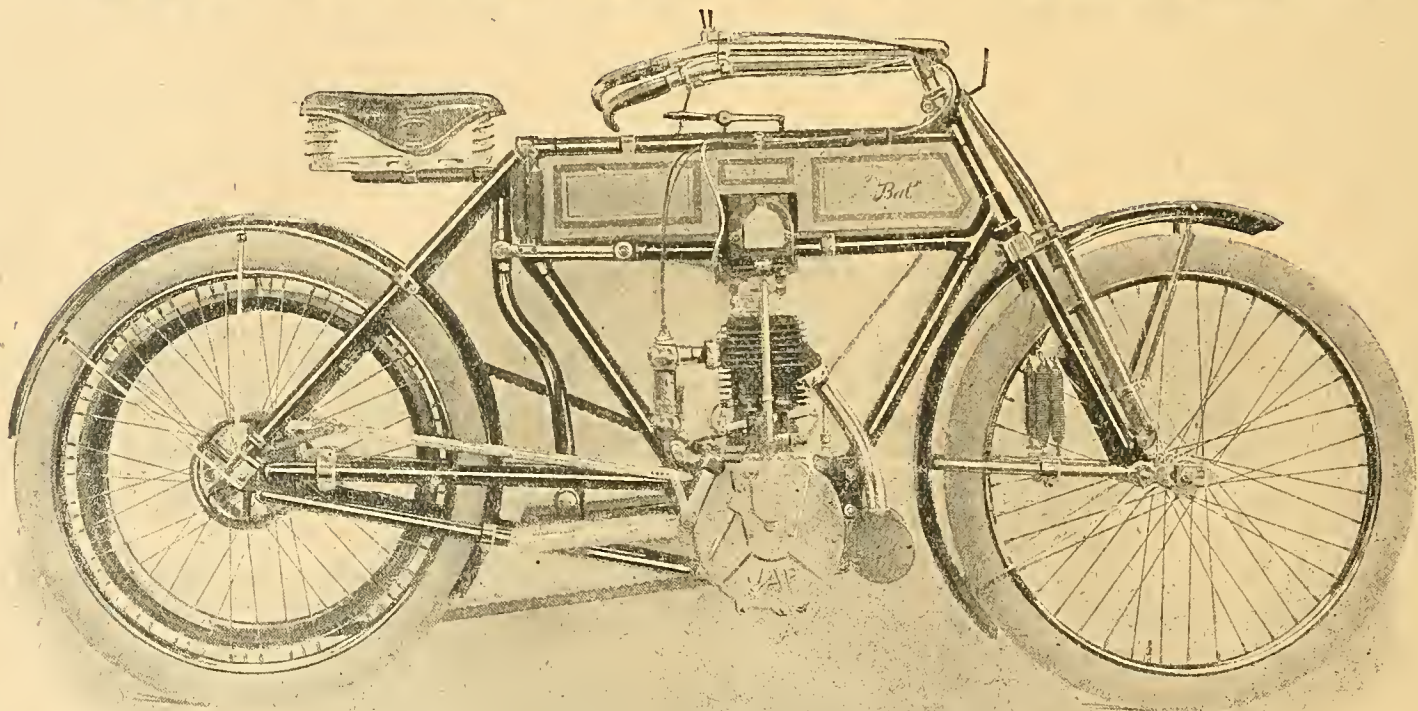
STAND No. 96.

1910 MODELS.

STAND No. 96.

No. 1.	3½-4 h.p.,	£48	10	0
No. 2.	5-6 h.p.,	£58	0	0
No. 3.	7-8 h.p.,	£60	0	0

THE RELIABILITY HEROES.

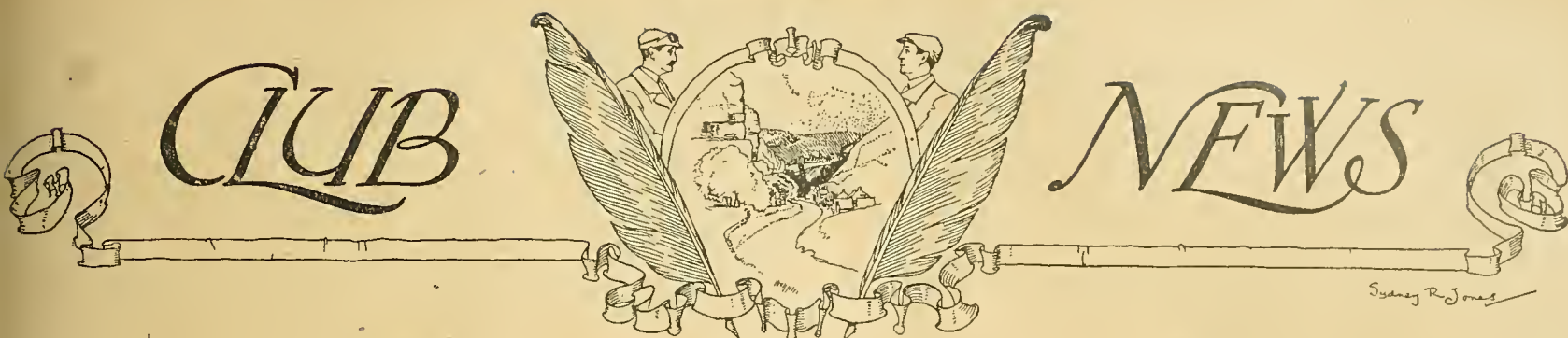


SPECIAL FEATURES. — SPRING FRAMES. SPRING FORKS. J.A.P. ENGINES. AUTOMATIC LUBRICATION. MAGNETO IGNITION. GEAR DRIVEN. RUNNING ON BALL BEARINGS AND PROTECTED FROM WET AND MUD.

J.A.P. Automatic Carburetter; Handle-bar Control; Powerful Foot Operated Back Brakes; Wide Mudguards fitted with Strong Stays; Very Large Specially Made Saddle; Comfortable Rubber Covered Footboards; Long Handle-bars with Hooked Horn Handles; Strong Luggage Carriers with Metal Toolbox fitted; Number Plates; Stands; Petrol Gauge; Rom Rubber Studded Tyres.

THE BAT MOTOR MANFG. CO., PENCE, LONDON, S.E.

In answering this advertisement it is desirable to mention "The Motor Cycle."

**North-west London M.C.C.**

Members are reminded of the arrangement to meet at the A.C.U. stand, in the Gilbey Hall, at the Stanley Show, on Wednesday, November 24th, at 6.30, so that they may make the round of the principal exhibits in company.

Hertfordshire County A.C.

At an extraordinary general meeting of the St. Albans and District Motor Cycle Club, it was unanimously resolved that the St. Albans and District Club amalgamate with the Hertfordshire County Automobile Club, subject to confirmation at a general committee meeting of both clubs. This move, if consummated, will very greatly strengthen the motor cycling section of the H.C.A.C., and no doubt it will assert itself very considerably in open events in 1910.

Barnoldswick M.C.

At the club's annual dinner at the Railway Hotel twenty-five members attended. Afterwards a very convivial evening was spent, songs and recitations being rendered. During the evening the prizes in connection with the hill-climb were distributed as follows: First and fastest, J. Windle (3½ h.p. Triumph); second, H. Boothman (3½ h.p. Triumph); third, J. Lonsdale (5 h.p. Rex). Gold medal for best performance of day, W. Holden (2½ h.p. N.S.U.).

Middlesbrough and District M.C.C.

At the Corporation Hotel, Middlesbrough, last week, a most enjoyable smoker was presided over by Councillor Stanley Sadler, J.P., when a capital programme of music was rendered. Letters wishing the gathering success were read from the Darlington, Bishop Auckland and District M.C.C., and Mr. W. T. Walton, jun., secretary of the Hartlepoons and District M.C.C. The chairman presented the prizes won by the members during the year.

Cambridge University M.C.C.

Some new rules have been passed in connection with the above club. Members are free to garage their machines wherever they wish. There are at present no recognised headquarters. The subscription this term is 7s. 6d. It has been decided to discontinue the weekly competitions and to substitute two terminal events, for which medals will be awarded. One of these events in the October term will be open to all members of the University. Weekly club runs are to be held. At the general meeting it was decided unanimously to continue affiliation to the A.C.U. It is hoped to hold a smoking concert shortly, and Saturday, December 4th, has been suggested as a convenient date.

Surrey M.C.C.

Mr. R. Bryett occupied the chair at the annual dinner, which was attended by Mr. F. Straight (sec. A.C.U.), Mr. J. Allcott (vice-chairman), Mr. F. A. McNab, and Mr. Edward Cox (hon. sec.), and many others. The Chairman, in proposing "Success to the Club," mentioned that they had managed to pay their way during the year and finish with a balance in hand, in addition to the contributions made to central schemes. The Hon. Sec. recorded the doings of the club during the year, mentioning especially the 200 miles Weymouth reliability run. Mr. McNab had offered a cup for next year for a twenty-five mile race, to be held on the Brooklands Track. There had been some discussion. Mr. Cox said, as to the advantages of affiliation, but he considered that by affiliating with the A.C.U. they were helping forward the perfection of the motor cycle. The Chairman proposed the health of "The Visitors," and Mr. Straight, in reply, said the Surrey M.C.C. was unique, inasmuch as it had some really sporting members. He went on to refer to the advantages which accrue from affiliation with the A.C.U. The hon. sec. was commended very highly for his untiring work in connection with the club.

Essex M.C.

On Thursday, December 9th, Mr. H. G. Cove will read a paper on "Novelties at the Stanley Show," at the Great Eastern Hotel, Liverpool Street, E.C.

Birmingham M.C.C.

The above club will pay a visit to the Stanley Show on Saturday next, the 27th inst. Members wishing to join the party will meet at New Street Station in time to catch the 12.10 p.m. half-day excursion to Euston. If members will notify the hon. secretary of their intention of being present at least four days before the meet, it may be possible to arrange for a special saloon.

Warrington and District M.C.C.

The annual dinner and prize presentation will take place at the Lion Hotel, Warrington, on December 4th, at 7.30 p.m., to be followed by a lantern lecture on "Magneto machines," to be read by an expert on magneto machines. At 9.30 there will be a smoking concert, at which a number of well-known artistes are expected to appear. The committee invite the attendance of all local motor cyclists. Tickets, 3s. 6d. each, may be had from the hon. secretary, K. T. Hardman, 124, Bridge Street, Warrington.

Western District M.C. (London).

At a committee meeting held last Monday, it was decided to hold a supper this year instead of the usual annual dinner. The event, which will include the presentation of prizes, will take place on Wednesday, December 8th, at 8 p.m., at the Milford Hotel, Isleworth.

The special club night for the Stanley Show is Wednesday, the 24th inst. Members meet at the A.C.U. stand at 6.30 p.m.

Ashton and District M.C.

Fifty members and friends attended the second annual dinner of the above club, and the gathering was an unqualified success. The genial president, Mr. J. Woodhead, made an admirable chairman. After the tables had been cleared, a smoking concert followed. There was no lack of talent, and the members have never had a more enjoyable evening together. The presentation of prizes in connection with the last hill-climbing competition was made by Mr. W. Chadwick. The prizewinners were: First on formula and fastest time, George H. Shaw; second on formula, J. Lees; second on time, A. Needham.

Harrogate and District M.C.C.

"The Conquest of the Air" was the subject of a most interesting lecture delivered by Mr. W. H. Fortune before members of the above club.

The lecturer stated that about 1780 the French Academy formally declared "that it had been amply proved that it was impossible for man to raise himself in the air either by means of a wing-like apparatus, or by any other means," and that he (the lecturer) intended to prove how wrong the French Academy were, for it was only a matter of about eighteen months after that Joseph de Montgolfier sent up his first balloon at Annonay in France. This balloon, however, did not carry a passenger, and was raised from the ground by hot air; but it was only a matter of another six months when another Frenchman filled a balloon with hydrogen gas and made a sensational and successful ascent from the Tuileries, and the year following M. Blanchard and Dr. Jeffries crossed the Channel from Dover to Calais. In 1906 probably M. Santos Dumont was the first man in Europe to make a working machine fitted with a petrol motor, for in October of that year he made a flight of over thirty yards.

A series of slides were shown of the A.C.U. hill-climb at Sutton Bank and of the T.T. Race. Mr. Fortune asks us to mention that he is prepared to lend these slides to secretaries for inclusion in any lectures they may have arranged upon payment of postage only.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Theory of Skidding.

[4380.]-I have seen it explained why a motor car, when it skids, turns completely round and travels in the reverse direction. I feel sure a motor bicycle and rigid sidecar, ridden solo, is much less likely to skid than a four-wheeled car. What is the theory of this?

I hope there will be another meet of passenger machine owners at Stratford-on-Avon next summer. I intended to be there last time, but circumstances prevented me.

NORFOLK.

English v. French Measurements.

[4381.]-I have been much interested in the correspondence going on in your paper recently on English v. French measurements, and must express my agreement with Mr. Scott when he says that the inch is just as practical as the centimetre to measure the capacities of motor cycle engines, and conveys more meaning to "the people."

"Anode's" letter [No. 4325] rather amused me. The words "snobbish ideas" seem to have worried him, and he wanders far from the point when he asks what relation a pound bears to a mile. Because the early petrol engines were mostly made on the Continent is no reason why the dimensions of the present English-made engines should still be expressed in French measurements. I must take this opportunity to inform you of the enjoyment with which I read your excellent paper each week.

C. A. BAYLY.

Lessons of the T.T. Race.

[4382.]-Mr. H. Siddall's letter on the above topic is extremely interesting, but certainly is no reply to the very fair and pertinent queries put by Mr. J. L. Norton in your issue of the 8th inst. to Mr. Benjamin Constant. The latter gentleman made several definite statements of what he evidently took to be facts, as, for instance, that long stroke engines were "difficult to start" and "not flexible"; also that they "caused excessive vibration" and would not "run slowly." Mr. Siddall claims for them that they will and must run more slowly than short stroke engines, and in that respect replies to Mr. Constant; but regarding the other points raised by Mr. Constant he merely reiterates that gentleman's statements, and makes no attempt to grapple with the question of *why* the long stroke engine does those things, which was the pith and point of Mr. Norton's letter.

I also am deeply interested in this matter of long *versus* short stroke engines, and some considerable personal experience with a 79 x 105 engine (single-cylinder) has served to convince me that a long stroke need not necessarily cause excessive vibration, be difficult to start, lack the quality of flexibility, or fail to run satisfactorily both at a high and a low number of revolutions per minute.

I can appreciate the point that a high compression engine may fail in those respects, and that it should also put a heavy strain on bushes and gearing, but high compression is not the question at issue, and I am absolutely unable to see why a long stroke engine should put any more strain on bushes and gearing than a short stroke. Indeed, the probabilities point to quite the opposite.

Would Mr. Constant or Mr. Siddall maintain that it is impossible to build an engine of, say, 80 bore x 100 stroke to give an equal number of revolutions per minute to an engine of, say, 100 bore x 65 stroke (I do not mean alter existing engines), the former to run as sweetly and be as flexible as the latter? If so, will those gentlemen kindly say *why* it would be impossible? There are, I am sure, a number of people who will be greatly interested to learn why.

S. CHAS. PERRYMAN.

Road Dangers at Night.

[4383.]-I think I am right in saying that the majority of those who write to you under this heading are motorists, and as such write to you from their point of view. May I be allowed to point out the other side of the affair as regards cattle being driven along the road after dark. Let me make it quite plain that it is equally distasteful for motorists to meet drovers as *vice versa*, and if it is worse for one than the other it is the drover who suffers most. I contend that it is more trouble for him to get each of his animals past one obstacle, than for the motorist to get his cycle past the drove, for if the worst comes to the worst, he may stop and let the herd pass. Cattle are not driven along the roads at night for pleasure, but because it is in ninety-nine cases out of a hundred a case of necessity. Let us suppose a man lives thirty miles away from a market which he is desirous of reaching together with some of his stock (and this is not always a case for supposition) he has to start and drive his cattle back from market the same evening, for it is not always possible for him to keep, say, sixty or seventy cows in town overnight, and thirty miles is more than a day's (or even a night's) journey for most cattle.

I entirely agree with the letter of "E 872," especially as regards lighting, for even with a light in front and behind, the motorist would be entirely misled as to the nature of the obstruction, and also as to the way it was moving. Public highways were used and maintained by farmers for their predominating business years before self-propelled road vehicles were invented, so if motorists protest against cattle driving at night, and consider them as dangers, their only alternative is to drive slowly and be more on the alert.

J.F.R.

The Taxation Query.

[4384.]-"One Who Issues Licences" does not appear to be aware that the forms of declaration, although supplied from a Government office, are not issued from that office by any statutory authority. When the collection of the licences was transferred to local councils it was arranged that the printing of all notices, etc., should be done at the expense of the Crown, merely as the equivalent of a special grant towards defraying the cost of collection. I can quite believe that the printers have faithfully copied the wording of the old form as to exemption of unused carriages and motors, but the fact remains that the statement has no legal warrant. The exemption was formerly granted by the Inland Revenue Board under Treasury sanction, but the Act transferring the management of the licence duties to local councils did not confer upon these bodies any power to grant exemptions not previously provided for in law. This is not a discovery of my own; the omission was freely commented upon at the passing of the Act.

I would refer Mr. Porter to the penal clause of the principal carriage Act contained in 32 and 33 Vict., c. 14, s. 27. It is there clearly laid down that "keeping" a carriage without a licence is the essence of the offence. I agree with him that to tax an unused motor cycle is unjust, but the injustice was never formerly apparent because the Inland Revenue authorities did not carry out the letter of the law. He must remember that the present discussion was initiated by a correspondent who complained that the county council authorities had demanded payment of the tax in respect of an unused motor cycle. This fact supports my contention as to the legal rights of the councils, although, happily, the majority of them are content to follow the old-established custom.

JS 92.

At the Stanley Show, you
will have an opportunity
of seeing the famous

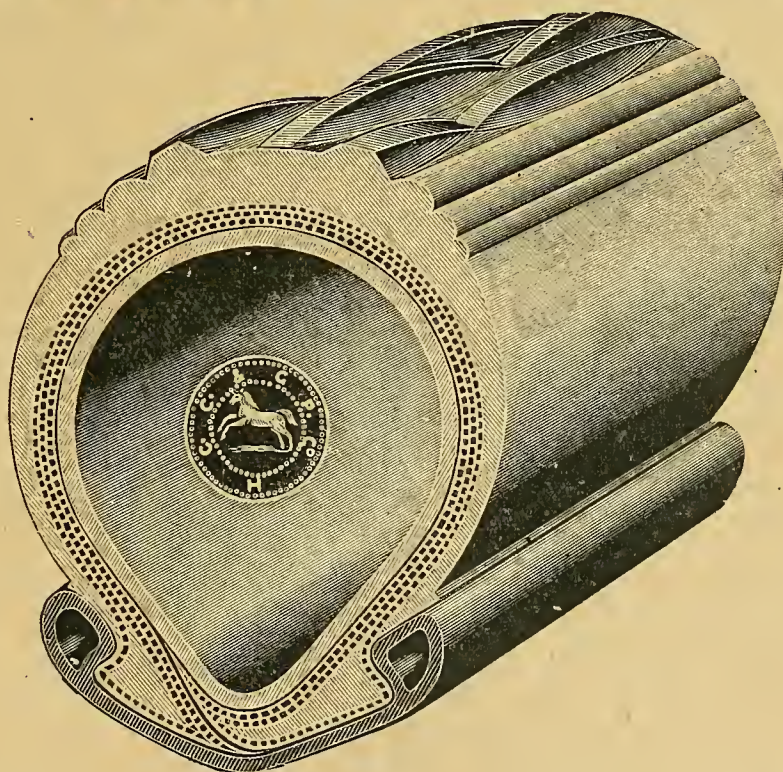
"CONTINENTAL"

**RUBBER NON-SKID
MOTOR CYCLE TYRE.**

TRADE



MARK.



TRADE



MARK.

The most effective Non-skid Motor Cycle
Tyre on the market. Unsurpassed for
Speed, Reliability, and Durability.

STAND No. 48.

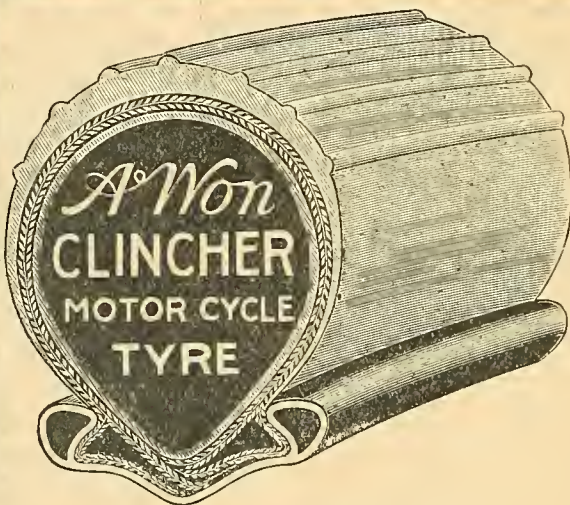
CONTINENTAL TYRE & RUBBER CO. (Great Britain), Ltd.,
102-108, Clerkenwell Road, London, E.C.

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CLINCHER

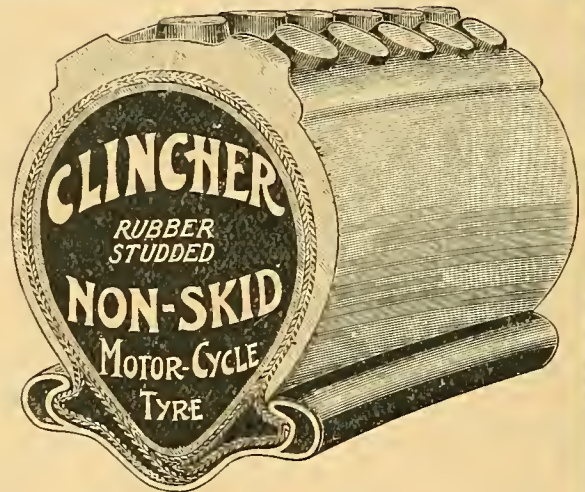
MOTOR CYCLE TYRES



Of very superior quality, full of life, and thoroughly efficient.

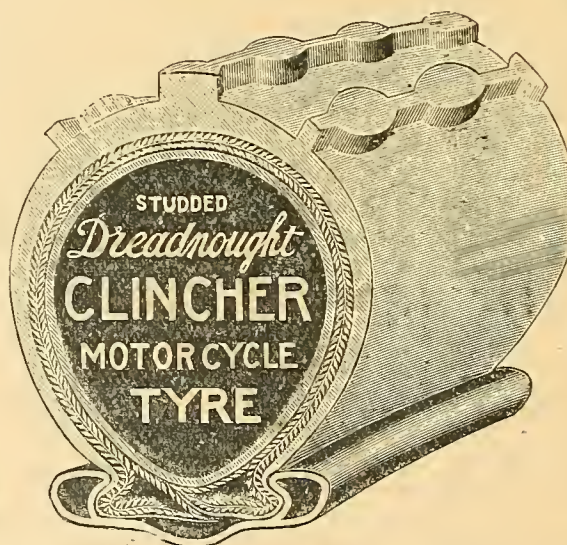
STAND
Nos. 51 & 52
 (Ground Floor)
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**QUALITY
 FURTHER
 IMPROVED
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An exceedingly popular tyre, most effective against skidding on wet or greasy roads.

STAND
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STANLEY SHOW



The rubber-studded "Dreadnought" Clincher, the finest tyre extant for heavy machines and sidecar work.

Clincher motor cycle tyres are made in four patterns and demand your closest attention. If you are unable to visit the Show we shall be pleased to send you our new list on application.

The North British Rubber Co., Ltd. Castle Mills, Edinburgh.

Natal Obstacles to Motor Cycle Tourists.

[4385].—I am enclosing two snapshots I thought might be worthy of a place in the pages of your interesting paper. They depict the kind of obstacles motor cyclists in Natal contend against. The bridge over Venters spruit on the Ladysmith-Bergville Road was washed away during phenomenally heavy rains in the summer of 1908, cutting off all traffic communication between these two places. The public works department stretched an inch steel cable across the spruit to run a small box on for the conveyance of passengers and mails, as the spruit was quite impassable for several days. Riding from Ladysmith to Bergville, a distance of thirty-five miles, I was confronted with this obstacle, and overcame it by removing the passenger box from its four chains and fixing my machine in its place. I then crossed the river in the shallowest spot I could find, which was not a dry job, and hauled the machine across the cable. The top photograph was taken from the bed of the river, and the other from the road level, on the Bergville side. In spite of this delay and time taken up by crossing lesser but other very wet spruits, I completed the thirty-five miles over very indifferent roads in two hours. Occasionally a good piece of road appears, and as speed limits are not in force in this country outside the boroughs, we are able to make up some of the time we lose on the bad portions.

A. A. HOLROYD.

Durban, Natal.

An Amusing Experience.

[4386].—I have read the article, "The End-to-end Sidecar Record," by Mr. A. W. Bentley, where he says he had to pay £20 6s. 11d. carriage on his motor cycle and sidecar from Coventry to Wick, and later, in your Correspondence columns, the letter 4353, regarding the taxation of motor cycles not used during the year. Where the writer of the letter suggests removing the engine from the frame of a motor cycle, thereby making it an ordinary cycle, reminds me of an incident related by a friend of mine.

This gentleman was travelling in Wales, the day being the last of his holidays, after a very successful tour, when he had a mishap to his engine, which meant a long delay. Finding he was not near a garage, and even then not liking to entrust his mount to a stranger, he decided to return to London by train.

After pushing the machine for some miles to the nearest railway station he was not in the best of humour, and the thought of a heavy bill for carriage on rail did not improve it, when suddenly he thought of a brilliant idea.

Halting near the station he took the engine out of the frame. Having procured sufficient wrappers, he carefully tied up the engine securely in a parcel, and then strapped it to the sidecar seat. Next he detached the sidecar from the bicycle, pushing each separately to the station.

Having taken his own and his wife's tickets he asked for an ordinary pedal bicycle ticket, which at first the clerk refused to issue, but later, after consultation with the stationmaster, they decided they had no option but to issue it. The stationmaster meanwhile asked him what he intended to book the sidecar as, saying, of course it was a trailer. But how, said the motorist, can you trail it after you? Try it! No, sir,

if you wish to know what that is, it is a wheelbarrow. After many references to books, they came to the conclusion that "wheelbarrow" really was the only heading it could come under.

So I am told he got both motor cycle and sidecar to London for a few shillings, although he expected to pay heavily.

Unless he was "pulling my leg," this is a true experience, which, coming from the source it does, I am inclined to think true.

EDWIN W. MACBAY.

The Offer to Match a 2½ h.p. against 3½ h.p. Machines.

[4387].—With regard to your footnote to "Acceptances of a Challenge," I heartily agree with your suggestion of making a "race meeting" of it if such could be arranged, with your help, at the opening of the next racing season at Brooklands. I hope that Mr. Stanton will find it convenient to take part, and that he will ride the machine which he rode at Brooklands. I do not base my opinion on the Wanderer's performance at Brooklands. I have ridden a Wanderer for over three years, and I know what the little motor can do. I cannot produce a 3½ h.p. as the Wanderer works have given up building higher powered motors entirely, and are now only producing 1½ and 2½ h.p. machines. Naturally, competitors must use only standard touring models, and not racing models with mudguards on.

H. C. TROMP VAN DIGGELEN.

Cost of Motor Cycling—681 Miles for 17s.

[4388].—One sees so much correspondence, especially in cycle papers, regarding the expense of motor cycling that I should like you to insert this for the benefit of those who read *The Motor Cycle*, and are wavering about taking up motor cycling. (I know several myself.) My machine is an old pattern 2½ h.p. Noble, tuned up by myself. I left London on the Saturday before August Bank Holiday, and the following was my route. I was not going in for tremendous mileage, and my longest distance for one day was 184, which took nine hours. I went straight away to Exmouth, from thence to Exeter, Okehampton (to

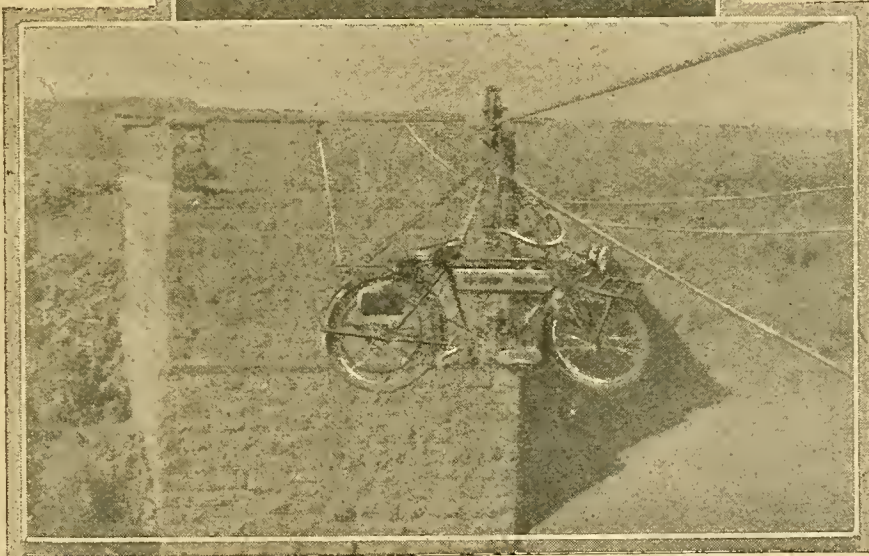
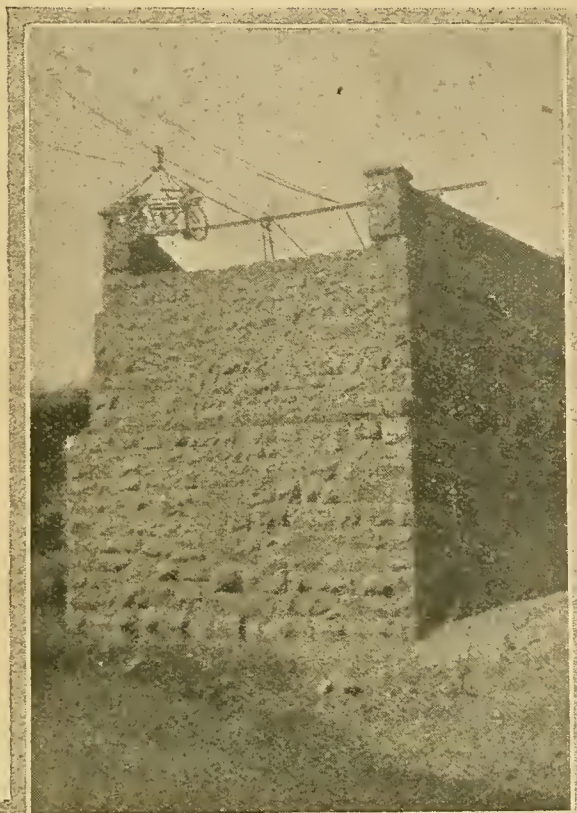
save the hills of Dartmoor), Launceston, Camelford, Wadebridge, Redruth, and on to Penzance. I visited Land's End, Gurnard's Head, Logan Rock, Cape Cornwall; in fact, I dodged about for four days. I left Penzance for Falmouth, Penryn, Truro, St. Austell, Lostwithiel, Torpoint to Plymouth; thence to Ivybridge, Totnes, Paignton, Torquay, Teignmouth, Dawlish, Starcross, Exeter, to Honiton; thence to Bridport and Dorchester, and stayed five days at Weymouth.

My whole travelling expenses for 681 miles, including garaging, oil, petrol, and two plugs, amounted to 17s. The machine took every hill (and there are a few) in grand style.

I might add that the roads are splendid with the exception of Bridport to Dorchester and the New Forest. The country is splendid and well worth a visit.

This tour tends to show that motor cycling is not only for the well to do, and that even a plumber (which is my trade) can afford the pastime if he cares to study your handbooks, and to do minor repairs and adjustments himself.

A. C. McEVOY.



Crossing Venters Spruit on the Ladysmith-Bergville road. The motor cyclist has to wade through the river, and send his machine across suspended on a steel cable. (See A. A. Holroyd's letter.)

Lubrication.

[4389.]—Semi-automatic lubrication may be obtained on most motor cycles by utilising compressed air in the oil tank and the suction of the crank case in the following manner. First see that oil tank stopper is airtight, and then pump air into the tank by opening the two-way tap into the crank case, drawing up plunger, and then turning tap and depressing plunger so that a charge of air is forced into tank. Repeat this operation a few times before a run. If now tap is turned so that there is an opening for oil from tank into pump barrel, the compressed air will force oil into barrel and raise the plunger. When full, turn the tap so that the oil has a passage to the crank case, and gradually the pump will filter away into the engine. Repeat this process when necessary. Thinner oil must be used during winter. The compression in oil tank will fill pump two or three times, and from opening the oil tap from tank to pump to get drop in pump draining away will occupy about ten miles.

J. P. SOWERBY.

The Petrol Difficulty.

[4390.]—With reference to the paragraph in *The Motor Cycle* regarding "A Petrol Difficulty," I have remarked that the average garage owner who refuses to supply motor cyclists with small quantities of petrol is of the mean and nasty order, and is not averse to "doing" the fraternity. It is distinctly hard to have to pay for a two-gallon tin when only a half or one gallon is used, but it is much worse to think that, on our exit, the disobliging proprietor will use up the surplus petrol we left behind. A gallon or more from a few customers makes a fair difference in his profits in a month.

The two-gallon tin (*i.e.*, the contents thereof) after being paid for is absolutely our own, and therefore we can do with it what we like. Now what I propose is just this: On having taken out what is required make a bee-line for the nearest refuse heap—there is usually one handy—and empty the remaining contents thereon, as they are useless to us. Return the tin.

This may appear peevish and spiteful, but I do not see the force of allowing a garage owner to appropriate the petrol he has forced us to pay for. I can still picture the look of astonishment and chagrin on the face of a particularly nasty owner after being treated as above. Of course, the suggestion is only for extreme cases, and depends on the civility with which our request for a small quantity is received.

T.E.B.C.

[4391.]—Referring to the paragraph, "A Petrol Difficulty," in *The Motor Cycle* of November 8th, I think you will find on enquiry that a large number of dealers in petrol are placed in a very difficult position with regard to selling petrol in small quantities.

I am in a position to view both sides of the question fairly, being a rider since the days of the 1½ h.p. Phoenix, as well as a dealer in petrol. My licence to sell petrol distinctly states that it must be sold only in two-gallon cans, which must not be opened on the premises; hence the trouble. I used to get over the difficulty by asking the purchaser to pay for the whole can, and draw off sufficient for requirement. I would then offer to mind the remainder in can till he should be calling again.

Another sore point is the fact that the licence costs as much per annum if you sell one or fifty cans a week. With many thanks for the thousands of hints obtained from *The Motor Cycle*,

CHAS. C. HILL.

[We believe the regulation above mentioned applies to the storage of petrol in two-gallon tins, and not to the sale of petrol.—Ed.]

Lightweights v. Heavyweights.

[4392.]—I was very entertained by Mr. Turpin's thrilling account of his 230 miles tour on a lightweight in your issue of the 15th inst. I notice he says he was "fully laden with two bags and a lamp." Does he mean toolbags or port-manteaux? Also the fact of taking a lamp on a tour is irresistibly funny. It is so unusual to do so that one is quite overcome by the fact.

However, putting jokes on one side, may I ask Mr. Turpin how many miles his ¾ in. rubber belt takes him with a gear of 6½ to 1, and whether he does not find the small pulley wear out quickly and let the belt slip in wet weather? I

also notice he gives his riding time as 3½ h. for ninety-one miles, or an average of twenty-six miles an hour with 6½ to 1 gear. Not bad for a 2 h.p. He should challenge that 2½ h.p. Wanderer referred to in your issue for November 3rd.

Of course, I admire the lightweight for its general handiness for short runs and town work, but maintain that it is not suitable for real touring, where the machine has to suffer a certain amount of neglect and rough usage.

HAROLD KARSLAKE.

[Mr. Karslake's assertion as to the unsuitability of lightweights for real touring will, we feel sure, be certain to bring forth emphatic disapprovals from our readers.—Ed.]

[4393.]—Like "E. A. D. S." in letter 4335, I am much interested in the discussion on lightweights *versus* heavyweights. In my own case I should not, for many reasons, use a motor bicycle at all unless I had an efficient lightweight. I think there are many more prospective motor cyclists of like mind with myself. It is possible that they may imagine that all lightweights are similar to the one described. Although I have motored for some time, I have only done 1,200 miles on my lightweight owing to illness. I believe I ride the lightest machine on the market.

I have never ground the exhaust valve, and the compression is as good as when it was new. To expose the exhaust valve certainly takes less than a minute; to get it out depends so much on the person who does it that I can give no time. Two nuts have to be unscrewed to expose the valve. A man would have to be a great duffer to take five minutes to get off my cylinder head. A mechanic of much experience told me my engine was the most easily accessible he had ever had in hand.

The only belt trouble I ever had was caused by hooks pulling through. Now, thanks to the new Motosacoche hook and eye fastener, described in a recent number, I think this failing may be said to be a thing of the past. With the adjustable jockey pulley the belt can be taken off and replaced in one minute. As for wear of pulley, I can see practically none. As regards costs, a round belt costs about one-third the price of the V type. I used one for 750 miles and then lost it; it then looked good for another 200-300. The great loss was through hooks pulling through, necessitating a piece being cut off the belt.

I have had one puncture and no breakages. On the other hand, anyone thinking of investing in a lightweight had better bear in mind the most excellent remarks of "Ixion" in the latter part of his article on lightweights in the issue of October 27th.

R.N.

EXPERIENCES WANTED.

"DI 27" would like private owners' experiences with the multiple disc clutch fitted to the Triumph.

"S. S. G." (Rugby) would like readers' experiences of the Gradua gear on a 3½ h.p. Triumph as regards efficiency and speed in a very hilly country. Also the 7-8 h.p. Bat as regards hill-climbing, ease of control, and speed as a solo mount.

SUMMARY OF OTHER CORRESPONDENCE.

Mr. Symon A. York wishes us to obtain the name and address of the garage proprietor at Darlington, from whom he borrowed an accumulator a short time ago while on his way to Scotland. Unfortunately he cannot remember the name of the garage, and only knows that it is situated at a corner where four roads meet, and not far from the main tram route to West Auckland. The accumulator, which is a large one, has been left in our possession. If this catches the eye of the Darlington garage proprietor will he kindly communicate with us and return the deposit, less hire fee, when the accumulator will be forwarded?

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

Winter riding

demands exceptional non-skidding, exceptional wear-resisting, and exceptional puncture-proof qualities. All these exceptional qualities are embodied in the new

DUNLOP

RUBBER STUDDED TYRE.

15, Heaton Street,
Hockley, Birmingham.

THE DUNLOP TYRE CO.

Dear Sirs,

I have recently fitted a pair of your new non-skids to my motor cycle. Having just returned from a fortnight's tour, covering nearly 1,000 miles, they show scarcely any signs of wear. The non-skids are more effective than any others I have had.

Yours truly,

(Signed) R. A. MARRIOTT.

You will find this tyre just as satisfactory.

THE DUNLOP PNEUMATIC TYRE CO., LTD., ASTON, BIRMINGHAM; ALMA STREET, COVENTRY.

Branches—London, Nottingham, Manchester, Newcastle, Norwich, Bristol, Leeds, Glasgow, Dublin, Belfast.

NOTE—Tyres from which the Dunlop Co.'s private marks have been removed are not guaranteed.

COMFORT

EASE

LUXURY

HEALTH

SPEED

R.H.S.

¶ The Saddle makes the comfort—but LYCETT MAKES THE SADDLE!

—All the Attributes that minister to comfort a wheel—all the subtle arts of manufacture, which, ideally introduced, combine to promote perfect cycling conditions, find their complete and perfect inclusion in the modern cycle seats—the **LEADERS**—

**LYCETT'S
"La-Grande"
SADDLES**

—the saddles which have this season, through recognised merit, easily taken front rank in popular favour.

—Cyclists know the infinite care with which the mutual relationship of Saddle and Rider are considered in the making of these Saddles, and therefore wisely prefer to ride a Lycett.

—Each model is skilfully designed to fulfil all hygienic needs, in addition to including complete provision for perfect comfort and freedom for all natural movements of the body.

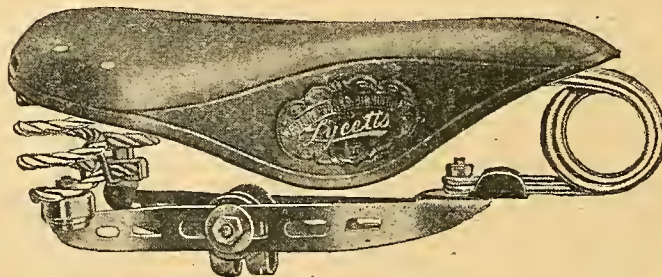
—"Once a Lycett rider—always a Lycett rider" is to-day a living truism amongst cyclists, and if you would prove and profit by its truth you need only specify a "La-Grande" saddle on your 1910 Model, and firmly insist on its inclusion. Resolutely refuse substitutes.

—Let LYCETT'S lead in all Equipment—and perfect cycling is sure to follow.

—Get in touch with us at **Stand 184 at the Stanley Show** or write us **TO-DAY** if not visiting the **Show**.

LYCETT'S, Dept. 9, "The Saddlery" BIRMINGHAM.

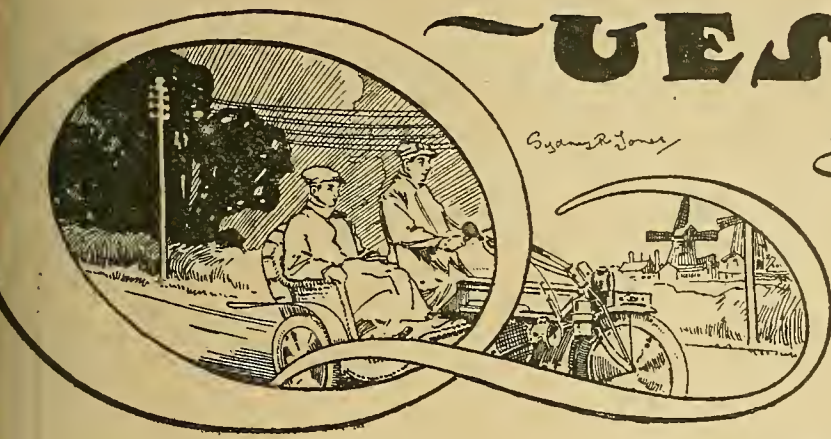
"Where all the Comfortable Saddles come from."



"LYCETT'S Leader, L77, with the Unbreakable Girder Frame." No. 2 size.

A revelation in luxuriously easy riding.

"A large LYCETT Saddle. . . The sensation is like on an air-cushion floating on water."—H.S.B. in "Bicycling News" for August.
"Since I parted with my Lycett's 'La-Grande' Saddle, the most comfortable I have ever ridden, I have not met quite the ideal Seat."—The Owl in "Cycling" for Feb. 24th, 1909.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Pitting of Platinum Ints.

? My 3½ h.p. engine machine is fitted with plain coil and make and break contacts, but the points, which are pure platinum (I have tested by boiling in strong nitric acid), pit very badly about every five miles. I have tested coil off machine with very good results. Do you think the condenser is faulty?—G. W.

Undoubtedly the condenser of the coil is at fault. Try a coil made by a well-known maker with efficient condenser, and if the points keep quite clean with the new coil, you could have an efficient condenser fitted to your present coil by some good electrical firm.

Lowering the Compression Ratio.

? I propose to lower the compression ratio of my engine, as at present the compression is rather high in my opinion. Will you kindly inform me whether an additional two thicknesses of brown paper between the cylinder and crank case will make an appreciable difference, or do you think I ought to put a piece of pasteboard or cardboard between? I shall arrange the tappet to suit.—J.E.A.

What we should advise you to do is to fit a thin metal plate with a brown paper washer on both sides. Two thicknesses of brown paper or cardboard would not be sufficient, as the material would compress too much.

Dry Cells for Ignition Purposes.

? I am thinking of having a dry cell for my motor cycle instead of accumulator, and should be much obliged if you could tell me—(1) a suitable make. (2.) The most suitable size for a 3½ h.p. engine? (3.) Whether it would be necessary to carry a spare dry cell in case of failure?—Dr. H.R.B.

(1.) Two very good dry cells are the Tellesen, sold by A. H. Hunt, 115, Cannon Street, E.C., and the Siemens, sold by Messrs. Siemens Bros. and Co., Caxton House, Westminster, S.W. (2.) Dry cells are sold in all sizes, and if you let either of these firms know the dimensions of the compartments in your tank they will inform you of the best size of cell. (3.) A spare dry cell would be advisable if you have any room for it. But you could entirely depend on one cell until you have covered some hundreds of miles (depending on the type and make of coil you propose to use).

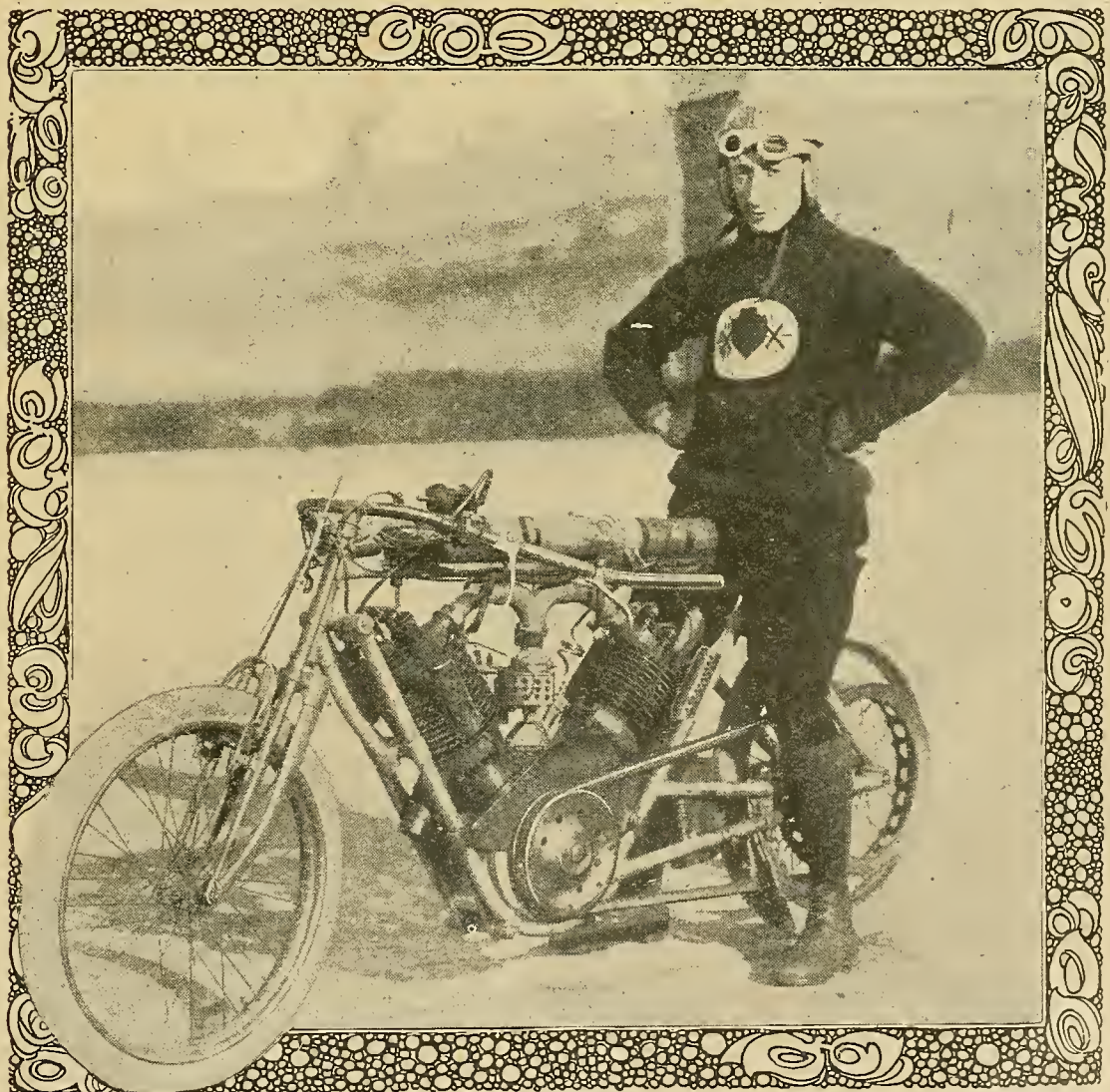
Which is the best Sidecar?

? I shall deem it a favour if you will give me your choice of the following types of sidecars: (1) Flexible; (2) rigid; (3) castor wheel. Is the frame-work of the 3½ h.p. Triumph strong enough to take any of the above?—A. H.

Your query is one that has been answered many times in these columns. All three types are quite satisfactory, and they have their own particular advantages. It is therefore a matter for your own personal taste to choose which you think would suit you best. While the frame of the machine mentioned is strong enough for sidecar work, the makers do not recommend any form of attachment being fitted.

Heat of Crank Case.

? After running my 3½ h.p. motor bicycle for about ten or fifteen minutes the crank case gets so hot that I cannot bear my hand on it. The compression is good, and apparently the machine is in excellent order.—J.H. As long as the machine runs well otherwise and does not lose power on hills we should recommend you to leave well alone. As soon, however, as any falling off in power is noticed you will probably find that new piston rings will be required, as excessive heating of the crank case is an indication that the charge is getting past the rings. You will understand that crank cases attain a certain degree of heat owing to conduction from the hot cylinder.



W. E. Cook and the 16-20 h.p. N.L.G.-J.A.P. on which he attempted records on the 11th inst. at Brooklands. Some wild estimates have been made as to the speed Cook attained on this occasion, as it so happened he was not officially timed owing to the failure of the electrical timing apparatus. The world's speed records still stand to the credit of the late Henri Cissac, whose fastest officially recorded speed on a 14 h.p. Peugeot was 27.32 m.p.h. This speed Cook is ambitious to excel.

Flames from Carburetter.

? I have a 6 h.p. N.S.U. motor cycle fitted with Amac carburetter, and the other night when out riding I lifted the exhaust and noticed several flashes of fire coming out of the bottom of the carburetter. I may say I had put in one new valve, and I found this a little short in the stem. Would this be the cause of the trouble? The engine and carburetter are perfectly clean, and I never noticed anything like it with the old valves.—F. A.

The trouble seems to be entirely due to the fact that the inlet valves vary in the amount of their openings, and the springs are too weak. Be careful to use strong enough springs, and to see that the opening in the case of each valve is the same, and we do not think the trouble will recur. If you notice the flames again after attending to the above matters it will be wise to put two or three fine mesh gauzes in the induction pipe as a precautionary measure, as there is a risk of the petrol in the carburetter igniting.

Stiffness in Engine.

? What is the cause of my 4 h.p. engine being so that I cannot pedal when exhaust is lifted, as formerly? I cannot get the engine pulley round more than once or twice, and then only by horse work. I have always been able to pedal with ease when exhaust was lifted, but latterly it has mounted even slight hills with difficulty. Can there be something wrong in cylinder, and what shall I do to remedy it? My weight is 16 stones, but the machine has carried me well till this last week or two.—H. T.

You do not mention whether you inject a small quantity of petrol or paraffin before attempting to start. In cold weather the engine quickly becomes gummy, and requires an injection to

enable it to be revolved freely. There can only be two other causes of the stiffness. One is that probably the lifter wire has stretched slightly, with the result that the exhaust valve lifter does not raise the valve sufficiently to allow the compression to escape. The other possible cause of the trouble is a derangement in the engine, such as a partially seized bearing, caused by under-lubrication. You had better examine it, and if you find the valve lifter mechanism to be in order it will be as well to have the engine down and examine the piston and bearings.

READERS' REPLIES.

Dust Choking Gauze.

I notice your reply to "C.B." re dust choking gauze. The same thing happened to my $3\frac{1}{2}$ h.p. 1908 Triumph, and I removed the gauze and have had no trouble in that respect since, with the exception (as you mention in your reply to "C.B.") that I clean the engine oftener.—P.M. (Pretoria, Transvaal).

Cures for Sluggish Starting.

Perhaps the following suggestions may help "J. E. W." and others who have sluggish starting engines. Adjust the distance of the break between the platinum points to suit the magneto. My machine was very hard to start until I adjusted the magneto points, and when I made them break the distance the makers recommended it started easily, but after running for barely two miles it stopped suddenly; the points had badly pitted. I experimented with different thicknesses of packing between the platinum screw and the bell crank lever; now it starts at walking pace, which is most necessary owing to my having a locked right hip joint; I cannot therefore gallop. There is also a great saving in platinum. I think magnetos have as different "dispositions" as people.—R. H. B.

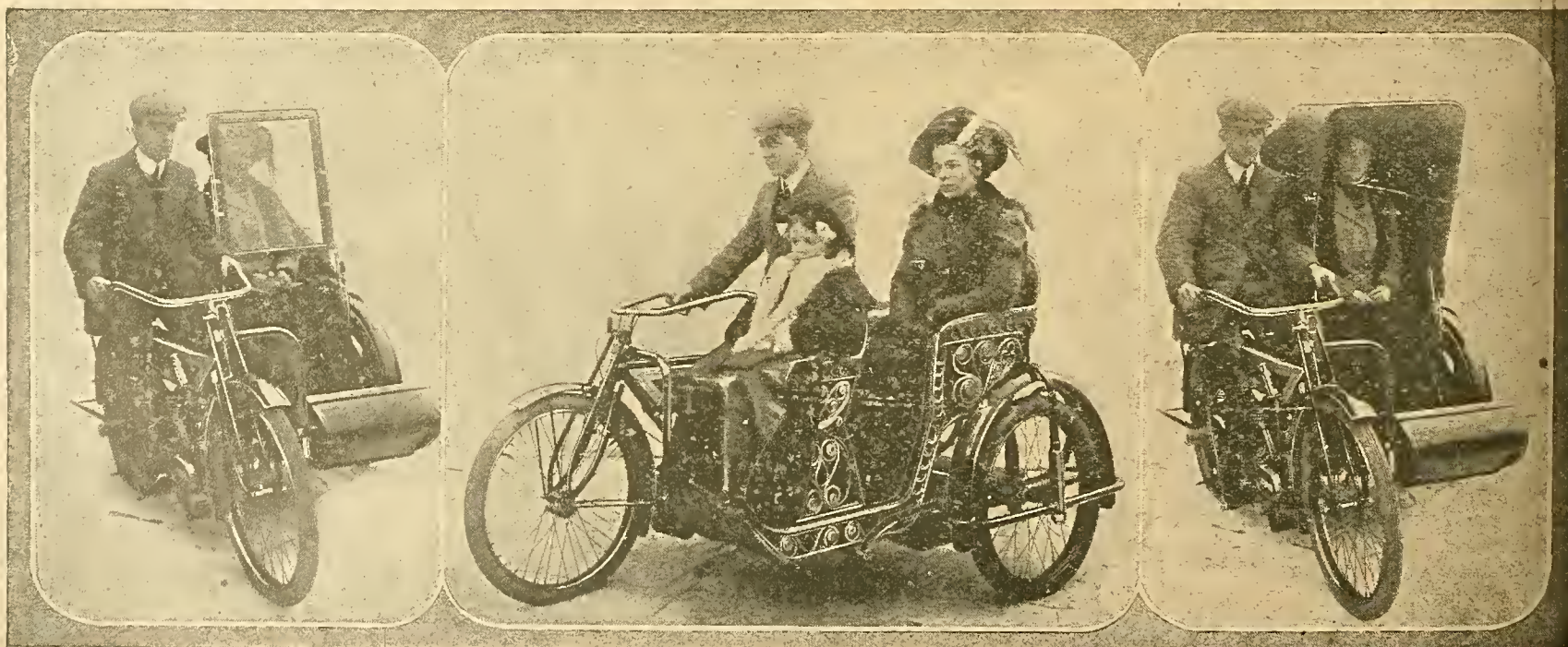
Carburation.

With reference to the query in *The Motor Cycle* of November 3rd, with regard to Minerva-Longuemare carburetter, I experienced the same thing with my $3\frac{1}{2}$ h.p. Minerva. I found got the best running with a No. 2 choke tube and No. 8 jet, but even then I was not absolutely satisfied with the pull of the engine at slow speeds. I eventually bought an old pattern Brown and Barlow, and since fitting that I have experienced no trouble whatever. I strongly advise you correspondent to do the same.—DOUGLAS NEWTON.

Tyres for Sidecar Work.

In *The Motor Cycle* of November 8th I note your reply on page 874 to "T. J. A." as to tyre for sidecar work. From my own experience with a $3\frac{1}{2}$ h.p. Triumph and Montgomery sidecar, I should not advise a larger rim, but to fit a Palmer Cord special $2\frac{1}{2}$ in. to fit 2 in. rim, as I did on my driving wheel. It has run 4,000 miles, of which 1,000 were with sidecar and 10 stone passenger. Only tyre troubles, two punctures (nails). The three ribs are still faintly visible on the tread. This would be cheaper than rebuilding wheel with larger rim, and it is sure to wear well. Like most of your correspondents, I read *The Motor Cycle* right through, and often get most valuable tips.—D. V. HAIG, M.D.

With reference to query by "T. J. A." re tyre for sidecar work, if it is any help to him I should like you to let him know my experience. Some few months ago I bought a special Dunlop, 26 in. x $2\frac{1}{2}$ in., and have run it on a $3\frac{1}{2}$ h.p. N.S.U. with Montgomery sidecar 1,240 miles, and up to the present it shows hardly any sign of wear; even the tread is not worn. Of course, I am only a private rider, and have no financial interest whatever in the Dunlop Tyre Co.—ERNEST G. NORTON.



Some Milford passenger attachments shown on Stand 67 at the Agricultural Hall.

(1) A coach-built sidecar with wind screen. The motor bicycle is a 1910 model Brown.

(2) Cane pattern spring wheel sidecar, with extra chair in front for child.

(3) This model with hood is sure to be popular with the gentler sex. The driver is left out in the cold!

MOTO-REVE

“B”

SURE you see the New MODEL

“B”

The New Single ‘B’ Model Moto-Reve

—fitted with single-cylinder engine of 60 x 85 mm., and designed in every respect on the lines which have made the twin model “A” such a universal favourite, is the mount which will introduce many lovers of the road to the fascinating pastime of motor cycling. Will you be one of these? For Twenty-seven Guineas you can secure a PRACTICAL MOTOR CYCLE, high grade in every detail, and fully equipped with Stand, Carrier, and Number Plates, ready for the road. And the price—hitherto thought impossible for a first-class practical motor cycle—

27 guineas.

The following Models will also be shown:

Model “A.”—50 x 70 mm., twin “V” engine, standard machine for ordinary touring.

Model “A A.”—52 x 70 mm., twin engine, for heavy riders.

Model “A A A.”—50 x 85 mm., twin engine, for hilly districts and use with coupling attachment.

Model “C.”—The last word in LIGHT-WEIGHTS. Vertical twin engine, 52 x 70 mm., clutch, two-speed gear and chain drive.

Model “D.”—The Lady’s Lightweight Motor Cycle.

Model “E.”—The Lady’s Couplicycle, for use with Model “A A A.”

**SOMETHING FOR EVERYBODY
ON STAND 87.**

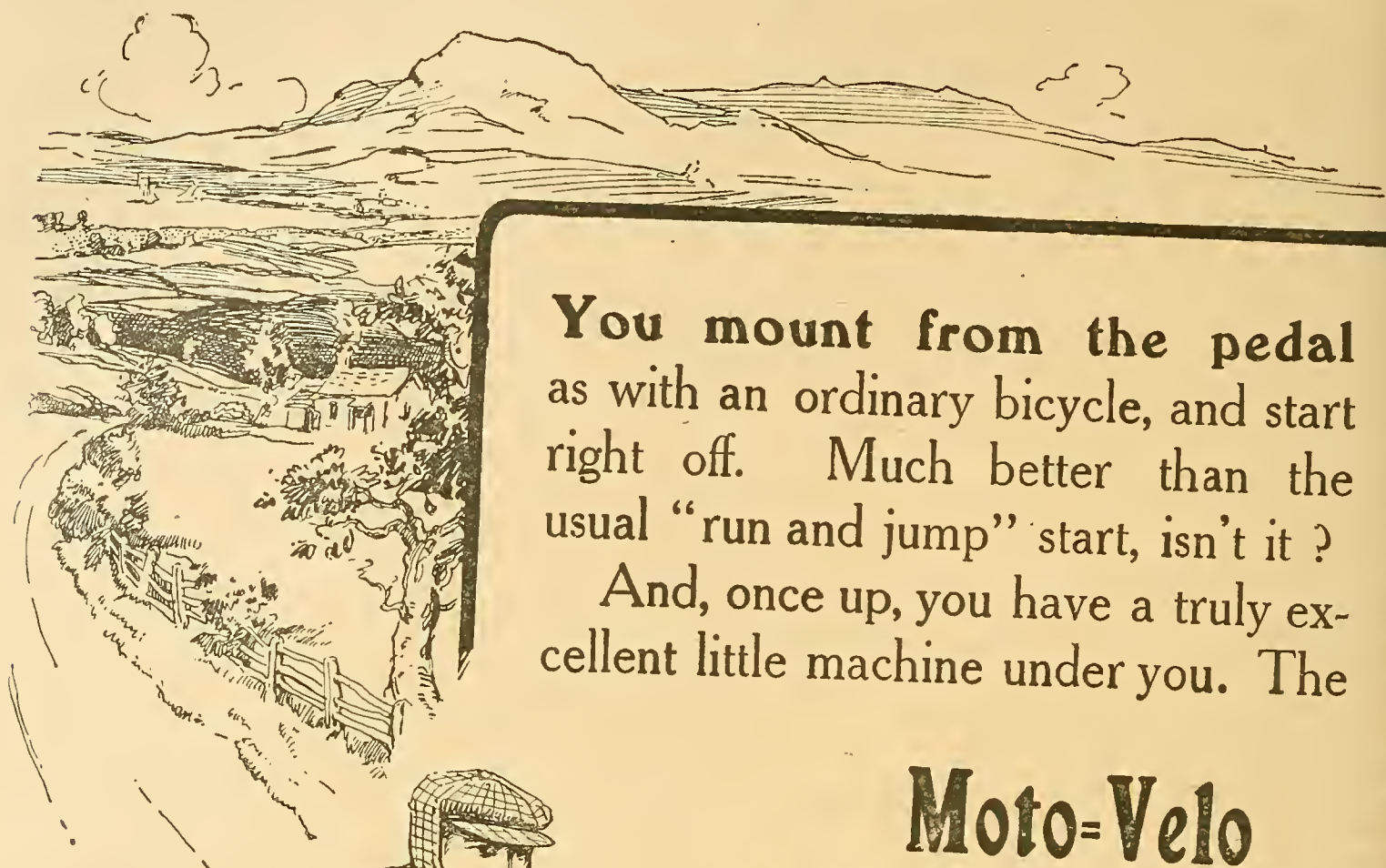
Come and have them explained !

STAND No. 87 STANLEY SHOW

THE MOTO-REVE CO., Ltd., Moto-Reve Works, ACTON VALE, LONDON, W.

London Showrooms: 138 & 142, Gray’s Inn Road, W.C.

In answering this advertisement it is desirable to mention “The Motor Cycle.”



You mount from the pedal as with an ordinary bicycle, and start right off. Much better than the usual "run and jump" start, isn't it?

And, once up, you have a truly excellent little machine under you. The

Moto-Velo

is a $1\frac{1}{4}$ h.p. motor cycle that will speed anything from 5 to 30 miles per hour.

The engine is built on strictly interchangeable lines, and is detachable, so that the machine can be converted to a bicycle at will.

You can have Round Belt with Jockey pulley or V Belt with Direct Drive.

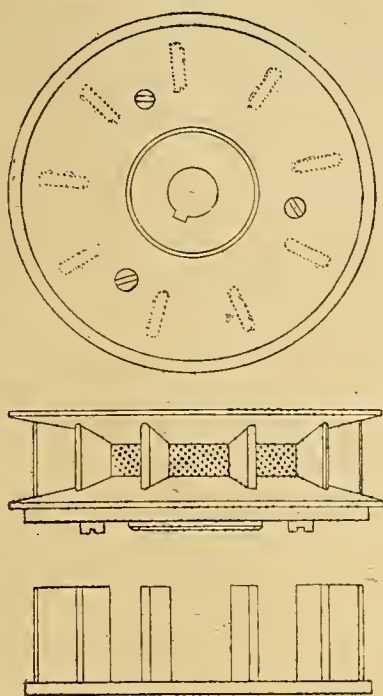
A Bosch High-tension Magneto is fitted, and the weight of the machine complete is 84 lbs.

See it at the Stanley Show

**STAND
No. 120.**

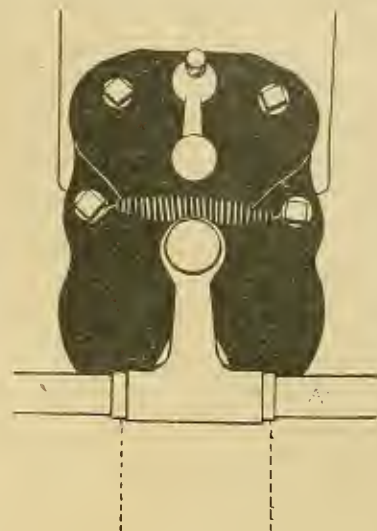
A NEW CHAIN BELT.

NEW pattern of chain belt which has been under test for some time is on view at the Stanley. It is the production of I. Leiby and Co., 180a, Wells Road, Birmingham, and will be found on Corah Motor Co.'s stand, No. 85, in the Main Hall. The chain belt is made up of steel links and V leather sections fastened to the links. The drive pulley is made with the usual 28° groove, and closely spaced. Across the groove are flat steel bars which receive the links of the chain and the V sections, something after the fashion of a block chain which runs upon a toothed pulley. The pull is transmitted entirely through the leather links. No alteration to the driven belt rim is required, and the engine pulley is so made that the gear carrying the steel crossbars can be removed and the pulley used for ordinary belt drive. The sections of the belt are linked together entirely by hand without rivets, and a link can be removed and replaced at any time to shorten or lengthen the belt as required. The sections of this chain belt are also made of specially vulcanised rubber, the link plates being embedded in the rubber whilst it is in a plastic state, and afterwards hardened.



A KICK-OPERATED STAND FASTENER.

TO bend down and screw up the usual stand fastening and at the same time balance a heavy machine is not an easy matter. Some 1910 models have improvements on this method. The spring attachment illustrated is one introduced by W. Beck, Chapel Street, Rugby, for fitting to existing machines. Fastened to the rear mudguard by the ordinary fastening wing bolt are two flat plates carrying between them a pair of movable jaws held together by a coil spring. To the eye or similar attachment on the back rail of the stand, a bolt is fastened which projects in such a manner that when the stand is raised the smooth round surface of the bolt when pulled up forcibly between the jaws expands them sufficiently to allow the bolt to pass. It then drops into slots in the jaws, and is there held tightly. With this attachment fitted there is no necessity to use the hands at all. In the sketch the parts of the attachment are shown black.

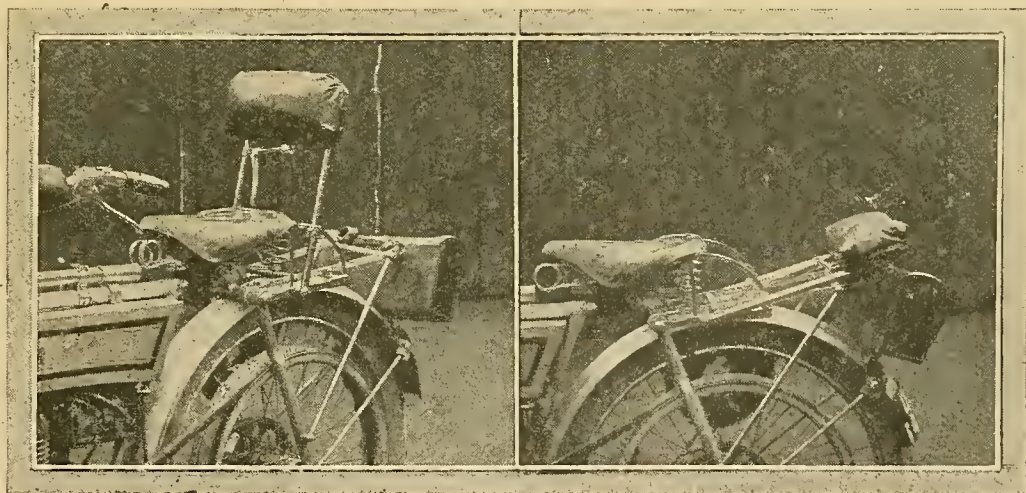


The City Ignition Co., 14, Spencer Street, Goswell Road, E.C., have been appointed sole agents for the whole of Great Britain, Ireland, and the colonies for the special nickel valves made by Alphonse Binet and Co., Paris. The same firm have also secured the sole agency for Rubidia powder, which is sold in three grades for grinding in valves, rings, etc.

ANOTHER TYPE OF BACK-REST FOR MOTOR CYCLISTS.

THE publication of the particulars of one support or back-rest has called forth another in the form of Carter's patent adjustable back-rest. This consists of a back-rest for motor cyclists which can be adjusted to any desired position by the rider without dismounting from the machine. The rest is self-locking and rigid. For riding in town traffic, when a hurried dismount might be necessary, the rest can be let down quite flat on to the carrier, and can be adjusted instantly by applying a slight pressure to the lever which is fitted inside the frame of the rest. The makers (the Victoria Garage and Electrical Co., Ltd., 27, Fleet Street, Coventry) supply it to fit the following standard patterns of motor cycles: Humber, Premier, Rex, and Triumph. Rests to fit any other make can be supplied in three days. The particulars required when ordering are width of seat lug and carrier, side measurements, and length from

centre of seat bolt to back of saddle. All parts are nickel plated, and a pneumatic cushion upholstered in leather is supplied for the back rail, which should prove very comfortable. The weight is 5 lbs.



A comfortable back-rest for motor cyclists, adjustable as to height by a lever on the right hand side of the back-rest support. It has been patented by H. M. Carter.

The Stern Sonneborn Oil Co., Royal London House, Salisbury Square, E.C., are, as their title leads one to suppose, specialists in the manufacture of lubricants of all kinds. They make a special brand of oil for motor cycle cylinders known as Autosternol, which is pure hydro-carbon oil, non-corrosive, free from

impurities and acids, and with a flash point of over 400° Fahr. Other specialities made by the company are Clutcholine (a dressing for clutches) and Sternoline metal polish (a composition for preventing rust). In fact, in the catalogue issued by the company the motor cyclist will find a good deal to interest him.

Hints and Tips for Motor Cyclists.

By Road Rider.

INDELIBLE PENCIL.

312. Some tyre repair outfit providers have stupidly ceased to incorporate a piece of indelible pencil in their kits. It is absolutely invaluable in the repair of punctures, especially when small. After the vicinity of a puncture has been solutioned, the exact location of the puncture is usually invisible, unless an indelible pencil has been employed to mark it.

A WAGGISH INDIVIDUAL.

313. I was lighting a cigarette outside a well-known roadside hostelry the other week when an individual puffed up on a smart new mount of unknown make. I pounced on it with a keen eye for novelties and notions, and was immediately struck by an 8in. diameter plated drum affixed to the off-side of the rear hub. A tiny lever protruded from it, and this lever was coupled by a Bowden wire to a foot-rest pedal. "Oho," quoth I to myself, "A new internal expanding brake!" When the owner had wandered indoors to lubricate I bethought myself it would be interesting to test the gripping powers of his new brake. No sooner said than done. They were absolutely nil. And what is more, I am positive the nice plated drum was a dummy, intended to deceive captious constables or the inspecting official of the next Quarterly Trials. The drum was simply a hollow cheese of plated metal, and nothing more.

ENGINE KNOCKING.

314. I have searched all the principal motor text books in vain for a scientific treatise on engine knocks, and not having sufficient technical knowledge to write such a treatise for myself, I must limit this note to the practical treatment of knockings, rather than attempt a disquisition on their origin. Distinguish several types of knocks as follows: (a.) On modern high compression engines knocking commonly occurs when climbing steep hills, when dropping the valve after rounding a corner, and when picking up speed on the flat, which is curable by closing the extra air, either partially or altogether. I do not know the explanation of this phenomenon, but it will often stop the knock instantaneously on 1909 $3\frac{1}{2}$ h.p. machines, when retarding the spark or closing the throttle has no effect whatever. Probably it is due to the closing of the air giving a rich and therefore slow burning mixture. It enables hills to be climbed to a finish, when any other handling of the levers would cause a stoppage. (b.) Caused by too high a compression, arising from carbonised incrustations on piston and in combustion chamber. Cure—a good scraping. (c.) Caused by too high a gear either in hill-climbing or in sudden accelerations on the flat. Remedy—open the groove of the adjustable pulley. (d.) Caused by slack bearings in engine, or by engine-shafts being out of alignment, or flywheels scraping against crank case. (e.) Caused in rare instances by a sparking plug of a certain length,

especially if plug is fixed into cylinder head, instead of into top of valve chamber. The remedy is to use a sparking plug which does not project so far into combustion space. (f.) Caused by spark being advanced too far for the speed at which engine is revolving, when the wind or the gradient prevents the engine catching up to the speed for which the ignition is set. Remedy—retard the spark. This is the explanation of the knock which usually occurs when a machine fails to climb a hill after the air lever has been closed sufficiently. (g.) Bad oil, or insufficient oil in engine. Remedy—more oil, or oil of a different brand. Chronic knocking suddenly attacking an engine on easy roads is generally due to defects of lubrication. (h.) Due to overheating. A hot engine will knock downhill. This sort of knock is almost always due to defective lubrication, i.e., either an unsuitable oil, or a scanty supply of good oil. In rare instances it is possibly due simply to over-driving, e.g., travelling a long distance at excessive speed, by which the piston and cylinder become temporarily distorted. In this case there is no cure but to let the engine cool right down, and to be more careful in future. N.B.—Never let an engine continue to knock. If the knock cannot be stopped in a yard or two by retarding the spark, closing the extra air, or injecting a charge of oil, stop at once, trace the defect, and remedy it. To let an engine continue knocking, especially on a steep grade, means a risk of serious and expensive damage to the shafts, bearings, and connecting rod.

SQUEAKY SPRING FORKS.

315. Some types of spring forks squeak slightly unless regularly lubricated. If the springs are of the flat, leaf type, the squeaking may be cured for 100 miles or so by taking the load off the springs and smearing grease between the leaves with a thin knife. If the springs work over a spindle, and are in close contact with it all the time, the defect is most awkward to rectify, as grit will be attracted to any lubricant employed and accentuate the squeaking. On one machine I was able to screw a spring grease lubricator into the collar through which the spindles worked. On another type of spindle I cut a spiral groove into which I forced grease at regular intervals. On another I attached soft leather covers, lacing them up tightly, so that the lubricant employed was not neutralised by the grit it would otherwise have attracted. Care must be taken not to weaken a vital part of the forks by tapping a thread in it to accommodate a grease lubricator. There are a dozen types of spring fork on the market which will go through a whole year without a single squeak, and enquiry amongst practised riders will elicit the names of satisfactory and unsatisfactory devices.

ADJUSTABLE PULLEYS.

316. The most serviceable types of pulleys are those which require no tools for their alteration. Beware of

any pattern which has to be unscrewed by a special tool working against engine compression. Such a pulley often gets jammed up if the engine revolutions tighten the two flanges against each other, and when engine compression has become too great the special tool simply turns the engine over compression instead of loosening the outer flange of the pulley. It is the old difficulty of moving an engine pulley in a more and more aggravating form. The simplest way to move a very tight pulley is to turn the engine on to compression point, then obtain a long spanner with the aid of a hammer or a mallet, tap the end of it, gradually increasing the force of the blows until the nut is seen to move.

ADJUSTABLE BELT FASTENER.

317. Such a fastener is essential to an adjustable pulley. If a length of belting has to be inserted or removed whenever the gear ratio is varied, the job is too long and too tedious to be readily undertaken. By ordering an adjustable belt fastener, notice if any part of the fastener projects above the top of the belt in any of the various positions. If it does, make sure that your machine provides sufficient clearance for this projection of the fastener to run round without hitting anything, e.g., the cranked portion of the rear forks, or some other tubercle on the crank case. Machines with outside flywheels (which usually have the engine pulley between the wheel and the crankcase) do not allow clearance for many of the adjustable fasteners now on the market.

HIGH-COMPRESSION ENGINES.

318. Engines with an extremely high compression ratio are only suited to expert riders desiring great speed, as they are not ideal for the jog-trot tourist rider. Some idea of the compression ratio can be gathered by removing the valve cap and noting the depth of the valve box, and the height to which the piston rises in the combustion chamber. If the interior height of the valve chamber is extremely low, and the piston rises to a point above the top of the valve chamber, the engine has an extremely high compression, the gases forced up by the piston are obviously compressed into a very limited space. There are engines on the market to-day which are said to have a cold compression of 90 lbs. per square inch, whereas others have a pressure of only 60 lbs. per square inch. A medium compression is the most suited to ordinary touring work.

FASTENING BOXES OF SPARES.

319. The expert rider usually carries in his kit two or three tin boxes in which his more delicate supplies, such as tyre repair kit, magneto spare parts, etc., are stored. The simplest and most efficient method of fastening these boxes is to cut a rubber band from a waste inner tube and slip it around the box. It will never come adrift, and is easily replaced or removed.

THE MOTOR CYCLE

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FOUR-PAGE COLOURED SUPPLEMENT.

Record Breaking at Brooklands. Club News. British Made Motor Cycles in New Zealand. The A.C.U. Council Meeting.

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The 1910 Tourist Trophy Race.

ON the next page is reported the meeting held at the Stanley Show last Tuesday to discuss the conditions of the 1910 Tourist Trophy Race. Dealing first with the date, we fear there is little chance of any day in September being available, since the Isle of Man Highway Board expressly stated that such a date interfered with the islanders' harvest. It seems, therefore, probable that, *volens volens*, the A.C.U. will have to run off the competition either at the end of May or the beginning of June, which, though it will be awkward for most of the manufacturers, is an excellent time of the year, as the weather is likely to be more genial than late in September. Makers therefore should lose no time in designing their new models, as should the race take place early there is little time left. The all important limit for the twin-cylinder engines called for much discussion, but it seems as far as can be told that the 650 c.c. limit will be a fair one. It will give the manufacturers ample opportunity to develop the efficiency of the twin to an extent never before obtained, but whether or not it will balance the twin fairly against the single we will not venture to prophesy, as experiment alone will show whether this will be actually the case. It may take a year or two to match the two equally, and doing so may occupy much time and the exercise of great skill, but it will certainly in the meantime improve the breed, which is, after all, that at which we are all aiming. In fixing the limit for twins at 650 c.c. it precludes all possibility of the heavier and more powerful type of twin used for passenger work being improved at the same rate as the smaller

sized twin, which is preferred by many to the single-cylinder for touring purposes. This at first sight seems a pity, but those interested in passenger machines to the exclusion of singles must not think they are entirely neglected, as improvements discovered on small twin-cylinder engines will be eventually adopted on larger sized motors, although perhaps not so quickly. It is also possible that the small twin by reason of greater efficiency and the improvement of change speed gears and transmission may be found all that is required for passenger work. In this manner the race will do what is intended, viz., increase the efficiency of engines while decreasing the bulk and weight.

Even with the suggested alteration next year's race will be again a battle of the cylinders, and, as we have previously pointed out, the largest cylinder capacity possible will not necessarily be the winner. We rather expected that someone would suggest a separate race for singles and twins, the one to start at a very early hour and conclude practically at the time this year's race was started. There is the difficulty of the trophy, but this could be overcome. With regard to details, the handle-bars may be of any shape as in the last race. We are sorry that no restrictions are to be placed on the saddles and silencers, although we quite recognise the difficulty of making competitors fit and use silencers of equal efficiency. It is already obvious, however, that next year's T.T. racers will be far removed from "tourist mounts." The Tourist Trophy Race is a splendid sporting event, one for which the whole industry must be grateful to the originator, the Marquis de Mouzilly St. Mars, the donor of the trophy, and we must conclude these remarks by wishing its organisers, the Auto Cycle Union, all success in preparing next year's competition.

THE 1910 TOURIST TROPHY RACE.

CONDITIONS DISCUSSED AT THE AGRICULTURAL HALL.

THE excellent attendance at the meeting held at the Stanley Show last Tuesday by the Auto Cycle Union to discuss the lines on which next year's T.T. Race is to be run bear testimony to the great interest taken in this important competition. No less than fifty-nine people attended the meeting, the makers of the Rex, Triumph, Matchless, Indian, Brown, N.L.G., and many others were represented, as well as motor cyclists interested in the great road race. The object of the meeting, over which Mr. Robert Todd presided, was to formulate the ideas of the trade on the race, which could be put afterwards before the A.C.U. Committee.

Mr. Todd opened the meeting by calling on Mr. F. Straight, the secretary, to read several letters he had received on the subject. The first was a letter from the I.O.M. Highway Board, stating that, owing to the late harvest, several of the farmers had complained of the race being held in September, thus interfering with the gathering of their crops in the fine weather at the conclusion of the summer. They suggested the months of May or June, and expressed their hope that the race would be run.

Letters from Competitors.

The next letter read was from Mr. B. Vickers Jones, a competitor in last year's race, who regretted his inability to attend the meeting, and hoped to compete next year. Mr. S. C. Perryman stated in his letter that the private owner had no chance against the trade rider, owing to the restricted resources of the former, who could not provide the countless spare frames, engines, and other parts the trade rider had at his disposal. Each man should have one machine, and one engine, and the officials should seal these, and thus make the conditions more equal. Moreover, there should be more attractive prizes for the private owner, and the entrance fees should be reduced.

Mr. Rem Fowler wrote that he favoured leaving the engine sizes as they were, and suggested a lightweight class for engines with bore and stroke of 70 by 76 mm., or the equivalent volume swept out.

Mr. Hart then stated the value of such a meeting as this to the trade, and especially the competitors, who naturally knew more of the requirements than the mere onlookers. The committee had decided that the limit for the single-cylinder machines was to be 500 c.c., but the chief point for that meeting to decide was the limit for the twins. Touching on Mr. Perryman's letter, he thought that the prizes for the private owners already provided absolutely sufficed, and that the event was essentially a trade affair to improve the existing motor cycle.

Mr. Todd then sounded the views of the meeting as regards the date, and after some discussion it was decided to apply for a date in September if such could be obtained.

Mr. Archibald Sharp afterwards introduced the subject of the limit of capacity for twin-cylinder engines, and dwelt on the importance of considering the ratio of stroke to bore, and said that only one manufacturer had realised the potentialities of the short stroke.

Mr. W. Williamson (the Rex Motor Mfg. Co.) said that between 1906 and 1909 his company had made over 4,000 twin-cylinder engines of 76 x 79 dimensions,

and this year, to meet the T.T. conditions, the tools had been altered to increase the bore to 77½ mm., and it would, he was sure, be very hard on him and other manufacturers to alter them again.

Mr. Wells (Hendee Mfg. Co.) said that Mr. Sharp had based his arguments on theory and on results obtained on a flat course. He would like to know if the committee had considered the advisability of using the car course in the I.O.M. (Here the Chairman interposed that the same course as last year would be employed.) Mr. Wells, continuing, said he would be willing to see the capacity reduced to 700 c.c. or even less.

Mr. Cooper, speaking as an amateur, said he failed to see why the twins should have a fifty per cent. increase in capacity; it did not tend to improve the breed. Twenty-five per cent. extra allowance would be ample, and makers would thus endeavour to build better engines.

Mr. Forster (N.L.G.) said that if the capacity of the twins was reduced to 625 or 650 c.c., engines only suitable for the T.T. Race would be produced—useful perhaps for bicycles, but no good for sidecar work.

The Object of the Race.

Mr. Haslam interposed that the race, he understood, was for the development of the touring motor bicycle; such a machine would be no use for general purposes.

Mr. Banks (Brown Bros.) agreed with Mr. Cooper concerning the 625 c.c. limit, though he spoke as one whose interest was in the single-cylinder machine.

Mr. Brooker considered that whatever limitation should be placed on the twins should be of a simple character, and not on rating as suggested by Mr. Sharp, but only on cubical capacity. He thought that all handicaps, such as that existing on two-stroke engines and those suggested for chain-driven machines, should be removed, and recommended a capacity between 650 and 660 c.c.; 625 c.c. he considered too small.

Mr. Hulbert (Triumph Co.), though interested in the single, suggested 625 c.c. for the twins.

Mr. H. A. Collier (Matchless Motors) expressed his opinion that if a 625 c.c. limit was adopted the twins would be as much handicapped as the singles were last year; while Mr. Applebee said he thought that 650 c.c. would also put the twins out of it.

A Limit of 650 c.c. adopted.

After the Chairman had put the matter to the vote the meeting decided to recommend that a limit of 650 c.c. should be adopted.

Mr. Wells then suggested that the most important parts of the competing machines should be sealed either on their arrival or just before the race; while Mr. Rackham proposed that this should be done when the machines were weighed. This, and the fact that the practising should extend over seven days, was then agreed.

Some discussion then ensued as to what should be the definition of a touring saddle and what should be accounted an efficient silencer, and eventually it was decided to recommend to the A.C.U. Committee that the riders might be free to use whatever type of saddle or handle-bars they liked, but that, though silencers must be used for practising, they need not be used during the race.

OCCASIONAL COMMENTS.

BY "IXION."

Adjusting Rear Wheels and Brakes.

In adjusting a rear wheel or in refitting a damaged foot brake, care should be taken to make the shoe of the belt rim brake ride true on its rim. I was clearing out my workshop the other day when I came upon four or five fibre brake blocks, each exhausted by a short life due to false adjustment. Some machines are so designed that the brake shoe can never work out of line, the belt rim always being in the same plane, even if it is not quite central to the shoe. On others the brake is floppily mounted, carried perhaps on a bracket clipped to the chain stays, and liable to wobble or shift round, in which case the shoe will soon wear out.

A New Lubricant.

I recently mentioned that I am in the habit of using a water-cooled oil for my winter riding, to avoid gumminess of the pistons after a stoppage. Price's Patent Candle Co. now inform me they recently perfected a new oil, which was first used by the Triumph racers in the last Isle of Man race. It is no thicker or more "viscous" than water-cooled "C," but is richer in composition, and better suited to prolonged speed with such engines as the single-cylinder Rex, Triumph, or Premier, and will in future be sold under the title of "Huile de Luxe." A well-known Coventry motor cyclist christened it "Huile de Kipper," because the odour of the exhaust from engines lubricated with it is reminiscent of burnt bloaters.

The American Twenty-four Hours' Record.

Mr. Wells sends me interesting details about the twenty-four hours' record claimed for the Indian 5 h.p. machine on Springfield track. He considers its accuracy beyond doubt, inasmuch as during most of the daylight there were some 10,000 spectators, including representatives of many rival firms, who, in his opinion, could be trusted to jealously verify the official lap scoring. I mentioned that the entire absence of tyre troubles was a suspicious circumstance, the front tyres of both Indian machines going through untouched, and the rear tyres being only changed as a precaution at the half-distance. He informs me that the Springfield track is a true circle, the angle of the banking being equal the whole way round. The surface of the track is tolerably new, and composed of 2in. by 2in. timbers, slightly bent, laid on steel girders, and blind-nailed. Even thus I regard the performance of the tyres as rather miraculous.

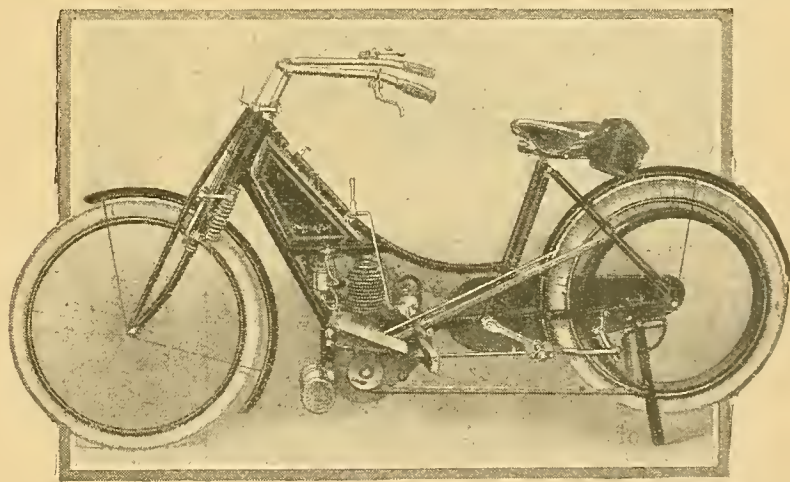
Twin Inlet Pipes.

I spent several months of this year in the effort to obtain really satisfactory carburation on my twin-cylinder bicycle, and finally came to the conclusion that the design of the inlet pipes was radically bad. The two pipes were joined in such a way that each cylinder exerted its first suction not directly down the main branch to the carburettor jet, but down the side branch leading to the other cylinder, a bit of piping, which, presumably, had just been sucked dry by the other cylinder. I am convinced that on all twin-cylinder engines these pipes ought to be so shaped that either their general shape or a special baffle plate guides the "pull" of each cylinder down the main

branch towards the jet, instead of allowing its first energy to exhaust itself either upon a vacuum or upon a mass of gas which is travelling rapidly in the wrong direction. Experiment leads me to imagine that if the double inlet pipe is of a T shape, it requires a baffle plate where the crosspiece joins the leg of the T; and that a pipe shaped like the Greek capital letter Upsilon, with curved joints instead of right angles, is more calculated to maintain efficiency.

Lightweights.

Next year the lightweight enthusiast will have a selection of at least four machines fitted with rigid transmission, in the two-speed shaft-driven F.N., the two-speed chain-driven P. and M., Moto-Rêve, and the single-speed chain-driven Indian, a sample of which was driven by A. G. Reynolds in the last Edinburgh run. My chief complaint against previous lightweights has been the nature of their transmission. The use of a round belt, or a $\frac{5}{8}$ in. V belt, on small pulleys spells a return to the transmission of about 1902, when I did a lot of riding on a $1\frac{3}{4}$ h.p. Phoenix-Minerva in a very hilly district. I am not asserting such transmissions are unsuited for everybody. But a heavy man, riding a hilly district in all weathers, is sure to have trouble, as I soon discovered on my Phoenix and Werner machines many years ago. These two machines,



The $2\frac{1}{2}$ h.p. Norton lady's motor bicycle, fitted with Simms magneto and Druid spring forks. This machine was not completed in time for the Show.

by the way, were noble precursors of the modern lightweight, save that they scaled a trifle more, and that they only possessed rickety accumulator ignitions. Does Mr. J. Van Hooydonk remember what his $1\frac{3}{4}$ h.p. weighed? Consequently I think that the production of lightweights with a more rigid and reliable transmission will enrol a lot of new names in the list of lightweight enthusiasts. Only we must not forget that the above mentioned lightweights scale considerably more than the Motosacoche or the $1\frac{1}{2}$ h.p. Wolf; the difference usually amounts to 30 or 40 lbs. in favour of these belt drivers, and the gap in weight between the rigid transmission lightweights and a standard tourist $3\frac{1}{2}$ h.p. belt driver is less—often only 20 or 30 lbs. This rather supports the ancient prediction of this journal—that it is almost impossible to produce machines of less weight than the $3\frac{1}{2}$ h.p. tourist models without making some sacrifice in efficiency.

CURRENT CHAT

TIME TO LIGHT LAMPS				
Nov. 29	..	..	..	4.55 p m
Dec. 1	..	..	..	4.53 "
" 4	..	..	..	4.51 "
" 6	..	..	..	4.50 "

SPECIAL FEATURES

AMONG THE ACCESSORIES AT THE STANLEY SHOW.

MEDIUM-POWERED ROADSTERS AT THE STANLEY.

BY B. H. DAVIES.

CONDITIONS OF THE 1910 TOURIST TROPHY RACE.

Motor Races in Sweden.

The programme for 1910 of the races which form the great event of the winter season in motoring circles in Sweden has now been arranged. Racing will take place from February 20th to February 23rd (both dates inclusive) along the route from Stockholm to Gothenburg, a total distance of about 300 miles (500 kilos.) The competition is to be divided into two classes. In one of them the Winter Cup will be competed for, and in the other the Gothenburg Cup. These two prizes are worth many hundreds of pounds. Winter competitions of this kind have become a speciality in Sweden, a country which is *par excellence* the land for winter sports.

A Powerful Pacing Machine.

The huge projectile depicted below has been built to special order by the Cripps Cycle and Motor Co., 24-28, Woodford Road, Forest Gate, E., for pacing purposes. The engine, which, as will be observed, is of the V-type, is described by the makers as a special Peugeot fitted with De Dion cylinders and pistons, the bore and stroke being 120 by 160 mm. Automatic inlet valves are fitted, and a large-sized Longuemare carburetter. Ignition is by battery and plain coil. The gear ratio is 2½ to 1, a wide flat belt being used for the transmission. Control is by switch handle and Bowden wire running over a small pulley on the front of the handle-bar. The makers admit that the design of the frame is not exactly their idea of beauty, and we are entirely in accord with them.

An Xmas Tricar Trip.

A four hundred mile trip on a tri-car is how a motor cyclist (already well-known to our readers) proposes to spend his Christmas holiday. Given hard dry roads and frosty weather, the trip should be an enjoyable one for seasoned riders.

What is a Lightweight?

The term "lightweight" is an extremely elastic one. Several manufacturers were exhibiting motor cycles at last week's show dubbed "lightweights" when in reality they scaled very nearly 150 lbs. These surely should come within the medium weight class. Some of the makers of really lightweight machines had gone one better and called their machines "featherweights," consequently "80 lb. featherweights" were quite numerous.

New Headquarters for the Motor Union.

The head offices of the Motor Union are being moved to Caxton House, Westminster. The rapid growth of the membership of the Motor Union has rendered necessary an increase in the staff, for which the existing offices are totally inadequate. Caxton House is one of the finest buildings recently erected in London. The M.U. has secured the first floor in the west wing, which is being fitted in the most up-to-date style. More commodious members' rooms, committee rooms, telephone rooms, etc., will be provided, and the Touring, Legal, Engineering, Motor Cycle, and Aviation Departments of the M.U. will be more conveniently arranged for the use of members.

R.A.C. Annual Dinner.

For the second annual dinner of the Royal Automobile Club and Associated Clubs, on Thursday, February 3rd, the R.A.C. has engaged the Connaught Rooms, Freemason's Hall, Kingsway, W.C.

Chicago's Motor Cycle Police Squad.

The Chief of the Chicago Police Department is organising a motor cycle squad in his department. The first consignment of motor cycles has recently been delivered, and soon the force will be made up to fifty strong.

'Varsity Motor Cyclists' Reliability Trial.

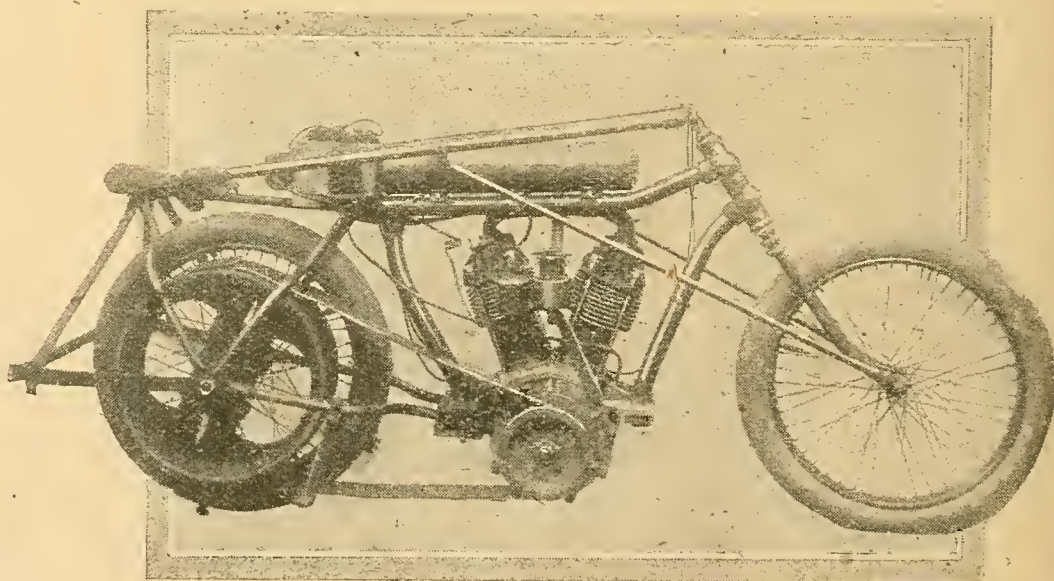
Nine out of sixteen competitors in a reliability trial organised by the Cambridge University Motor Cycle Club on the 20th inst. made non-stop runs. Of the motor cycles used twin-cylinder machines predominated, there being nine of this type, five single-cylinders, and two four-cylinders.

The Auto Cycle Legion.

At a small but enthusiastic meeting of the London Command of the Auto Cycle Legion, Mr. H. A. Wildy advises us that it was decided to only recruit up to a certain number for the present, in order that a sufficient number of members may be trained to form a nucleus of N.C.O.'s, etc. The command will then be increased in numbers at the earliest date. It was decided to begin work as soon as possible, and the members are hoping for dry and frosty weather.

Chauffeur's Successful Defence.

James Brown, who was charged at Stirling recently with exceeding the speed limit near Leckie House, made a distinctly novel defence. After hearing the evidence for the prosecution defendant's solicitor said that in terms of the fourth section of the Motor Car Act, notice of intending prosecution should have been given when the car was stopped, or by the fiscal within twenty-one days. He contended that no such notice had been given. The procurator-fiscal said that the mere fact of the car being stopped and the party informed that they were travelling at a high rate of speed was in itself sufficient notice. The Sheriff, however, held that notice ought to have been given, and accordingly dismissed the case.



A powerful pacing motor cycle, built by the Cripps Cycle and Motor Co., and described in a paragraph above.

News from the Clubs.

Many interesting items of club news will be found in the centre pages of this week's coloured supplement.

A Noticeable Fact.

Visitors to the Stanley Show could not fail to notice the extraordinary amount of interest taken in the motor cycles. Several times we noticed a cycle stand had no visitors near it, while the next stand on which motor cycles were staged had a throng of interested spectators intently examining the details of the machines. We do not write this disparagingly.

The Conditions for the 1910 T.T.

Next year's International Tourist Trophy Race will be run under different conditions as decided by the meeting held last Tuesday evening. The capacity of single-cylinder machines, viz., 500 c.c., remains unaltered, but the limit for multi-cylinders has been reduced to 650 cubic centimetres to place all types on a more equal footing. As there is again only one class the winner of the trophy will be the fastest rider to finish whatever type of engine he uses within the above-mentioned limits.

Number of Motor Cycles at the Show.

As we stated last week, the number of motor cycles at last week's Stanley Show was far in excess of the previous year, the actual number of complete machines exhibited being 269 (the number of exhibitors being fifty-five), as compared with 207 complete motor bicycles exhibited by thirty-eight firms in 1908. Next week we shall publish some interesting statistics concerning the motor cycles at the show, including the number of pedalless machines, gear and chain-driven machines, variable gears, magnetos, single and multi-cylinders, and other useful details which will enable readers to determine the most popular features of 1910 models.

An Expensive Motor Cycle.

At the Poole Bankruptcy Court last week, Albert Edward Swift, of Parkstone, was examined on a statement of affairs which disclosed gross liabilities amounting to £62, all of which was expected to rank. The assets were scheduled at £13, thus leaving a

FUTURE EVENTS.

- Dec. 1—Middlesbrough and District M.C.C. Paper on "Magneto Ignition," by Mr. A. Bennett.
- " 4—(provisional)—Cambridge University M.C.C. Smoking Concert.
- " 4—Walthamstow M.C. Third Annual Dinner and Distribution of Prizes.
- " 9—Essex M.C. Paper on "Novelties at the Stanley Show," by H. G. Cove.
- Dec. 11—M.C.C. annual dinner and distribution of prizes at the Trocadero Restaurant.
- Jan. 20—Auto Cycle Union annual dinner at the Waldorf Hotel.

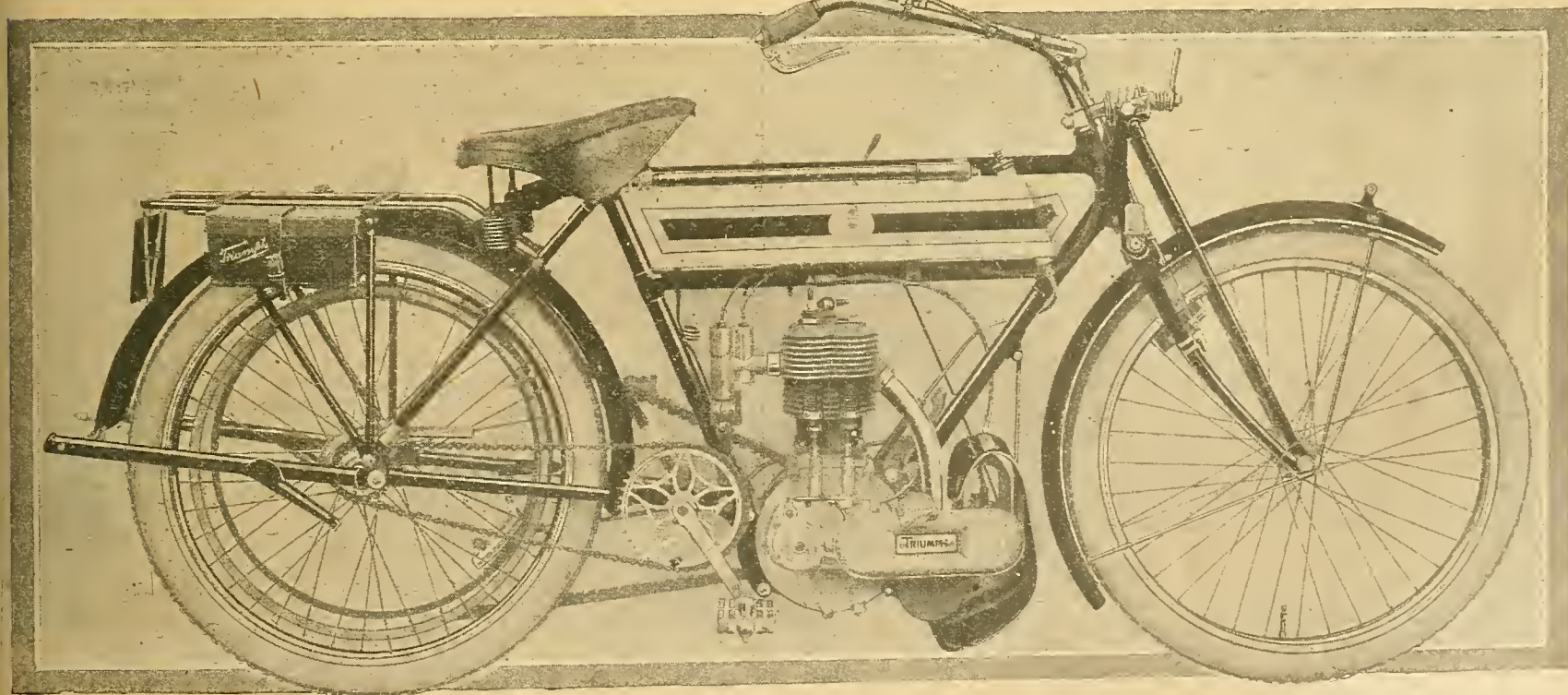
deficiency of £49. Debtor gave as the causes of his failure "Loss in connection with my motor cycle, £100," and "Financial assistance to mother and sisters." Until 1907 (he told the official receiver, Mr. Thomas Easton) he made a livelihood, and then came his bugbear—a motor cycle. "This seems to have been a wonderful machine," observed Mr. Easton. Debtor purchased it for £12 in September, 1907, and within about twelve months he reckoned it had cost quite £100 in repairs [!!!—ED.] "A warning to us all," commented the Official Receiver, who asked the debtor if he did not think it would have been a very prudent course to have got rid of the machine. Swift frankly admitted that he should have done so, although he said he found the motor cycle very useful in travelling long distances in connection with his business; he had previously ridden a pedal cycle. The motor cycle was eventually sold for £8.

A.C.U. Annual Dinner.

It is with pleasure that the Auto Cycle Union Committee is able to announce that H.S.H. Prince Francis of Teck, K.C.V.O., D.S.O., has again kindly consented to preside at the annual dinner to be held at the Hotel Waldorf on Thursday, January 20th. Members are asked to make a special note of the date and to use every endeavour to be present on this occasion, when the prizes won during the year will be presented.

Moto Club Argentina (Buenos Ayres).

On Sunday, October 24th (there is no prejudice against Sunday meetings in Buenos Ayres, we are told), the above club held its first meeting since its foundation on the outskirts of Flores, over a flying kilometre far from ideal for motor cycle racing. The road was of a very loose surface with about a couple of inches of dust in places. There were twelve events in all, ten for motor cars and two for motor cycles. The motor cycle events were—one for machines up to 3½ h.p., and the other for machines of any power. No names are given, as they would not interest our readers, but the machines entered for the first race were—3½ h.p. Peugeot (three machines), 3½ h.p. F.N. (two machines), 3½ h.p. Brown, 3½ h.p. Humber (Roc two-speeds), 3½ h.p. Triumph, 3½ h.p. Alcyon, 3½ h.p. G.B., and 1½ h.p. F.N. The results were: 1, 3½ h.p. Humber (Roc two speeds), time 36½s.; 2, 3½ h.p. Peugeot, 45½s.; 3, 3½ h.p. Alcyon, 47s.; 4, 3½ h.p. F.N., 48½s.; 5, 3½ h.p. F.N., 49s. The entries for the second race were—5 h.p. Peugeot (three machines), 7 h.p. Peugeot (two machines), 5 h.p. Pierce (four machines), 5 h.p. Brown, 5 h.p. Vindec, 5 h.p. F.N., 5 h.p. Bianchi-Peugeot, and 12 h.p. Buchet. The results were: 1, 7 h.p. Peugeot, time 35½s.; 2, 5 h.p. Peugeot, 38½s.; 3, 7 h.p. Peugeot, 38½s.; 4, 5 h.p. Pierce, 40½s.

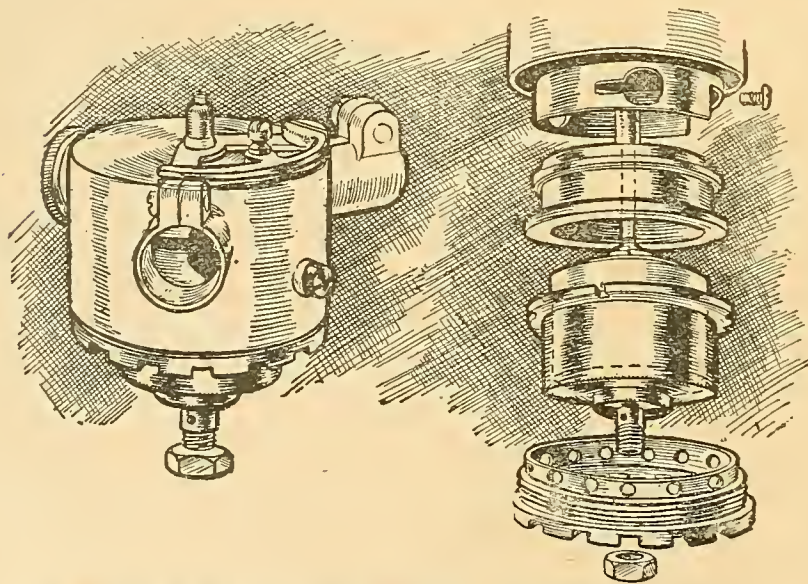


The 1910 standard pattern Triumph with low compression 85×88 mm. engine. Two other models were shown at the Stanley—one with a free engine hub plate clutch (described in *The Motor Cycle* of November 3rd), the other the Tourist Trophy model.

Among the Accessories at the Stanley Show.

ABINGDON-ECCO, LTD., Tyseley, Birmingham.—Here were shown examples of the well-known King Dick spanner, including the little baby King Dick model, which seems to be favoured by motor cyclists. A new adjustable spanner called the Ecco was also shown, being rather cheaper in price.

ASTON MOTOR ACCESSORIES CO., LTD., Birmingham.—The principal display on this stand was of the well-known Amac carburetters, which were fitted to a number of machines in the show. The special features of this carburettor are concentric sleeve, throttle and extra air inlets, and also the variable jet, described recently in *The Motor Cycle*, page 784. One of these carburetters was shown designed for two-stroke engines, and was fitted with an additional extra air valve besides the usual one fitted to the standard type. An ingenious little fitment shown on this stand was a petrol cock, which is fitted with two delivery pipes from the tank, one of which is raised a pre-determined distance above the bottom of the tank. The tap in normal running permits the petrol to flow through this pipe, but as soon as the petrol drops below the level of the orifice of this pipe the supply ceases. By this means the rider is informed that he has come almost to the end of his petrol, for the other pipe, which is thrown into action by turning the tap to a different point, allows him to run, say, ten or fifteen miles more, during which period he has to replenish his tank.



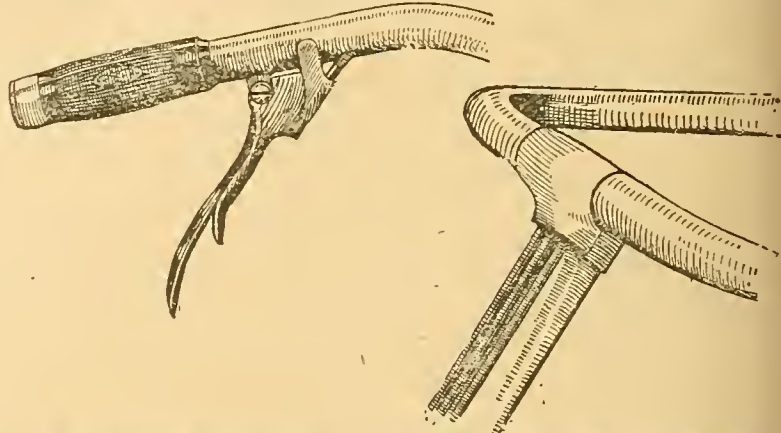
Two views of the new Moto-Reve carburettor. The right view shows it dismantled by undoing the one lock ring at the base.

THE BOSCH MAGNETO CO., LTD., Store Street, W.C.—This company had a good display of the various patterns of Bosch magnetos, plugs, etc., which are too well known to our readers to require any detailed description now. The latest pattern Bosch magneto for motor cycle use is fitted with ball bearings.

BRAMSON AND CO., Stoke Newington, N.—The chief feature to be seen on this stand was the Home Garage sidecar, which is attached in the usual way, and to all outward appearances is very much like the ordinary sidecar. By undoing a clip adjacent to the sidecar wheel on the main axle, loosening two bolts and two lugs attached to the outer longitudinal member of the frame, folding up a telescope tube attached to the sidecar axle, and inserting a small pin to prevent it dropping back into place, the chair may be lifted up, swung round,

and placed on the luggage carrier of the machine. After undoing two clips on the axle, the inner tube, which is telescopic, may be withdrawn a few inches, when two joints are revealed, and the sidecar wheel may be lifted up and the axle hooked to the carrier or any convenient portion of the frame, with the result that the whole attachment is folded up into a space not exceeding 23 inches. For those who have limited garage accommodation the attachment offers special attractions. A large double-seated trailer was also shown.

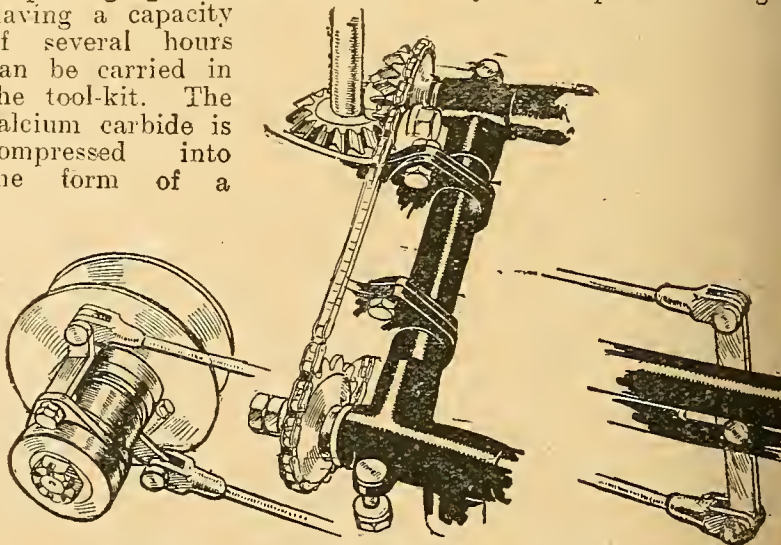
E. M. BOWDEN'S PATENTS SYNDICATE, LTD., Gray's Inn Road, E.C.—There were few machines in the show which



A new Bowden handlebar, the feature of which is that the wire mechanism is concealed in the tubing, while the levers have their fulcrums permanently attached. Two operations are performed by means of an improved quick movement twist handle grip.

were not fitted with one or other of the types of controls in which E. M. Bowden's Patents Syndicate specialise. On their stand in the show were staged all kinds of control levers and Bowden wire mechanism for operating carburetters, free engine pulleys, brakes, and suchlike. The Bowden Clean handle-bar solves the problem of protruding wires to which some riders object. A new type belt rim brake has been introduced, operated either by means of a pedal on the footrests or by back-pedalling.

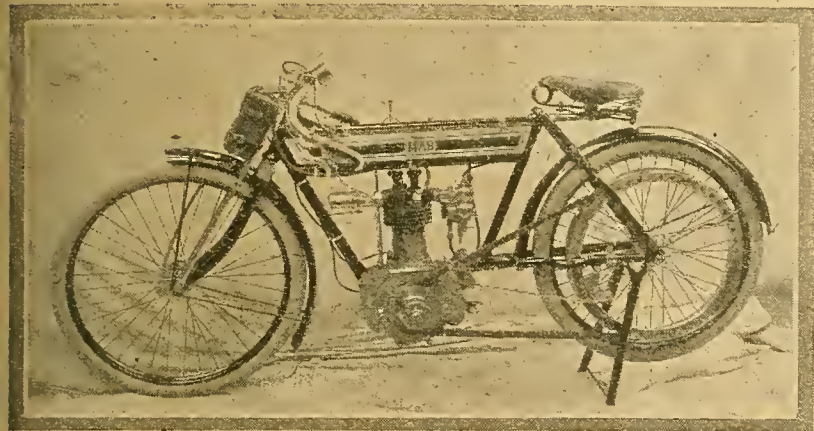
BRITISH AND COLONIAL MFG. CO., LTD., Columbia Road, N.E.—On this stand were displayed Calci-Blocks—a new form of putting up carbide in such a way that spare cartridges having a capacity of several hours can be carried in the tool-kit. The calcium carbide is compressed into the form of a



The new method of controlling the Zenith Gradua gear by means of a vertical rod and handle above the top tube, which operate the chain wheels shown and expand or contract the engine pulley.

Among the Accessories at the Stanley Show.—

thick disc, and is covered with damp-proof paper. When it is desired to use the Calci-Block, this paper is torn or pierced. The Calci-Block has a hole through the middle, which fits on to the tubular portion of the container of most



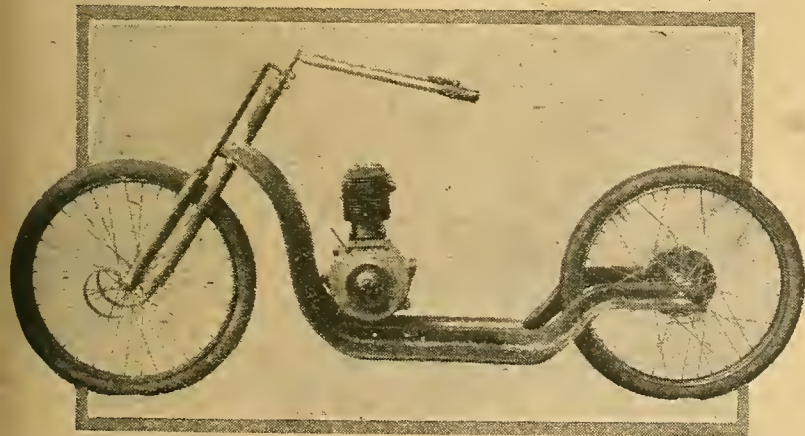
The M.A.B. racer with J.A.P. engine, battery ignition, and Amac carburettor, exhibited by A. G. Fenn & Co.

motor cycle acetylene generators. Another useful little speciality which was shown was a padded cover for motor cycle saddles, which, it is claimed, is so constructed and fixed that it cannot possibly slip.

J. B. BROOKS AND CO., LTD., Birmingham.—Brooks's saddles need no introduction to readers of *The Motor Cycle*, for they are seen at any gathering of motor cyclists. A special aeroplane saddle or seat fitted with a back rest will interest riders who are in the habit of taking long runs. We noticed that the large flat type of seat which was introduced about two years since is now made with a padded top, which no doubt adds materially to the comfort. A particularly large leather luggage carrier was shown, capable of holding quite a quantity of clothing, etc., and, in conjunction with the pannier bags made by this firm, touring should be made all the more pleasurable.

BROWN BROS., LTD., Great Eastern Street, E.C.—Motor cyclists who are interested in coaster hubs as applied to motor cycles should make a point of asking the firm for details of the New Departure hub, which was shown last week for the first time in England. It is evident that the makers have grasped the essential features necessary for the work entailed, and maybe we shall in the future, witness its adoption by English motor cycle manufacturers. The brake band, which, of course, is contained in the hub, is of the expanding type, metal to metal, its diameter being 2½ in. and width ½ in., which should ensure powerful action. The whole of the internal mechanism of the hub can be dismantled without the aid of any tools. Ball retainers are fitted, the balls themselves being ⅜ in. diameter.

G. A. CLAUS, Mortimer Street, W.—The Unterberg and Helmle magnetos were the leading feature of this exhibit. They are fitted with an entirely new form of contact breaker which does away with the usual bell crank lever, and it is claimed does not require any adjustment. This desirable feature is accomplished by using a flat spring which carries a platinum point normally bearing against the usual con-



Among the novel features introduced for 1910 by the makers of the Roc motor cycle is a pre-set steel open frame, forming platforms for the rider's feet, as well as a mud shield for the front wheel.

tact. An extension of the armature-shaft carries a semi-circular piece of fibre, which, as it rotates, bears against the flat spring and breaks contact. There is nothing in this device to get out of order, as there are no loose parts at all, and it is claimed that it is unbreakable.

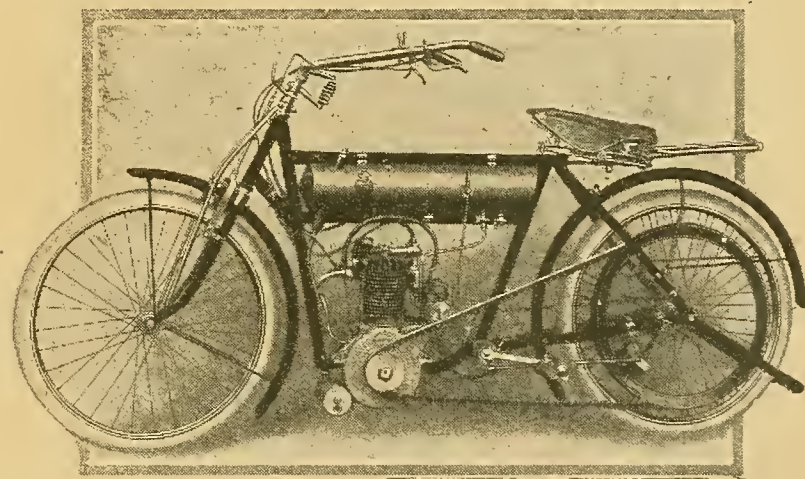
CLISSOLD MOTOR CO., Stoke Newington, N.—The above company were exhibiting a mechanical non-skid device consisting of two rubber-tyred wheels on a transverse bar, brought into contact with the ground by means of a special twisting handle.

COUNTY CHEMICAL CO., LTD., Chemico Works., Bradford Street, Birmingham.—On this stand were displayed a variety of the Chemico specialities, notable among which is a new form of tyre stopping for repairing cuts and gashes in outer covers. A number of samples of Chemico oil, carbide, enamel, etc., were also exhibited.

COVENTRY CHAIN CO. (1907), LTD., Coventry.—The Coventry chains for motor cycle transmission are made with solid bushes in ⅝ in. by ¼ in., ⅝ in., and ¾ in. pitch. The bushes are glass hard.

COVENTRY PLATING AND PRESSWORK CO., LTD., Coventry.—A patent front mudguard was shown by this Midland firm, which will appeal to all motor cyclists. It has side extensions towards the bottom, and is of good width at the extreme end. It should effectively prevent mud being thrown on to the rider's feet. We noticed several examples of petrol tanks bearing the names of leading firms in the industry. Belt rims were also exhibited in various sizes.

COWEY ENGINEERING CO., LTD., Kew Gardens, S.W.—The Cowey speedometer has not been altered externally since we described it in *The Motor Cycle* of June 30th. We have used one of these speedometers for many hundreds of miles, and have nothing but praise for it. A speedometer is a



2½ h.p. Alldays, the engine of which is carried very low down in the frame. Spring handle-bars are fitted to this machine in lieu of spring forks.

most interesting accessory, and few motor cyclists like to be without one after once being used to watching the ever-varying speeds at which they travel uphill and down dale. The dial of the speedometer is white, with black figures, but the mileage indicator is finished with white figures on a black background. The method of transmission has been improved, and is now much less obtrusive, as the flexible shaft has been considerably reduced in diameter. The same method of gear driving from the front wheel is used.

COX AND CO., Erskine Street, Leicester.—A patent anti-splash petrol filter for screwing into petrol tanks for use with motor cycles.

EAST LONDON RUBBER CO., Great Eastern Street, E.C.—A very large assortment of accessories were staged here. Amongst them we noticed the 1910 Mabon multiple disc clutch and free engine, Powell and Hanmer lamps, long handle-bars, accumulators, carburettors, etc. The Kerry motor cycle stand, shown for the first time, is interesting, as its action is different from anything else of its kind on the market, the legs swinging from vertical to horizontal positions, and held in each case by a small spring operated by a trigger. Round rubber studded tyres, which are gaining favour every day, were shown, the particular tyre on view being known as the Kerry.

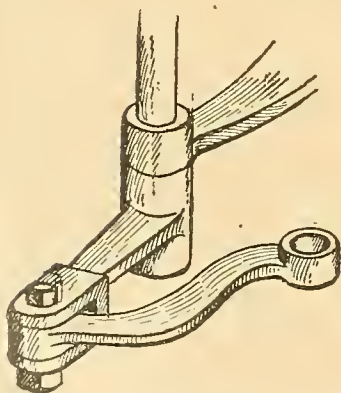
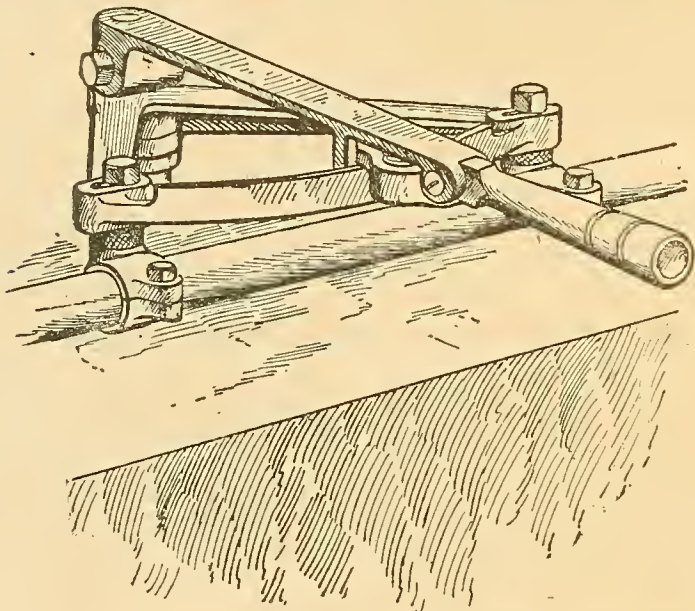
Among the Accessories at the Stanley Show.—

C. A. EDGAR, 125, Holloway Road, N.—The name of Vivid sidecars will be new to readers. The Vivid was shown for the first time at the Stanley, but possesses no new features. It is a substantially built attachment of the fixed or rigid type. As in the case of all up-to-date sidecars, it is readily detachable. In fact, it is but a matter of three minutes or so to either detach or attach the sidecar.

ELEPHANT CHEMICAL CO., LTD., Camberwell, S.E.—The Alexander accumulator fitted with patent non-sulphating grids was shown in various sizes from twelve amperes upwards. These accumulators are fitted with celluloid caps which screw into position. Tyre stopping known as Vulstop was shown, as also the Alexander cold vulcanising fluid for superseding vulcanising. With this speciality it is only necessary to solution the patch in the ordinary way, and when tacky brush a coat of the patent liquid over the solutioned patch and attach to the tube. The firm's cylinder oils, carbide, solutions, and outfits are well known. An interesting little patent is the Cert puncture marker and locator. This consists of a small metal device containing French chalk which is placed on the inner tube. The air escaping from the puncture blows the chalk away, so locating the spot where the leakage is taking place. Amongst the oils is a special magneto oil put up in half pint tins.

FASTNUT, LTD., Aldermanbury, E.C.—Fastnuts—the well-known automatic lock-nuts for use on motor cycles and other machines subjected to vibration.

GOUGH AND Co., Icknield Square, Birmingham.—Here we noticed a motor cycle saddle which is of special interest, for



Change-speed lever and quadrant on the Chater Lea three-speed motor bicycle for sidecar work described last week.

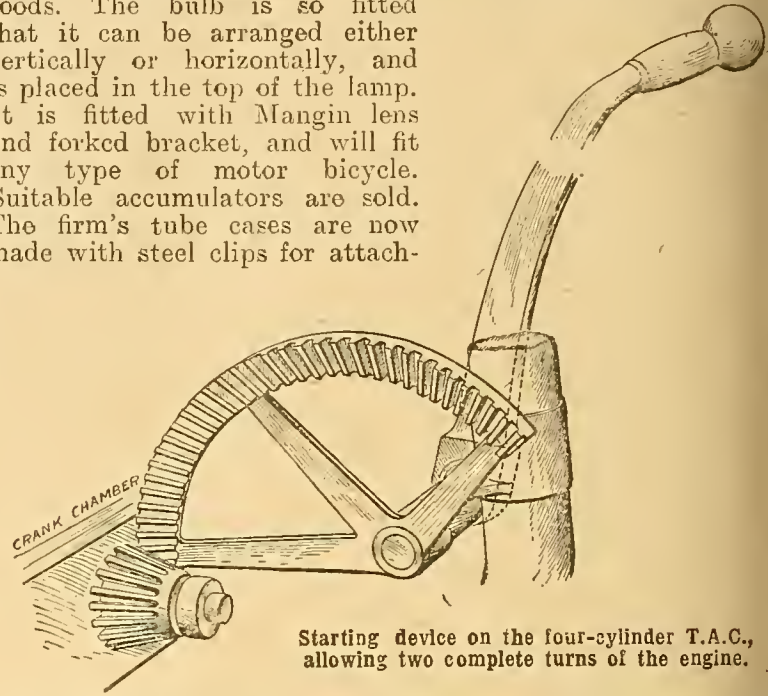
in addition to the ordinary coiled springs at the back there are two horizontal springs working in compression on horizontal slides. These springs have a dual duty, one being to maintain the tension of the leather; the other acts as a shock-absorber.

HANOVER RUBBER Co., Old Street, E.C.—The well-known Shamrock-Gloria belts were shown in a new and slightly improved form. The grooves are now carried higher up on the edges of the belt, and thus give it increased flexibility. A new type of detachable fastener has been introduced.

J. HORNER AND Co., Store Street, W.C.—The patent Jack-no-skid. This device consists of a couple of forks attached to the frame tubes of the motor cycle, and provided with a pedal-actuated operating mechanism, which causes the small rubber-tired wheels which are carried on these forks to be pressed down on the ground, thus forming a non-skid. Normally, the rubber-tired wheels are held completely off the ground, but in addition to being used as

a non-skid, by means of a simple lever arrangement, they can be made to take very full extension, when they serve also as a stand.

W. AND R. JACOBS, Lower Thames Street, E.C.—A new electric head lamp is an addition to this firm's electric goods. The bulb is so fitted that it can be arranged either vertically or horizontally, and is placed in the top of the lamp. It is fitted with Mangin lens and forked bracket, and will fit any type of motor bicycle. Suitable accumulators are sold. The firm's tube cases are now made with steel clips for attach-



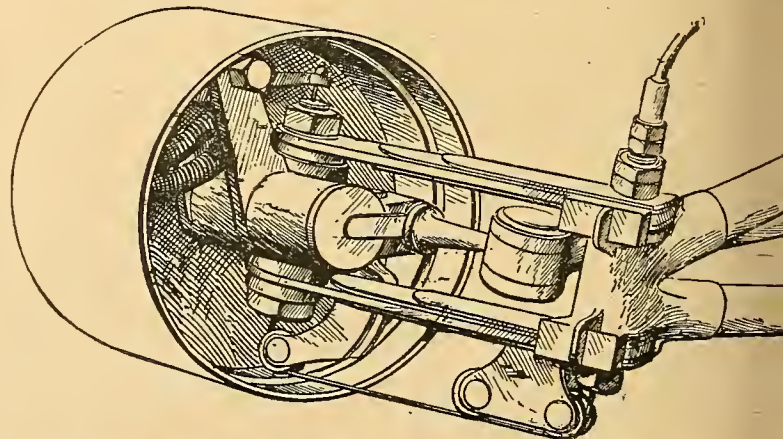
Starting device on the four-cylinder T.A.C., allowing two complete turns of the engine.

ing them to the sides of the carrier. White's economiser, a small device for fitting to the main air intake of the carburetter to enable the amount of air passing the jet to be varied, was shown. It is so arranged that it can be fitted to almost any type of carburetter. Belt punches, handle-bar switches, electric wire terminals, sparking plugs, Radiolene for painting cylinders, waistcoat pocket adjustable spanners in leather case, voltmeters, and an Advance adjustable belt fastener were amongst the many small exhibits shown. A handle-bar electric lamp was also exhibited, the lamp having a swivelled joint in order that the light may be directed to any desirable point, such as speedometer or watch. It has already been illustrated in these pages.

W. A. KING, Edmund Street, Birmingham.—Motor cyclists will remember the Luthi sparking plug. This was shown under the new name of Edco; also small steel bolts, nuts, valves, nipples, tyre security bolts, etc.

LAKE AND ELLIOT, Braintree, Essex.—Amongst other accessories, comprising carriers, stands, etc., was shown the Millennium new two-speed gear and free engine for motor cycles. This is all contained in the hub, and is operated by pedal. A free engine is afforded, and on the top gear the drive is direct.

LYCETT SADDLE AND MOTOR ACCESSORIES Co., LTD., Bromley Street, Birmingham.—As is well known, leather goods are the speciality of this firm. Saddles, toolbags, belts, inner tube cases (either in combined form or separate), carrier bags, pannier bags, etc., were amongst the goods displayed. All the toolbags are now lined with a special fibrous material which considerably strengthens them, and ensures the bag always keeping their shape. The special B. model can



Front wheel suspension of the 1910 James motor bicycle on laminated springs, showing also the exceptionally wide internal expanding hub brake.

There are others, BUT

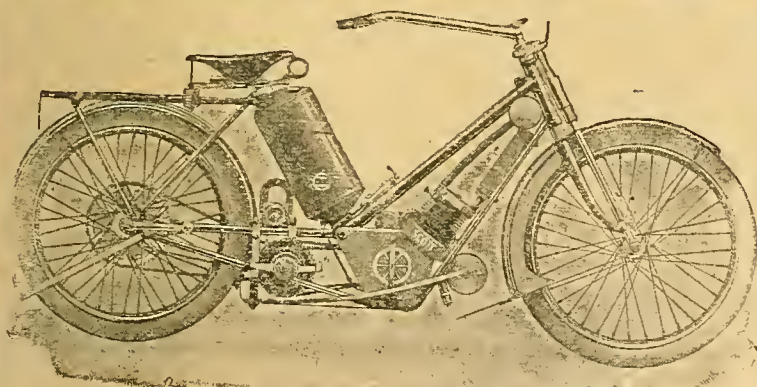
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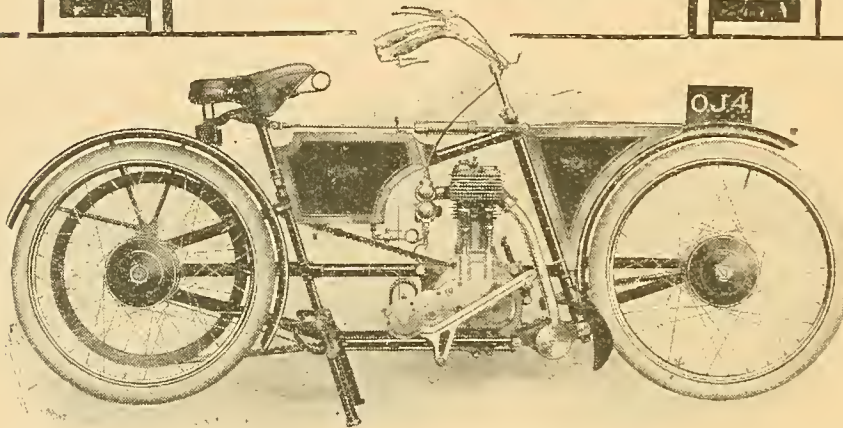
3½ H.P. MOTOR CYCLE.

The outcome of a couple of years' exhaustive practical tests, embodying much that is new and progressive in motor cycle design & construction

A FEW OF THE MANY SPECIAL POINTS ARE:

- A.—The frame has been designed to bring the rider as low as possible, consequently minimising the tendency to skid, common to all single-track vehicles.
- B.—The wheels are both mounted on live axles, and can be removed by unscrewing the lock nuts. The wheels being entirely open on one side, tyres or tubes can be changed without removing the wheels or unscrewing a single nut.
- C.—The magneto is mounted immediately behind the engine, so that mud cannot reach it, and the positive gear drive running in an oil bath, ensures perfect timing of the spark with no risk of broken chains.

NINETEEN TEN'S BEST.



— FULL OF POINTS — EVERY POINT A GOOD ONE.

- D.—The springing is more effective, all vibration being absorbed by the anti-vibrator on the front wheel end the large suspension spring on which the saddle is mounted, which is adjustable to any weight.
- E.—Patent hubs are used, the outer shells of which are open on one side, providing ideal conditions for internal expansion band brakes. The front brake is hand-applied, and the rear by means of a pedal, either brake being amply powerful to control the machine under all conditions.
- F.—The stand being only ten inches long, is particularly firm and rigid, and is entirely automatic in action, being self-locking in both positions.
- G.—The cradling of the engine has the additional tie provided by the two tubes on either side.

Price £48 net cash.

Write for copy of art catalogue, free by return.

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"Worthy of the firm's long record."

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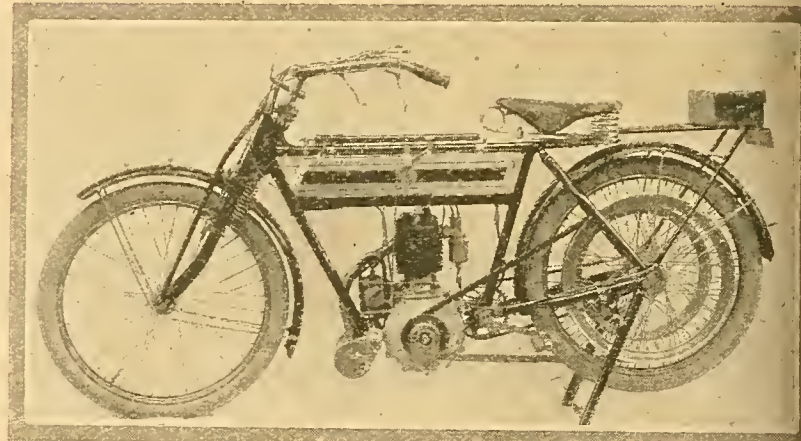


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EXCELSIOR

MOTOR CYCLES

For 1910.



THE EXCELSIOR 3½ H.P. MODEL.

This our principal model for 1910 contains many special features, including "Druid" Spring Front Forks, Bosch Magneto, Brown & Barlow Carburetter, and Rubber Studded Dunlop Tyres. The tank is provided with hinged stoppers and a float petrol gauge. There is a flexible pipe between tank and carburetter. The mudguards are extra wide, and an excellent stand and a good carrier are provided. The machine is one which embodies the fruits of our long experience, and will appeal strongly to the practical motor cyclist. Let us send you catalogue with full details and address of nearest agent.

BAYLISS, THOMAS & CO.,
EXCELSIOR WORKS, COVENTRY.

F.H.G.

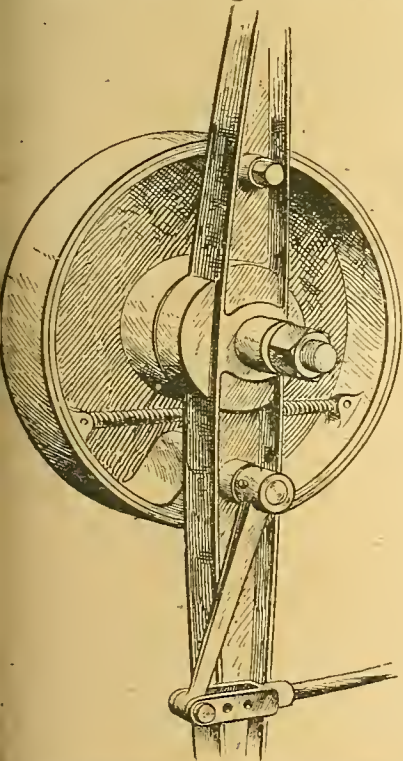
Among the Accessories at the Stanley Show.—

are fitted with either a tool roll inside, or two small bags on the outside. Another bag is the Model S., this being shaped to fit in the back carrier. Those who tour considerably will be interested in the Lycett Fit-out, which consists of a large case, which is placed on the top of the carrier and two pannier bags, one on each side. These are made in waterproof tweed material bound with leather. The tubular stand shown is a useful accessory made with adjustable clips to enable it to be fitted to any type of machine. The latest pattern of Lycett Compo. rubber belt is particularly interesting; it has transverse grooves formed at the top and also underneath, thus ensuring a high degree of flexibility. The sides of the belt are formed with small recesses spaced about an inch apart, the idea being to give a better grip to the pulley. A back wheel stand was exhibited, this being so constructed that it automatically springs up out of action when the machine is moved forward. We noticed that a padded saddle was shown for the first time, Model L30 La Grande; the adjustment screws being placed at the back, where they can be readily adjusted.

H. MILLER AND Co., LTD., Birmingham.—This firm, who are noted for their high-grade lamps, have produced an entirely new model for motor cycles, which from inspection appears to be remarkably cheap, considering its quality and appearance. The generator has a bracket of novel design to enable it to be attached to the top tube of the machine. A superior model is also made in aluminium, this having a genuine Mangin mirror lens. We noticed that the burner is adjustable, so that the flame can be set in relation to the lens to produce the best results. Unlike many lamps, the front and body as far as the back frame is made in one piece, so that when the lamp is opened the lens is quite exposed.

J. A. PHILLIPS AND Co., Credenda Works, Birmingham.—Two specialities appealing to motor cyclists were shown here, one being a front rim brake of the pull-up lever type and with detachable stirrup and pads; the other a strong pedal with either felt or rubber blocks.

POWELL AND HANMER, LTD., Chester Street, Birmingham.—This firm's motor cycle head lamp is too well known to need describing in detail here. No alterations have



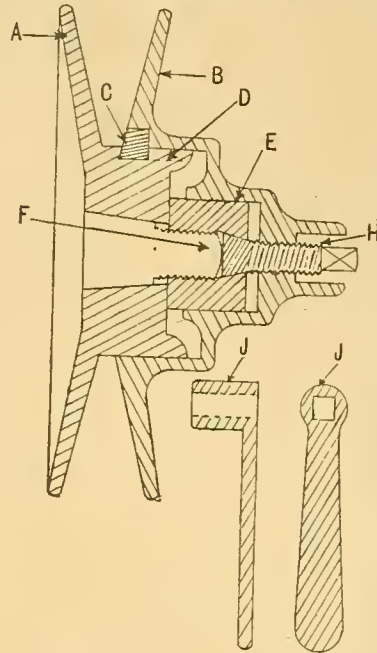
Expanding brakes on front and back wheels of the four-cylinder T.A.C. The sketch shows cover removed.

been found necessary, but it is made in two distinct models, one being of a self-contained type, and the other with separate generator. Two kinds of clips are supplied, one to fit on the handle-bar and the other on an ordinary flat bracket. These were shown so arranged that the generator could be set to any desired position.

THE SERVICE Co., High Holborn, W.C.—Besides the large exhibit of complete motor bicycles in the Main Hall, this company had a large exhibit of accessories of every conceivable nature, amongst them being the new Amac carburetter with variable jet. We noticed several useful designs of generator brackets which can be fitted to the top tube or handle-bar, and can be set at any angle. A handle-bar was shown on which was fitted samples of the many articles that

are used nowadays by motor cyclists, such as speedometer, mirror, electric lamp, watch, etc. The company also cater for motor cyclists' clothing, numerous designs and patterns in gloves, with and without gauntlets, caps with ear flaps, leather waistcoats with long sleeves, scarves, and goggles. Amongst the gloves is the Asbestol model, which is made of horse hide, mineral tanned, and guaranteed to remain soft and pliable under all conditions. Other articles on view were a special motor cycle coat made of frieze, the

sleeves being fitted with wind cuffs, and a pair of trouser waterproof overalls with an extension piece at the top so that the front of the rider is protected right up to the waist. The Quick adjustable pulley, made by Messrs. Chaplow and Sons, engineers, Kendal, was exhibited by the Service Co. It is an invention which cannot fail to appeal to the practical motor cyclist. The accompanying sketch shows clearly how the pulley is constructed. It consists, as will be seen,



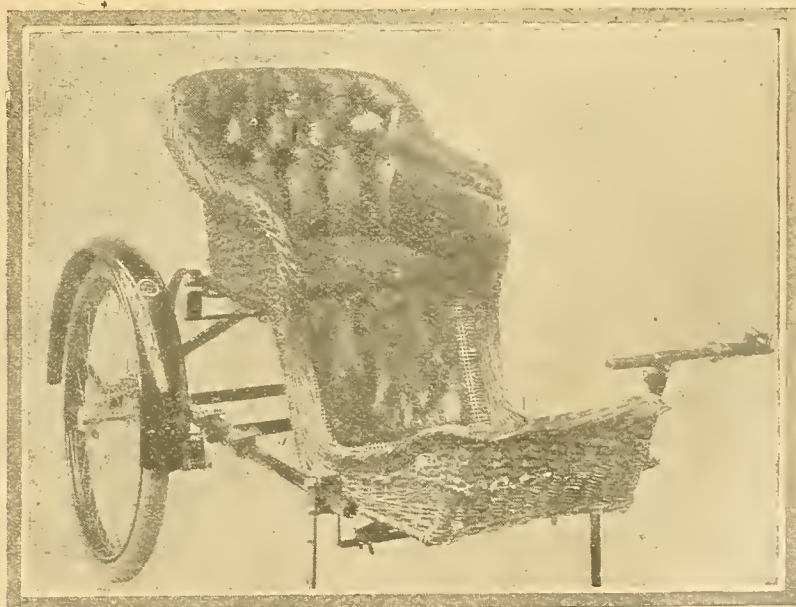
The "Quick" Adjustable Pulley.

- A. Fixed flange.
- B. Movable flange.
- C. Key.
- D. Keyway.
- E. Circular securing nut.
- F. Main shaft
- G. Screwed conical pin.
- J. Spanner.

of very few working parts, all of which are well protected. The special spanner J is small and light, and can be carried conveniently in the pocket, while to alter the adjustment is exceedingly simple, as there is no need either to remove the belt or even to rest or jack up the machine, as the movement can be effected by one hand, which is held still, gripping the spanner, while the machine is wheeled either slightly backwards or forwards. The action of the device is, in a few words, to bring the movable flange B nearer or farther away from the fixed flange A by turning the adjusting screw H, which has a taper end fitting into a hollow cone at the end of the nut E, by which the pulley is attached to the mainshaft F. The drive is taken by the feather C sliding in the keyway D. In our opinion, the device would be improved by fitting a dust cap over the nut H to ensure the threaded part being protected from mud and dust.

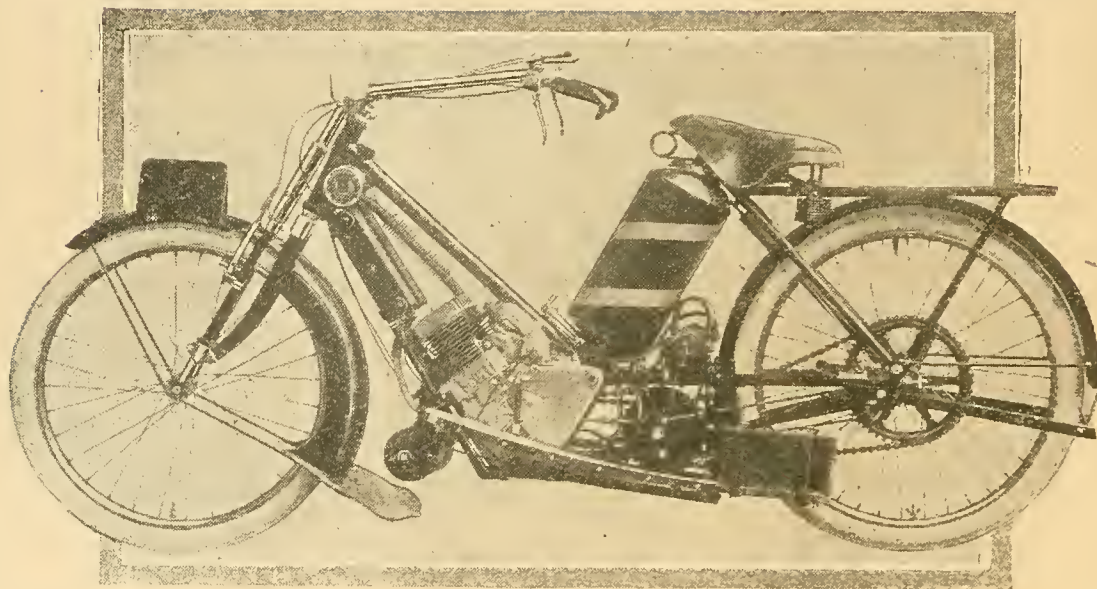
STANLEY FEAST AND Co., Walworth, S.E.—This firm has several new and interesting novelties for 1910. Chief amongst these is a wing plaster, which has a triple advantage, in that it can be vulcanised, fixed with ordinary solution, or is available for temporary repair while dry. This plaster is made to go inside the cover. Of course, the firm's well-known S.F. repair band is still made.

STEINER AND Co., Great Eastern Street, E.C.—The chief attraction for motor cyclists on this stand was the Hella acetylene gas headlight. The top of this lamp is now made in one piece and riveted, instead of soldered. The heat from the gas jet can therefore have no damaging effect. Riders of lightweight machines will be interested in the Prince of Wales lamp and separate generator, which is a miniature edition of the standard Hella headlight.

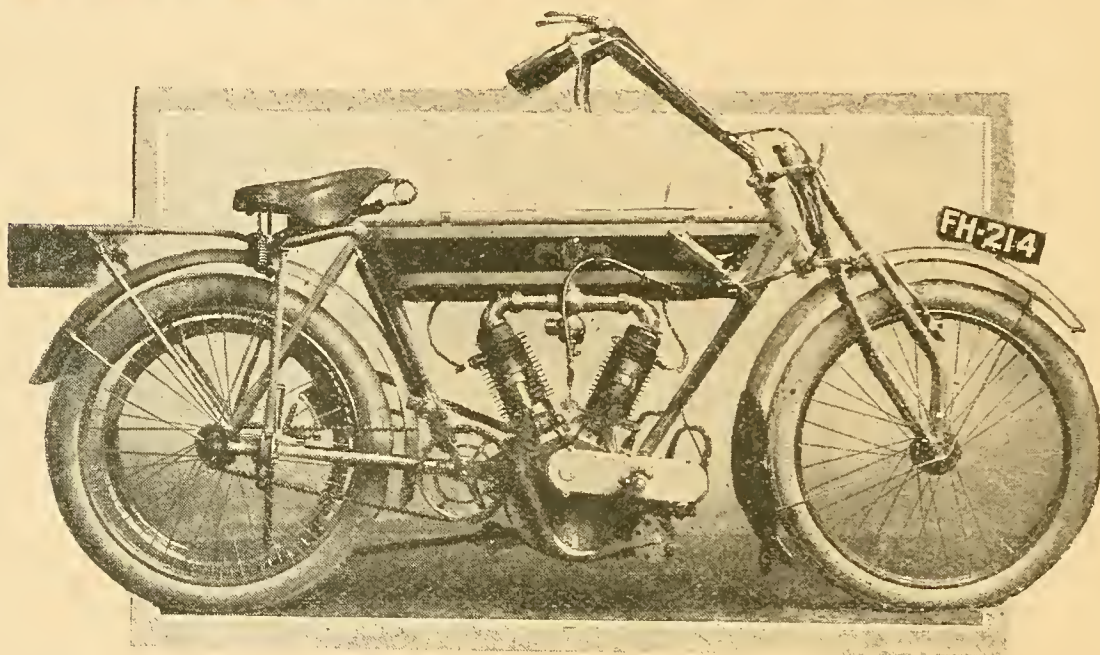


The latest pattern Montgomery spring-wheel sidecar. Flat leaf springs are employed, supported in shackles, and there is another leaf spring under the foot of the carriage.

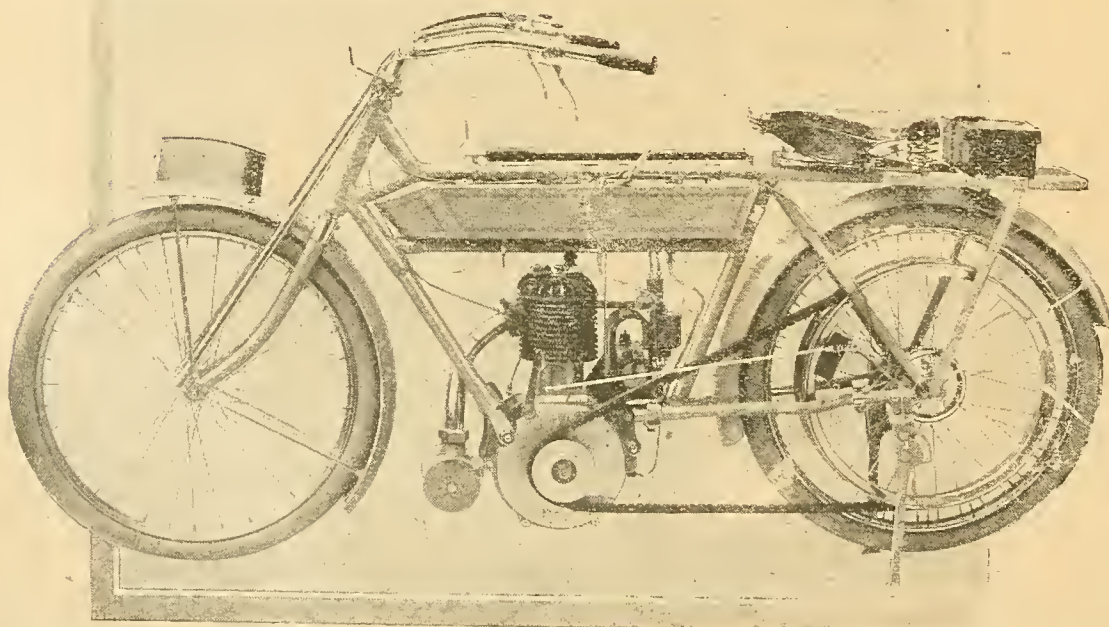
SOME 1910 MODELS AND



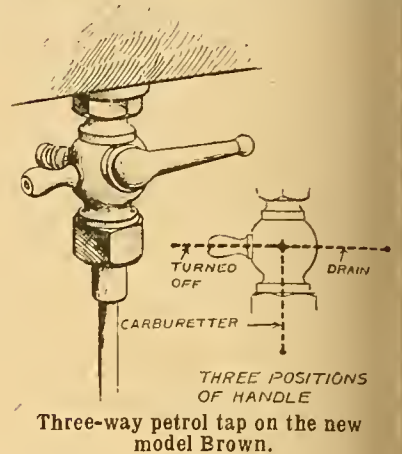
The much-talked-of two-stroke, two-cylinder, two-speed Scott, shown for the first time at the Stanley. It must be admitted that there is an irresistible fascination about this cleverly-designed machine. Its main features were described on page 923 last week.



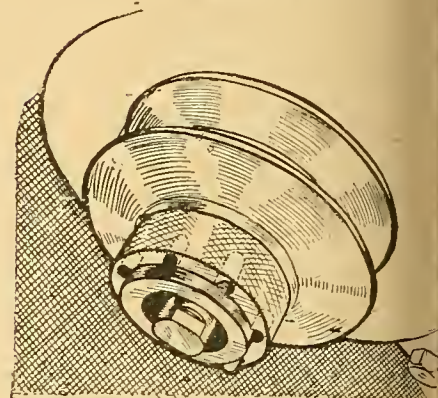
7 h.p. twin-cylinder a.o.i.v. Matchless-J.A.P., with spring forks, magneto, and new Amac carburetter. A number of makers have adopted the position shown for the toolbag.



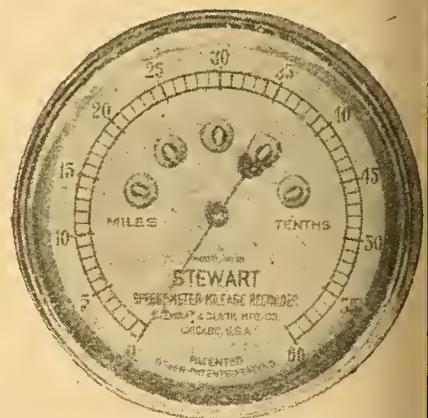
The all-British Arno, a well-designed motor bicycle of sound construction. The m.o.i.v. engine measures 85 x 90 mm. Spring forks and footboards are optional.



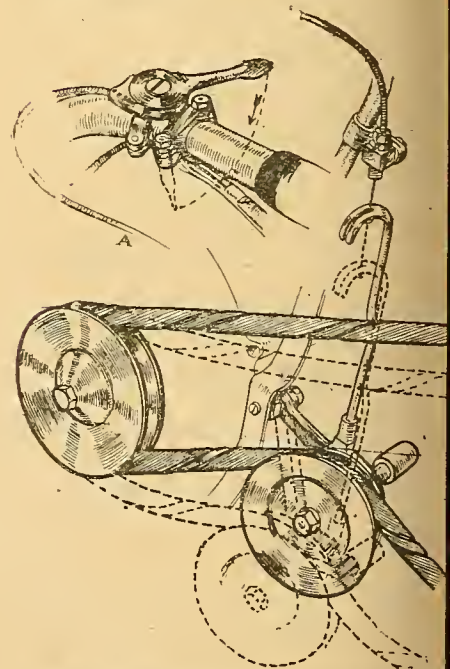
Three-way petrol tap on the new model Brown.



The Premo adjustable pulley fitted to the two-stroke Premo.

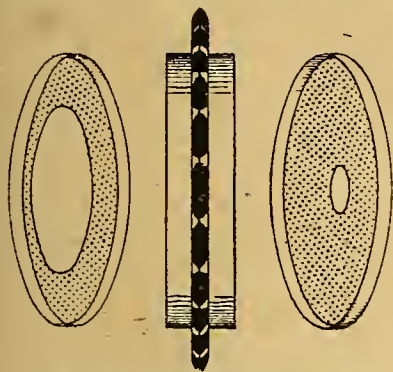


The Stewart motor cycle speedometer and mileage recorder. It is a marvel of cheapness.

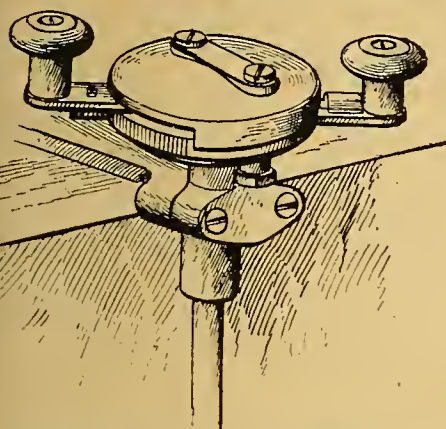


The Motosacoene free engine device. The lever on the handle-bar lowers the jockey pulley by means of a wire, thus permitting the belt to slip.

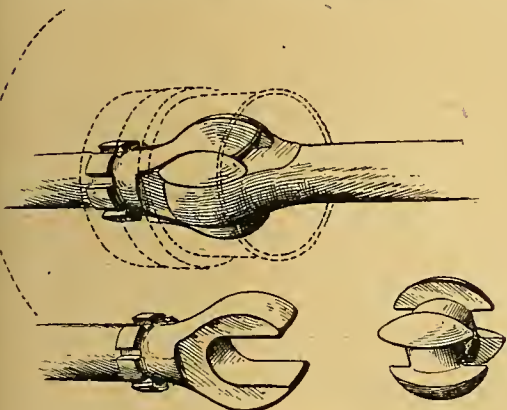
NOVEL FEATURES OF DESIGN.



Detachable felt-lined steel covers on each side of the free wheel fitted to the Douglas. They are intended to exclude dust or dirt.



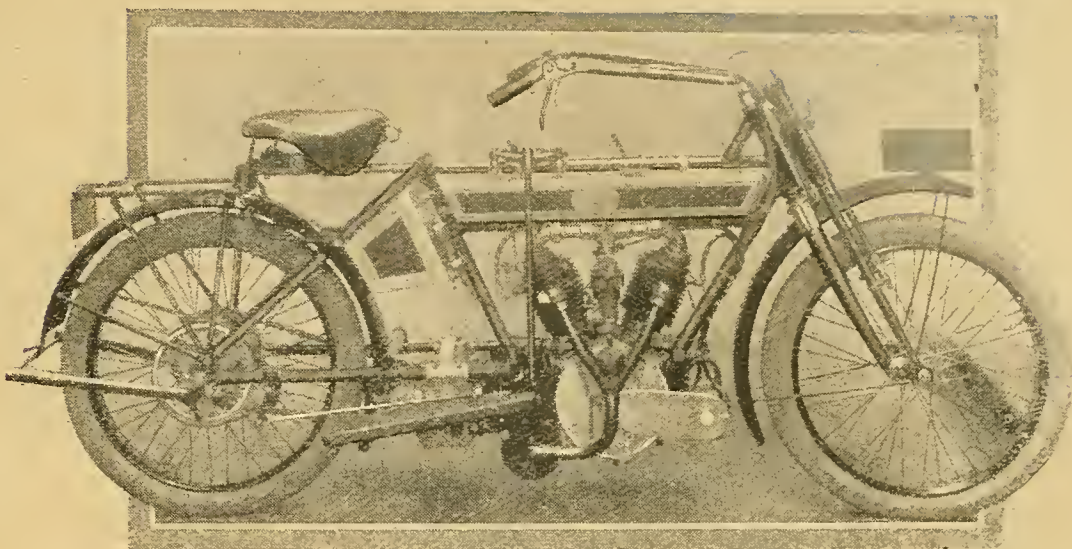
Throttle and air control fitted to the top tube of the Wanderer motor bicycle.



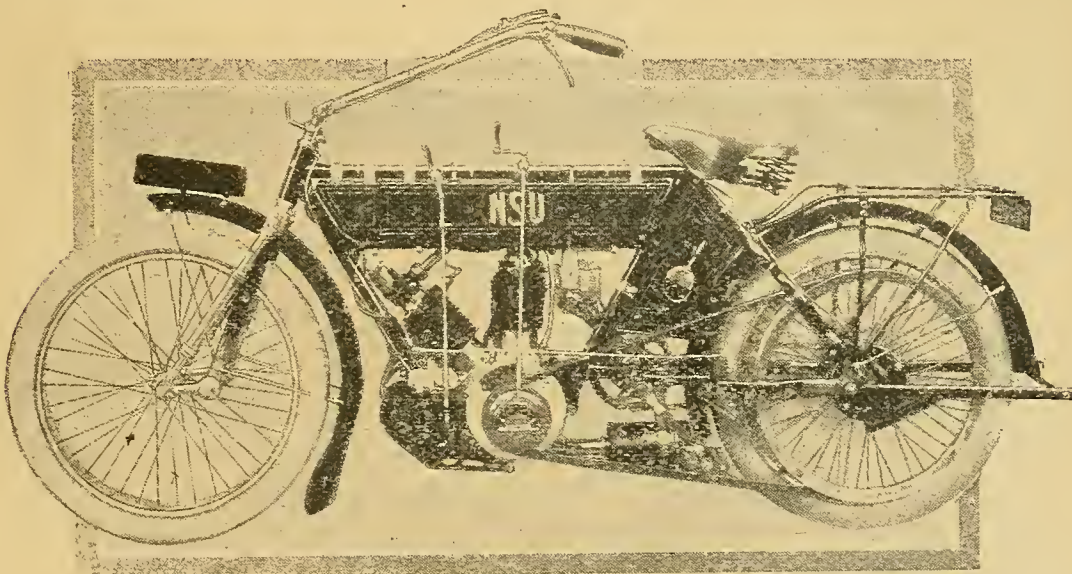
Universal joint, gear-box end of propeller shaft on T.A.C. motor cycles



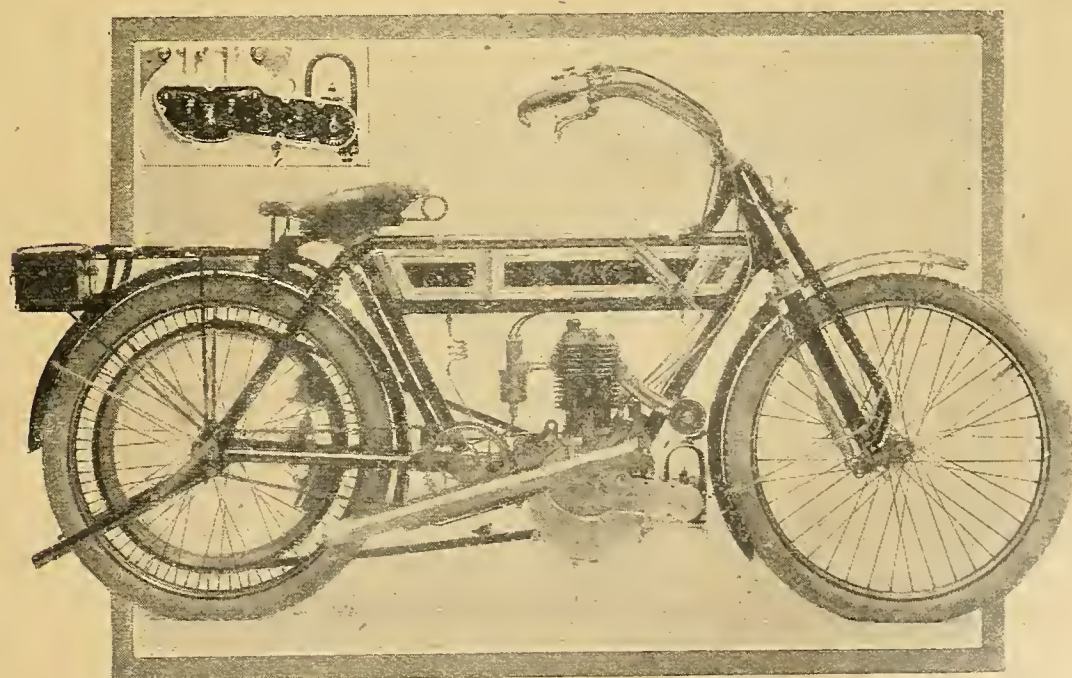
Since we illustrated the 1310 3 1/2 and 3 3/4 h.p. Premiers, a short spiral spring has been fitted near the hub as an extra check for the movement of the front wheel (as shown). This should reduce a tendency for the wheel to bounce on rough roads.



Specially built for sidecar work. The three-speed chain-driven twin-cylinder Chater Lea, which should find favour among passenger motor cyclists. The special change-speed lever is the subject of another illustration in this issue.



A particularly fine example of a twin-cylinder touring machine. It is a 6 h.p. two-speed N.S.U., bore and stroke 75 x 90 mm. It will be noted that the rear cylinder of the engine is placed vertically. Its specification is as up-to-date as its smart appearance.



The clean design of the new L.M.C. will be appreciated from the above. The "footboard to push" starting method should gain for the m.o.v. L.M.C. many more admirers. Inset the magneto gear drive which runs in a dust-proof oil bath.

Among the Accessories at the Stanley Show.—

HERBERT TERRY AND SONS, LTD., Novelty Works, Redditch.—A new registration number plate has been added to the many specialities made by this firm. It is made in the ordinary flat plate type, and also the inverted V form for fitting on the mudguard front. It is provided with spring clips, so that it can be instantly attached or detached from the mudguard. The firm's hardened steel folding spanners were to be seen of various sizes. They have the advantage of fitting quite a number of different sized nuts, and yet occupy a very small amount of space in the toolbag. A box of assorted springs is a useful thing for motor cyclists to have by them, and Messrs. Terry make up a suitable box containing three dozen springs of assorted sizes. A new double-ended tyre lever has recently been introduced, its keynote being simplicity. Its length is about 7 in., and, needless to say, the material is up to the usual standard of this firm's productions. Military motor cyclists will be interested to know that rifle clips are made by this firm in many different styles.

STEWART AND CLARK MFG. CO., Charing Cross Road, W.C.—The principal exhibit on this stand was a new motor cycle speed indicator which quite touches rock bottom in price, and comprises also a milometer with an indicator reading up to sixty miles an hour. The drive is taken from the front wheel through a special form of enclosed flexible shaft. Messrs. Stewart and Clark have laid themselves out to popularise the speed indicator among motor cyclists, and at the price their indicator is sold they should meet with the success they deserve.

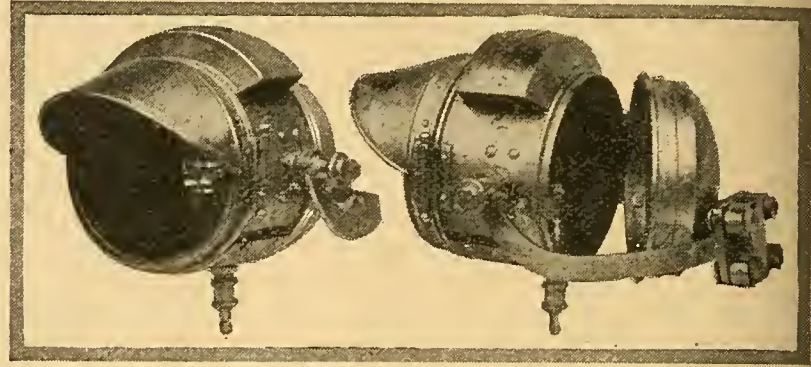
A. G. TAYLOR AND CO., Great Pulteney Street, W.—Here was shown the well-known Quick Grip spanner, consisting of a pair of pliers with a special arrangement for securely holding nuts. This useful accessory is too well-known to motor cyclists to need further description.

ENGINES, PARTS, AND FITTINGS

HOBDAV BROS., Great Eastern Street, E.C.—A sample of the 6 h.p. twin-cylinder Sarolea engine was shown here, this being the very latest model, complete with high tension magneto. Its bore and stroke are 76 mm. x 80 mm. A 3 h.p. single-cylinder Advance engine was also shown, this firm being the London agents for Advance engines. The bore and stroke are 76 mm. x 82 mm. It was fitted with Advance detachable pulley, which has an instantaneous locking device. Amongst the motor cycle gas lamps was the Solar, a particularly good lamp with Mangin lens. This lamp, it will be remembered, was very successful in the lamp tests held recently by the R.A.C.

PATENT GEAR AND MOTOR CO., Bristol.—The Griffin-

TEMPLETON BROS., Glasgow.—On this stand was shown the new pattern F.R.S. motor cycle head lamp which bristles with attractive features (see illustration), together with a number of small accessories for motor bicycles, including adapters for permitting the saddle to be placed very low and far back with the aid of an ordinary seat-pillar, a Tee Bee handle-starting device, special lamp brackets, and innumerable accessories of a thoroughly practical nature.



The new Mangin lens F.R.S., a finely-finished lamp made to Mr. P. W. Blischoff's specification by S. Hall & Sons, Ltd. Observe the special hood, chimney, hinged back door, and special forked bracket.

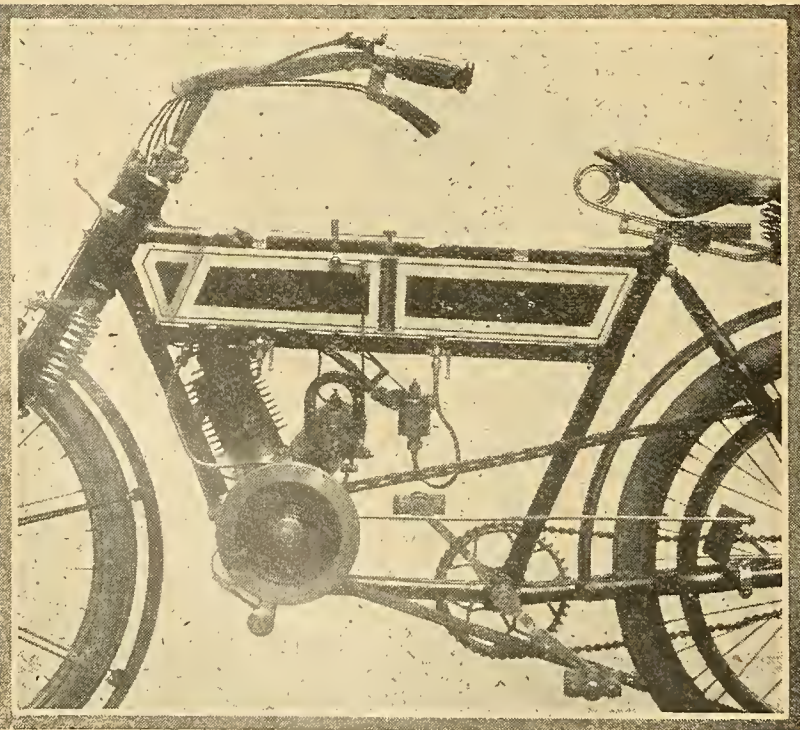
THE THAMES RUBBER AND LEATHER CO., Upper Thames Street, E.C.—Waterproof clothing for motor cyclists and the Woods patent carrier for attachment to the front forks.

A. E. WILBY, LTD., Icknield Port Road, Birmingham.—A new saddle of registered design with arched bridge piece on underframe was one of the chief attractions of this stand. The bridge piece referred to enables the saddle to be placed very low, since the underframe cannot foul the top tube, or any other part.

Simplex gear was shown fitted to a Premier motor bicycle. It is carried in a case which is bolted on the crank chamber of the engine, and consists of a two-speed gear coupled up by metal to metal friction clutches, which can either be locked up positive when desired, or slipped to any desired extent. The clutches and the change-speed gear, which also gives a free engine, are operated through a Bowden wire by a handle-bar thumb lever. This gear can be fitted to any motor cycle, runs entirely on ball bearings, and is entirely enclosed in an aluminium case.

PRICE AND CO., Rosebery Avenue, E.C.—The Ukantes motor cycle prop was one of the chief attractions at this stand. This consists of a single leg fastened to a quadrant and bracket, the latter attaching to the back stay of the frame in the usual way. This new device is in no sense a stand, but merely an auxiliary means of allowing the machine to stand by itself with a minimum of trouble. Of course, the firm's ordinary Ukantes "La Grande" motor cycle stand now well known to readers is still made. It is interesting to note that these stands are now being made for lightweight as well as heavier machines. The principal feature of this stand is its rapid action. Front wheel stands appear to be gaining in favour, and this firm's latest model is so designed that it will not in any way interfere with any spring fork attachments. The swinging half of the leg is now arranged so that it reaches no farther than the rim of the wheel. The belt remover has been somewhat modified in design, enabling the belt to be removed with greater ease than ever. Still another speciality made by this firm is a band brake. This brake can be attached to practically any back wheel of a motor bicycle, ten screws sufficing to hold it to the spokes. The brake bands take the form of long steel bands wound three times round a drum.

THE TORMO MFG. CO., Bunhill Row, E.C.—Amongst a variety of motor cycle hubs, chain sprockets, etc., were shown five examples of the well-known Sarolea engines of the following powers: 2 h.p. (66 by 72 mm.), 3 h.p. (76 by 85 mm.), 4 h.p. (66 by 72 mm.), 5 h.p. (70 by 80 mm.), and 6 h.p. (76 by 80 mm.) The principal feature of these engines is the manner in which the inlet and exhaust ports are cast, and the way in which the adapters for the inlet pipe are fitted.



Single-cylinder lightweight Wolf, with outside flywheel. It will be noticed that the magneto is wisely situated in a screened position.

Among the Accessories at the Stanley Show.—

MOTOR CYCLE TYRES.

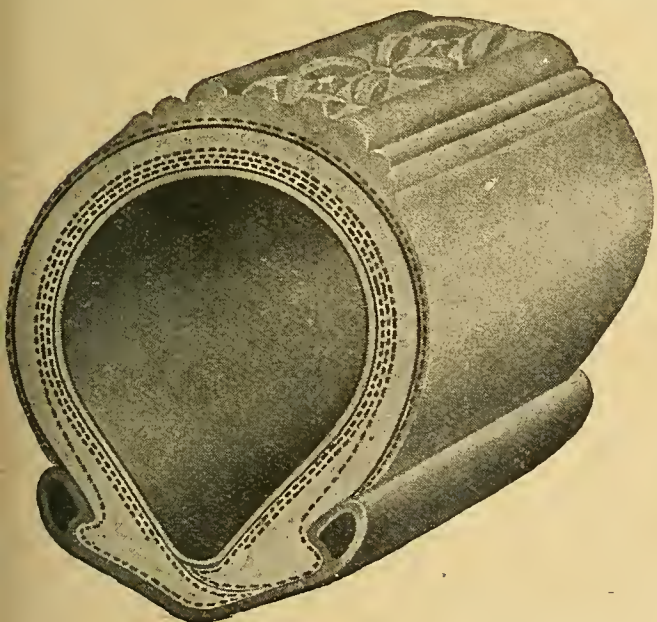
THE AUSTRO-AMERICAN INDIARUBBER MFG. Co., LTD. (of Vienna), Milton Street, E.C.—This firm showed the Estaric tyre in two forms for motor cycles with plain covers and with metal studded non-skid bands.

THE CONTINENTAL TYRE AND RUBBER Co. (GREAT BRITAIN), LTD., Clerkenwell Road, E.C.—The well-known Continental tyres, which require no description now at our hands, were shown in the following types for motor cyclists: The standard plain pattern with wired-on and beaded edge, rubber non-skid with beaded edge, and a new special metal-studded non-skid in 2½ in. and 3 in. sections to fit standard 26 in. rims. In addition to outer covers, the well-known Continental butted tubes were shown, together with motor cycle belts in various sizes.

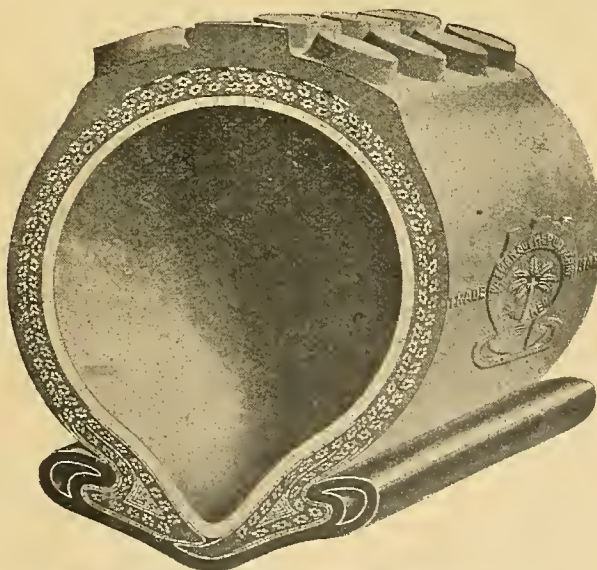
COVENTRY RUBBER Co., Coventry.—Here were shown the well-tried Three Spires non-skid tyres for motor bicycles. The principal feature of the non-slipping tread is that it outlasts the remainder of the cover. Three Spires tyres are made in various qualities, the De Luxe pattern being highly suitable for motor cycles of 3½ h.p. and over.

HANOVER RUBBER Co., Old Street, E.C.—A full range of Shamrock Excelsior motor cycle tyres were shown. These are in several forms; an all-rubber non-skid with three rows of rubber studs, a special motor cycle tyre with an armoured compressed canvas and rubber band, upon which is also mounted arrow-shaped non-skid serrations. In this tyre the armoured tread is secured to the outer cover by the middle row of steel studs. There was also shown a special form of armoured tricar tyre with a fixed leather tread and a double row of steel studs.

THE HUTCHINSON TYRE Co., Basinghall Street, E.C.—A very full range of tyres was to be seen on the Hutchinson stand. These tyres are very carefully made, fluted, in the special pattern rubber non-skid. The rubber is brought right down to the bead, so that there should be no question about the walls of the tyre being especially strong. Three grades are manufactured, the light, the heavy, and the special reinforced. The extra reinforced Brookland's type was the one used by H. V. Colver when he broke the fifty miles, one hundred miles, and two hours world's records at Brooklands last October. A neat oat non-skid tread is also being introduced for next year. This will be incorporated with the tyre used by Colver, and has been adopted as



Hutchinson extra reinforced tyre, with rubber non-skid.

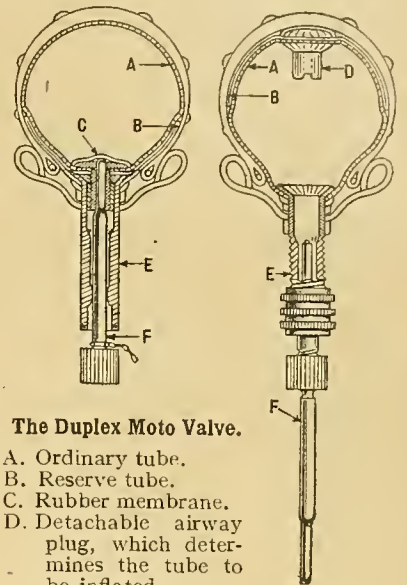


Palmer new pattern rubber studded airless cord tyre.

standard for all Matchless motor cycles for next year. The square tread is on the lines of the well-known Hutchinson square cycle tread with the name of the tyre moulded on the cover. Two other patterns complete the set of Hutchinson motor cycle tyres, viz., light and heavy roadsters. These are identical in design, but of varying thicknesses, and are made suitable for lightweight and medium weight machines. They are of the highest quality throughout

although moderate in price. In addition to outer covers the Hutchinson Tyre Co. were showing an excellent butt-ended tube, reinforced at its extremity where the tube is weakest. Great care is also taken to make the surface of the tubes rough, so that patches will easily adhere to them.

DUPLEX MOTOR AND CYCLE VALVE AND TUBE SYNDICATE, LTD., Cheltenham.—Here were shown several sizes of the Duplex inner tube, by means of which puncture troubles are, if not avoided, at least robbed of much of their inconvenience. As its name implies, this device consists of two separate inner tubes, interconnected in such a way that when the outer one, which is the one used under normal circumstances, is punctured, all one has to do is to press a small plunger contained in the special valves, which breaks the connection between the two tubes; one then pumps up the inner of the two tubes, and the trouble of mending the puncture on the spot is thus saved.



The Duplex Moto Valve.

- A. Ordinary tube.
- B. Reserve tube.
- C. Rubber membrane.
- D. Detachable airway plug, which determines the tube to be inflated.
- E. Ordinary valve piece.
- F. Stem formed on dust cap inserted in the valve for pushing out, or for deflating outer tube by raising rubber membrane which covers the airway to ordinary tube.

KEMPSTALL TYRE Co. OF EUROPE, LTD., Northumberland Avenue, W.C.—Kempshall motor cycle tyres were shown in three forms, namely, the new anti-skid tyre with a specially formed tread, comprising a modification of the well-known Kempshall moulding, on each side of which are a series of rubber studs. The ordinary Kempshall non-skid motor cycle tyre was shown in two forms, the heavy and light, the only difference being the depth of the tread. There was also shown the Kempshall emergency patch for use with burst tyres. This patch is inserted between the inner tube and the outer cover, fixing itself to the latter by means of a series of short pins which are let into the patch.

MICHELIN TYRE Co., LTD., Sussex Place, South Kensington, S.W.—Motor cycle tyres of this celebrated make were shown in two forms, the plain all-rubber grooved non-skid in various sizes, and the latest pattern armoured and steel studded motor cycle tyres. The wearing qualities of these tyres have made an enviable name for the Michelin Co.

THE MIDLAND RUBBER Co., LTD., Ryland Street, Birmingham.—The Ajax 2½ in. motor cycle non-skid tyre. This has two outer serrated moulded rings of rubber between which is a row of steel studs, the shanks of which pass through several layers of canvas in the tread, and are secured on the bifurcated principle.

DAVID MOSELEY AND SONS, LTD., Ardwick, Manchester.—Some excellent motor cycle tyres were to be seen on this stand with moulded substantial arrow tread, which should be efficient against side-slip. These tyres are made in all sizes for 26 in. and 28 in. wheels from 2 in. to 2½ in. They are made with both wired-on and beaded edges, and a large stock of tyres is always carried, so that a motor cyclist's needs can be instantly supplied. Repair bands were also on view.

Among the Accessories at the Stanley Show.—

THE GORTON RUBBER Co., LTD., Cornwall Street, Openshaw, Manchester.—Like most of the other tyre manufacturers this company showed a rubber-studded motor cycle tyre, also a special light motor cycle cover with a combined diamond and studded tread.

NORTH BRITISH RUBBER Co., LTD., Edinburgh.—Three distinct types of the well-known Clincher tyres were exhibited on this stand. The A1 rubber studded, the Dreadnought studded, in which there are three rows of studs, connected by a rim, and the Dreadnought fluted cover. Clincher tyres are manufactured in all types and sizes, and if required a wired-on cover can be supplied. Clincher tyres are fitted as standard to several of the leading makes of motor cycles.

PALMER TYRE LTD., Shaftesbury Avenue, W.C.—The principal feature shown on this stand was the new 2½ in. all-rubber studded non-skid tyre. This is made on the well-known Palmer cord principle, which needs no detailed description at our hands here. An illustration of the new airless cord studded cover is published on the previous page. There were also shown the ribbed types of Palmer cord and ordinary fabric motor cycle tyre.

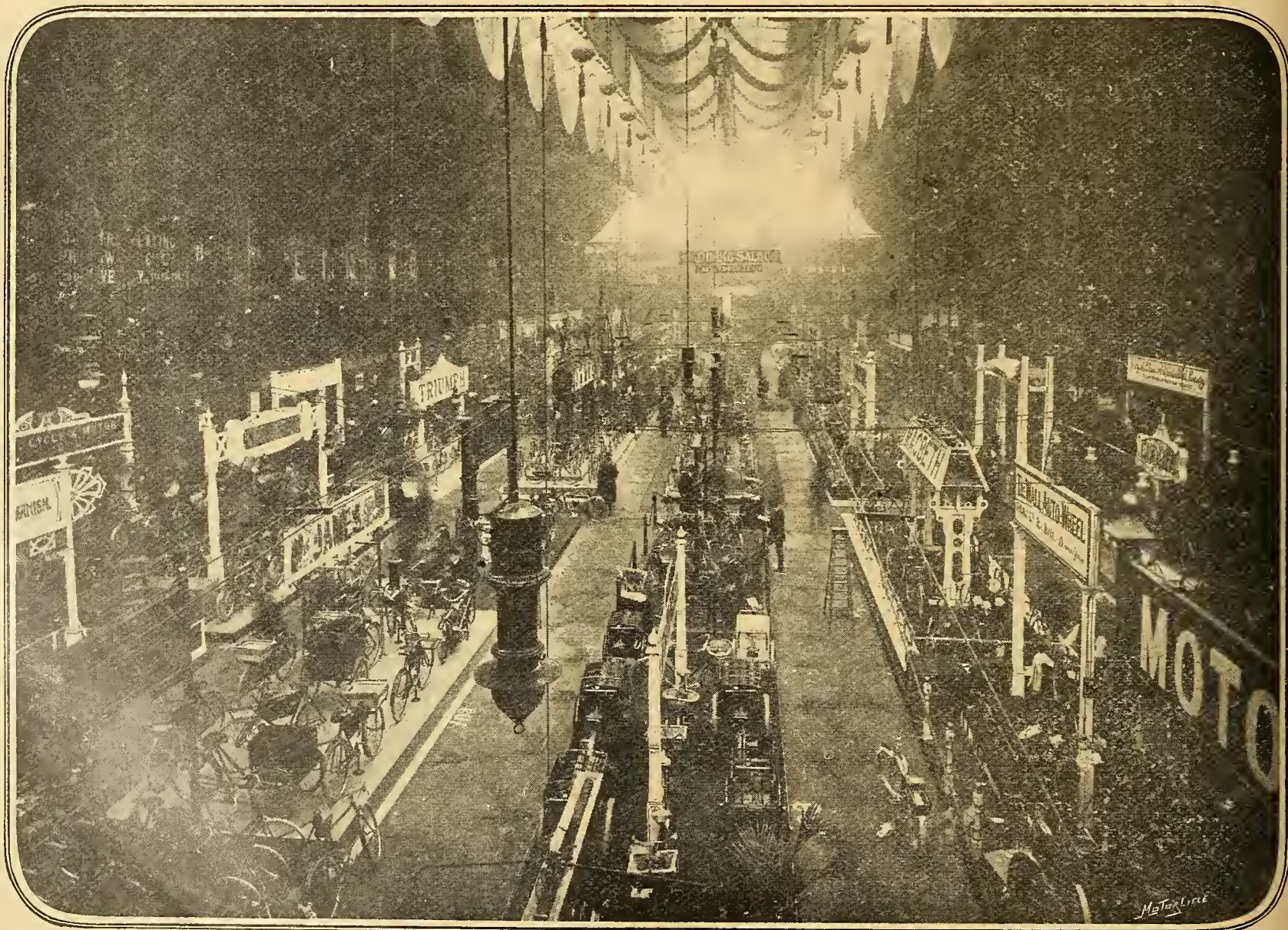
THE RICH PATENT DETACHABLE AIR TUBE Co., Crawley, Sussex.—Here was shown the Rich patent detachable air tube in sizes suitable for motor cycles. The principle of this tube has already been described in *The Motor Cycle*, and is on very simple lines. One end of the air tube has a specially formed adapter, which fits into a ring attached to the other end of the tube, and when in position gives a free air space right round. The arrangement permits the inner tube to be turned inside out and the patch to be solutioned on the inside, when inflation merely tends to make it stick tighter to the tube. Another advantage of patching on the inside is that the friction of the cover does not affect the patch.

ROM TYRE AND RUBBER Co., LTD., Holborn, E.C.—The well-known Rom tyres were shown on this stand in various sizes to fit all types of rims. These tyres are made with both wired on and beaded edges, and may be had in nine different sizes. The well-known combination non-skid, which is one of the best of its kind on the market, was, of course, very prominent. There was also the All-rubber, which has been most successful during the past season. It is interesting to note that smooth tyres were also shown for racing purposes similar to those which McNab used when he broke the world's records at Brooklands.

J. PEDLEY AND SON, LTD., Oxford Works, Birmingham.—The Oxford motor cycle tyres were to be seen on this stand in two patterns, rubber studded, and with straight fluted moulding. These tyres are made with wired-on and beaded edges, and can be had in all sizes from 2 to 2½ in. Horn bulbs and other rubber goods were also shown.

THE SELF-SEALING RUBBER Co., LTD., Ryland Street, Birmingham.—The chief feature of interest to motor cyclists on this stand was the well-known self-sealing inner tube. This tube will successfully resist all small puncturing agents, and should meet the wishes of many motor cyclists. We noticed in addition to the ordinary zig-zag pattern of cover that the firm have introduced a rubber-studded non-skid type, also a combination rubber and steel-studded band to attach to existing tyres, and a non-skid all steel-studded cover. Another up-to-date feature was a detachable air tube having a special form of joint with open ends so that there is a free passage for air right round the tube.

WOODGATES, BROS., Tiverton, Somerset.—Here were shown the patent Duplex motor cycle tyre and Patchquick patches in a large variety of sizes and shapes. Patchquick patches are said to amalgamate with the tube after a time.



General view of the thirty-third Stanley Show at the Agricultural Hall, Islington, N. The attendance throughout has been very satisfactory.

THE SERVICE CO., LTD.,

292-3, HIGH HOLBORN, LONDON, W.C.

SOLE AGENTS FOR

THE WANDERER

The solo machine of proved merit.

WRITE FOR PARTICULARS TO

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Telegrams—"Admittedly."

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CLINCHER

MOTOR CYCLE TYRES.

QUALITY FURTHER IMPROVED AND DURABILITY ENHANCED.

Of very superior quality, full of life, and thoroughly efficient.

An exceedingly popular tyre, and most effective against skidding on wet or greasy roads.

The rubber-studded "Dreadnought" Clincher, the finest tyre extant for heavy machines and sidecar work.

Clincher motor cycle tyres are made in four patterns, and demand your closest attention.

New list on application.

THE . . .

NORTH BRITISH RUBBER CO., Ltd.

Castle Mills, EDINBURGH.



In answering these advertisements it is desirable to mention "The Motor Cycle."

THE WONDER OF THE YEAR.

... THE ...

WALL AUTO-WHEEL

Provides the long awaited connecting link between cyclists and motorists.
Fits every kind and every make of bicycle—ladies' and men's.

CYCLING MADE EASY.

FREE-WHEEL UP HILL.

PERFECT NON-SKID.



Motor Cyclists in search of the very latest improvements to motor cycles must also see the **ROC** specialities, viz:

ROC Military Model 4 h.p. single-cylinder.

ROC Military Model 5-6 h.p. twin-cylinder.

ROC Tourist Model A., 4-cylinder, pressed steel open frame.

ROC Tourist Model B., single-cylinder, pressed steel open frame.

ROC live axle clutch and two-speed conversion set (the well-known system as used under licence by Humber, Rex, etc.), adaptable to all makes of motor cycles.

ROC patent spring fork in itself makes the **ROC** noteworthy.

ROC range of models, the most comprehensive of any.

ROC the pioneer of motor cycle manufacturing in England.

ROC with patent clutch and two speed gear is far ahead of all single gear machines.

A. W. WALL, LTD. ROC MOTOR WORKS, ASTON ROAD, AND DARTMOUTH ST., BIRMINGHAM.

THE LAST DAY

DECEMBER.

FRIDAY.

31

**IS
THE**

FIRST DAY

on which delivery can be given of the

STEWART

**MOTOR
CYCLE**

55/-

**MOTOR
CYCLE**

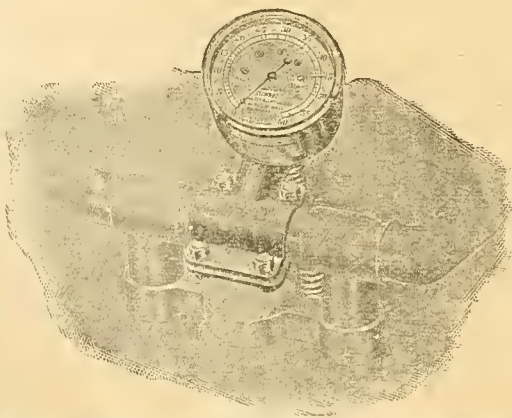
SPEEDOMETER

(The speed and distance recorder with a FIVE years' guarantee).

The enquiries for the New Stewart have been overwhelming, therefore to prevent disappointment, we are withdrawing our advertisements until we are in a position to supply promptly, intimation of which will be duly announced.

YOU MAY HAVE TO WAIT A LITTLE TIME, BUT THE STEWART IS WELL WORTH WAITING FOR.

Stewart & Clark Manufacturing Co., 11, Denmark St., Charing Cross Rd., London, W.C.



Medium-powered Roadsters at the Stanley.

By B. H. DAVIES.

SOME critics would have us believe that motor cycle designers are temporarily afflicted with a bad attack of cerebral paralysis, that their sluggish brains are glued to a single design, of which ninety-nine per cent. of the machines exhibited in the medium-powered class are servile plagiarisms.

I must admit that I had hoped for a few sensational innovations in the standard class, and that convincing innovations—radical alterations which commend themselves irresistibly as destined to last—are on the whole conspicuous by their absence. It is undeniable that on stand after stand one encounters machines that are little more than unblushing copies of the two or three leading types, and that the latest examples of the pioneer favourites demonstrate a minimum of really striking advance.

Nevertheless, the 1909 Stanley was a great show. Never before did I make my rounds and discover so few bad points of design, such a paucity of scamped and careless workmanship. It is hardly too much to say that if we had given a raw novice ten five-pound notes and shoved him into the Agricultural Hall to select his 1910 mount unaided, he could scarcely have emerged without a machine which would carry him faithfully, reliably, and comfortably for several years.

stroke makes on exhibition; but the boom is not yet. If it is uniformly successful in next year's trials—as with better luck it ought to be—delivery will be hard to get in the spring of 1911.

Multiple Disc Clutches.

I suppose the second outstanding novelty is the excellent multiple disc clutch fitted to the rear hub of the latest Triumphs and Rexes. As my readers know, I am not a free engine enthusiast; but if a man wants a free engine, he is bound to be satisfied with these examples. They are foolproof, give no trouble, and enable a machine to be turned round in an ordinary lane without a dismount and without lifting the valve.

Amongst other tendencies I note the scarcity of the automatic inlet valve and a growing tendency to remove the magneto from the radically bad position until recently almost universal—i.e., low down forward of the engine or "tied round its tummy"—to a platform cast integrally with the crank case abaft of the cylinder or "over the engine's shoulder." The Quadrant and Zenith machines exhibit this improved method to perfection. Again, there is a tendency to remove the foot brake pedal from the footrest, and to

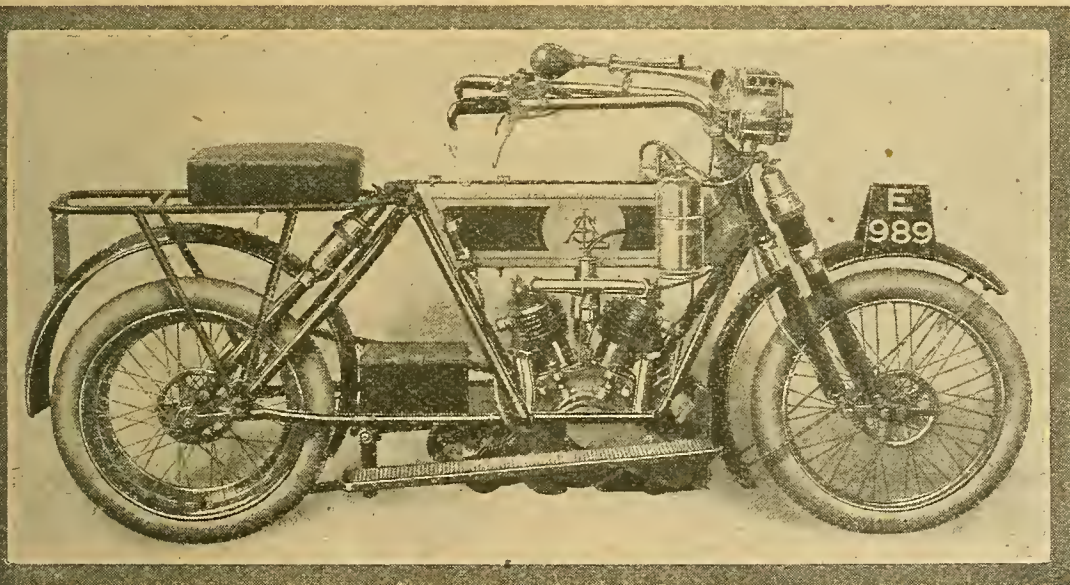
mount it on a tiny bracket of its own—a most wise procedure, greatly reducing the chance of the machine being left brakeless after a tumble. In this connection I should like to give a special word of commendation to the Clyno rear brake, on which the pedal is coupled to the shoe by a wire cable instead of a rod. This makes the shoe self-centring, and avoids the risk of buckling or snapping the rod in a fall, from both of which mischances I have suffered many things.

Several owlish designers who have obstinately clung for several seasons to a very miserable device in the way of spring forks have at last acquired sense, and produced more efficient and less troublesome designs. There is still room for others to do likewise.

Spring Forks and Frames.

Spring frames are on exhibition, but personally I greatly doubt whether there is any real need to spring the whole weight of the machine and rider; certainly the demand for such a system is so weak that no ugly, cumbrous, and weighty device of the kind has any chance of success. If such a system finally conquers, it will have to be light, neat, and handsome. Most of us are very content with a good spring fork (there are a few) and a good saddle, carried on a spring mounting, while it is quite uncommon to hear of the propelling mechanism suffering from vibration nowadays. I have neither broken nor lost any part of my machines from this cause for two years past, and hence I shall remain fastidious to a degree when fully sprung machines are paraded before me.

Sundry defects are still tolerably common. Weak lamp brackets are all but universal. Few of the two-piece valves are proof against a few miles on



A luxurious mount exhibited at the Stanley. The 5 h.p. twin-cylinder A.S.L., the frame of which is suspended on air springs.

The Two-stroke Engines.

Amongst real novelties in the class I am now dealing with there is nothing outstanding with the single exception of the two-stroke engine. But it is not going to be the machine of 1910. It may be the machine of 1911, but at present it has not been sufficiently demonstrated. Ill-luck has dogged the Scotts in many of their enterprises—tyres and ignition have foiled its energy when its special details were functioning admirably. It is quite possible that next autumn the Agricultural Hall will hardly be big enough to hold the crowds who will come to buy, and that most of the big makers will imitate it as others are now imitating them. We all long to own a Scott when we see it purring silently up a long, greasy, cornerful hill, when we see Myers kick its engine into vitality by a careless rearward dig. Bold and *blasé* experts all over the three kingdoms are ordering samples of it and the other two-

Medium-powered Roadsters at the Stanley.—

full throttle. Many of the magnetos are still placed in the worst possible position. Many handle-bars are still too spiky, and abrade the knuckles on rough roads. A number of adjustable pulleys and spring forks are almost useless, their makers having failed to evolve a good device of their own, and remaining too stingy to fit other people's patents under licence. The compression of many engines is probably still too high, though a show is not the place at which to dogmatise about this. On the best machines the bore and stroke have been slightly increased and the compression lowered a trifle. I am not at all sure that the Rex Company have not made the best attempt at compromise in this direction. Without doubt a high compression engine of the semi-racing type is all right so long as it is properly lubricated. Given the right oil in the right quantities, and it will run as nicely as some of the old low compression engines of 1906. But ninety-nine per cent. of existing motor cycles are lubricated on very happy-go-lucky principles; the rider is the decisive factor, and he is often an ignoramus. Even if he is cute, the implements at his command do not make for perfection. He is merely provided with a large pump, with which he is instructed to give infrequent doses of oil. Frequent doses from a small pump would be more to the point.

A Triple Lubrication System.

The Rex people offer a triple system. First of all, a pipe from the crank case to the spray chamber mixes a fine spray of lubricant with the entering gases; secondly, a drip feed does its best to maintain a constant level for the splash in the crank case; and, finally, the standard force pump remains available for breakdowns and supplements. This system may be good enough to destroy the defects of a high compression engine from a fast touring point of view. Large filler caps, as first introduced by Mr. Davison, are growing more common, but even here there are many purblind offenders. The external band brake still lingers in a few notorious instances. Those who still continue to fit it must have forgotten that with the average amateur an external band brake usually exists in one of two positions—the "always on" or the "always off."

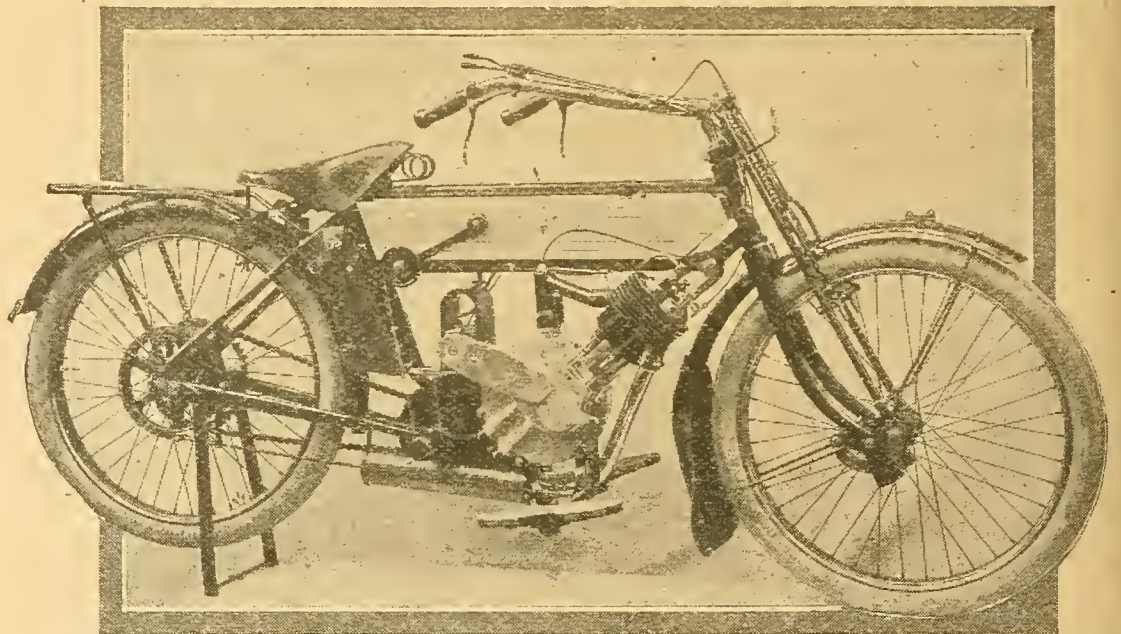
Machines that are debarred by elements of their design from using the belt rim shoe are gradually perfecting their brakes. I agree with "Ixion" that a good coaster hub is probably the best solution of all, but one or two makers have improved their external bands or internal expanding types, while, to my great joy, at least one free engine clutch machine has copied my own ancient tip, and fitted a dummy belt rim for the sole purpose of using the best of all possible brakes. Front rim brakes still exist, thanks to the A.C.U., but I know few that are either easy to adjust or of much real good when adjusted perfectly. Luckily, with humble apologies to the A.C.U. and the

law of the land, motor cycles very seldom require a second brake at all.

Variably Geared Machines.

Variable gears are distinctly in the ascendant. Barring lightweights, there was scarcely a single-gear machine in the show, for what is an adjustable pulley if it is not a makeshift and cheap variable gear? I was sorry to see that one of the very best engines in the world still retains a colossal pulley side bearing boss, so that the lowest gear ratio with its adjustable pulley is absurdly high. No motor cycle engine should be incapable of at least a $5\frac{1}{2}$ gear in emergencies, and if $6\frac{1}{2}$ so much the better. I have actually had to transfer my own order because of this drawback. I hope to enter the Scotch trials next year, and I know I should be tremendously lucky to climb Amulree in touring trim with the lowest gear possible on the engine I fancied.

Two vastly improved variably geared machines are dealt with in pride of place, because they are essentially more efficient than the variable pulley type. The Phelon and Moore has probably been for several



The Phelon & Moore "All-Weather" machine, the only bright parts being the handle-bar and nuts. The new $3\frac{1}{2}$ h.p. m.o.i.v. P. & M. engine is fitted, and, of course, the two-speed gear with the new method of changing gear.

years past the very best "go anywhere" motor bicycle in the world. It has never been faultless. It used to be heavy, not so comfortable as some of its rivals, its gear lever was clumsy from a mechanical point of view, its a.o.i.v. was out of date, and its carburetter, though one of the first good sprays, had long since been outstripped in the race for perfection. I cannot find a single fault with the latest model. It has been lightened, made really comfortable, and brought up to date in all details, while it is thoroughly weatherproof, and its new gear control is delicious. It is one of the small select band that can climb any hill under any conditions.

Another machine that comes in the same category is the Zenith. Last year the Zenith had a commanding reputation, and was actually debarred from a hill-climb because its rivals knew they could not live against it. At the same time, its somewhat unconventional appearance prevented its being popular amongst private owners. The 1910 Zenith will be as

Medium-powered Roadsters at the Stanley.—

great a terror on hills, with its 160 odd gear ratios, as its 1909 prototype, and, in addition, is transformed into one of the prettiest mounts on the road, with a straight, rectangular tank and the N.S.U. type of change speed gear lever. Its magneto is carried in the right place, and its new engine by its low compression and colossal valves is well suited to the demands of a low gear. Hats off to a genuine all-weather tourist machine.

Improved Design.

The Humber two-speeder is also very taking; a year of renewed experience has done it good all through. I thought the supplementary rear forks very sound, and the few weaknesses which were apparent last year had been masterfully exorcised.

The N.S.U. gear fitted to half a dozen of their long range of models is another foolproof mountain conqueror with a spotless reputation. Its one flaw is that the reduction is scarcely enough for all purposes, but with a lowish top gear it is amply sufficient for solo work in the most difficult districts. I know of a $3\frac{1}{2}$ h.p. sample that daily traverses a hideously pimply locality in the snowy north. Descending to the single gears, I emit a quiet chuckle. Three years ago I pressed the need of certain alterations on a certain Coventry designer, and was told for my pains that I was a crazy faddist. At Islington last week I found he had at last adopted three of my fads, viz., a kick-operated stand, a low compression engine, and a separately mounted brake pedal. If he reads these lines he may remember the other two fads I suggested to him; next year I hope to congratulate him on having incorporated them as well.

Smooth Crankcase Castings.

By the way, I see another fad at last adopted by prominent makers. The Humber and Quadrant Companies are, I think, the only firms who have cast a clean crank case devoid of advertising initials. Is it not enough to have an advertising transfer on the tank? The alteration makes the dirtiest part of the machine much easier to clean.

The Quadrant crank case, being jointless on the pulley side, is delightfully clean.

Of particular machines, the Triumph scarcely seemed capable of improvement, but, none the less, is improved on lines described in my introduction. I like their brace of pannier toolbags less than the one adopted by makers who utilise the snug corner betwixt the carrier and mudguard. One has to do splits in mounting when the carrier is unduly broad. This machine looks like easily holding its own during 1910.

The Premier now boasts an "own make" engine, with a portentous stroke of 90 mm. and the largest amount of radiating finnage I ever beheld, the valves being rather wide set.

Of the Rex lubrication, at present its most distinctive feature, I have already spoken. The Speed Kings are delightful speed merchants' mounts. They show a long list of detail improvements, all good, but their lubrication interests me more than the rest. The Kerry follows standard lines, but is eminent for one of the few decent lamp brackets and a protected top run to its pedal chain. The L.M.C. utilises a double belt rim shoe brake, both brakes being operated by a single pedal with a toggle joint, and it owns the

handle-bar spark control, which ought to have been universal. The Bradbury is a workmanlike tourist mount, and if its big engine owns the same kick as the last small engine of this make I rode it will climb most hills without slowing a single tick.

The Bat remains true to its old design, and a very good design it is. Other makers are slowly coming round to ideas of springing which Mr. Batson first mooted in 1902, i.e., spring the rider fore and aft, and let the machinery look after itself. The tank magneto is even better than the Quadrant-cum-Zenith-cum-Arno, etc., position, except that it spells a few ounces of additional weight, and to extra weight the J.A.P. engines are notoriously indifferent. Just tune them up, open the throttle, and they won't grumble how much kit one is carrying. I doubt if there is a better motor cycle engine made than the J.A.P., and in saying this I have more in mind than their racing successes.

Honest Speedy-looking Mounts.

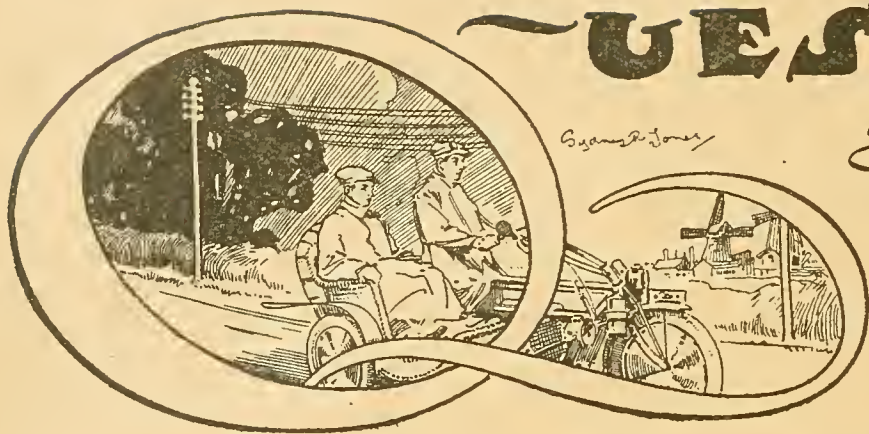
The N.L.G. tourist patterns were honest, speedy-looking mounts. The Clyno attracted me by reason of its cable brake, while its stand was novel.

The 3 h.p. Wanderer was a delightful addition, and, like the Douglas, emulates the roadwork of a $3\frac{1}{2}$ h.p. by combining reduced power with extreme efficiency and small weight. It *felt* like its alleged 130 lbs. It bristles with refinements, including a sprung frame, an excellent even wearing internal brake, and a quickly removable engine.

The Douglas is a very old friend of mine, its running equalling that of much heavier and more powerful machines. It is marvellous to see how it keeps up with the van uphill and down dale in all the trials. The Brown will be as fiery a hill-climber as ever, or more so; its footrests are the best in the show, maybe. The Roc has reduced friction by using ball bearings in the gear, while the revolving pin that has to be depressed with the high gear at work has been much improved. The Corah and Arno remain much "as you were," though the Arno quick detachable engine unit is very good. The Ariel is first-class throughout. I saw the first of the new batch in the Scotch trials, and formed the highest possible opinion of it. The N.S.U. machines occupy their usual broad corner in the Gallery, and provide a range of machines to suit every conceivable taste. Their long stroke single-cylinder is a specially fast and sporting mount, with unusual hill-climbing capacities.

I did not see the new Norton single-cylinder with 5in. stroke and enormous flywheels, specially designed for plugging away continuously up frightful hills under a heavy load, but I expect soon to make a road test of it. It should be A1 for passenger work in counties not hilly enough to requisition an emergency gear.

The V.S. people retain the F.N. and Peugeot single-cylinder $3\frac{1}{2}$ h.p. with or without their hub gear, and I really ought to have added this to my list of reliable go-anywhere machines, for the V.S. is just the machine for the job, and the gear stands up successfully under record work with a 7 h.p. engine. Dozens of us rejoiced to see our old friend the Excelsior, and wish it good luck for auld lang syne during 1910. It has managed to incorporate most of the details which make for present day perfection. Enough has been said to show that the Stanley presented an unusually large range of unusually excellent machines.



QUESTIONS AND REPLIES

A selection of questions of general interest received from our readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Registration Formalities.

?

I am a Frenchman. What are the formalities to be carried out when I arrive at Dover with my motor cycle, and how much must I pay for it in England under the new taxation? I have a desire to ride to London by road.—O. F.

The first thing you have to do is to go to the Town Council offices in Dover, and say that you wish to register your machine, where you pay 5s. for this privilege, and wait for the numbers to be allotted to you. Then you get a driving licence (no examination necessary) for another 5s., and then proceed to the nearest cycle maker to have your number plates painted and fixed at the front and rear of your machine. Then go to the nearest post office, and take out an Inland Revenue licence for 7s 6d., being half the present tax when taken out between October 1st and December 31st. (The cost of this will be raised to £1 after January 1st next.)

A Machine for Sidecar Work in Egypt.

?

I am at present riding a lightweight 1½ h.p. Werner, which I believe was built in 1903, but, like "Charley's Aunt," is still running. This little machine takes an ordinary cycle trailer (lighter than the motor type, I believe) with my wife and small son (aged four), and will go anywhere round about here. We have no hills to speak of. Our worst is about the same as Ludgate Hill for gradient. I should think I weigh just over 12 stones, so you see my little machine can move a fair weight, and get along at about twelve to fifteen miles an hour. If I can do this on a little old creak, driving with a 1in. flat leather belt, over a small leather covered pulley on the engine, do you think a 2¾ h.p. Douglas twin would take a light sidecar, which I propose to have specially made? I am hoping to come to England next year, and shall be there about three months, not more. Can you tell me if I bring my machine home shall I have to pay the full tax for one year, as I shall have already paid a tax of £1 11s. here? Also, can I obtain a number in any district where I may first wish to use the machine in England? A licence I know I must get. That I shall want for car driving, and that covers motor cycling as well.—D. A. (Alexandria, Egypt).

You are certainly getting wonderfully good results out of an old machine, and if you are quite satisfied with the speed and power of the machine, you could not fail to be delighted with a new Douglas. As regards fitting a sidecar to this, we should recommend you to write the makers for their advice. Unfortunately, at the present time visitors to this country have to pay the full tax. It is probable, however, that a new law will be passed, as the Chancellor of the Exchequer has promised a Coventry deputation to give his attention to this matter. You may take out your registration number in any county in the British Isles.

Engine Not Responsive to Spark Lever.

?

My motor is a 2½ h.p. J.A.P. It is a good goer and hill-climber, but it does not seem to respond to the spark lever as it should do. It makes no difference to the speed of the motor when I advance it above half-way. It goes just as fast half-way advanced as when fully advanced. Do you think I could improve matters, as it seems to me it could be made to go faster. I might say the engine is almost new and the compression good.—G. E. K.

You omit to mention the type of ignition, but if accumulator, it may possibly be due to the adjustment of the contact breaker. Try different adjustments of the platinum screw.

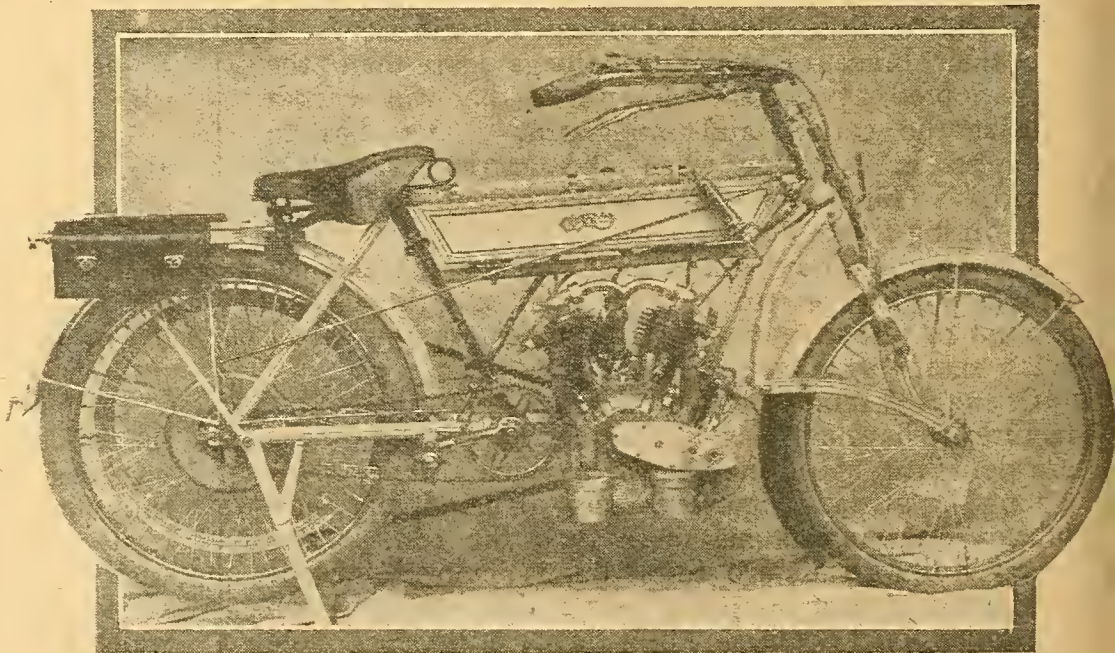
On numerous old pattern machines the quadrant was too long, and it was never intended that the spark lever should be advanced to the full limit. In other words, if you obtain a reasonable speed from your machine as at present tuned up, do not advance the spark lever beyond the point the speed of the engine ceases to increase. Look to the inlet valve and spring, and if worn obtain new ones, as in all probability the valve opens too far.

Overheating of Twin Cylinder.

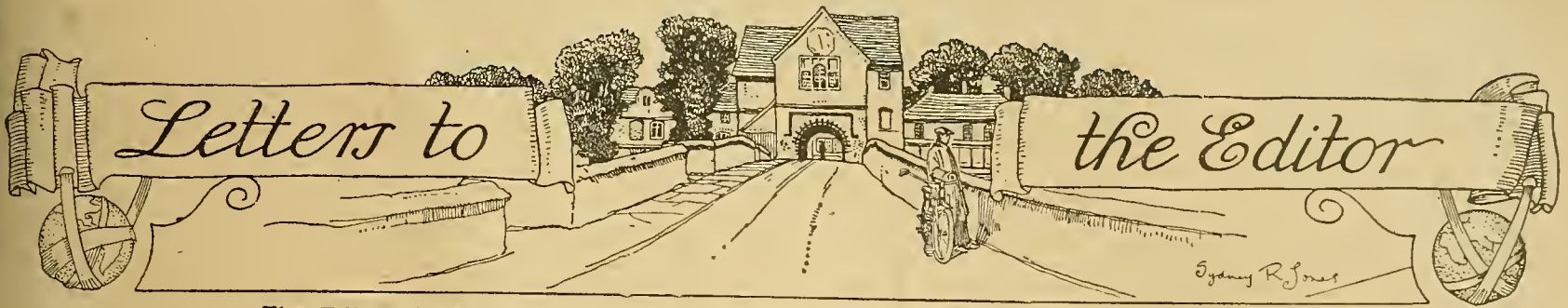
?

I have a 5 h.p. twin motor bicycle, and find that the engine overheats considerably lately. Everything seems to be in perfect order. I have ground in the valves, and there is no carbon deposit on cylinder head or piston. On a long ride the engine pulls up of its own account, and after giving the engine a rest it will go again for miles.—J. H. S.

We can only recommend you to use the best oil and plenty of it. You might also try a slightly smaller jet. It is probable that you are not driving in the correct manner. Twin-cylinder engines require the spark lever well advanced. If run with the spark retarded for long distances, most engines quickly overheat. If your engine is an old one, carefully examine the lift of the valves as if the cams are worn and the exhaust gases have not free egress, overheating will always be experienced.



Valve side of the 1910 pattern 5 h.p. two-speed V.S., with Truffault fork. A new shaped induction pipe is fitted, rendering the carburetter more accessible.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Amulree Hill-climb.

[4394.]—Will Mr. J. Cameron explain why Mr. Campbell McGregor's $3\frac{1}{2}$ h.p. Matchless Tourist Trophy motor cycle was not disqualified from the Standard Touring Class in the Amulree hill-climb?

FAIR PLAY.

Cold Fingers.

[4395.]—Could any reader help me with regard to above? I have tried lined gloves, with thin ones underneath, without being able to prevent the finger tips suffering during frosty weather, and in addition have tried handle-bar muffs, as recommended by someone in *The Motor Cycle* last winter. Handle-bar muffs, owing to their having a wide opening for facility in removing and replacing hand, and working inverted levers and thumb levers, do not by any means solve the difficulty, and my experience is that the tips of one's fingers are just as cold as ever in frosty weather. OILE.

Transmission and Tyres on Motor Cycles.

[4396.]—The letter No. 4373, by E. Brown, raises several important questions, but that which most particularly affects motor cyclists is the reliability of tyres and belts, and I shall be pleased to see better results in this respect for 1910.

I ride a well-known make of $3\frac{3}{4}$ h.p. single-cylinder two-speeder with lin. canvas rubber belt, and to enable me to keep appointments when roads are greasy I take a sidecar passenger. My average mileage from such belts is about 3,000 miles, but the tyres would not average 1,500 miles but for a favour whereby I obtain retreads capable of doing 4,000 miles. This proves that tyres can be made at a reasonable figure to stand on light passenger machines. Unfortunately, I must be content with retreads.

E. Brown should have no difficulty in obtaining carburetter with main air adjustment. I have used this type nearly four years, and it will be a standard fitting on my 1910 machine.

G. N. BLACKMAN.

A Sidecar Query and Two-stroke Engine Design.

[4397.]—I notice that in a recent issue a correspondent suggests that the four-cylinder T.A.C. motor bicycle would be very suitable for sidecar use. Would not the springing of the rear wheel throw very heavy strains on the fixings? It would be interesting to hear the opinion of sidecar experts on this point.

I was not surprised to read in *The Motor Cycle* for November 3rd that some of the two-stroke engined bicycles that you have ridden were not so controllable as the four-stroke at slow speeds. Surely this is mostly due to three things:

- (1.) The fresh mixture does not come in with sufficient velocity to scavenge away the exhaust from the region of the sparking plug.
- (2.) The escape of fresh incoming mixture through the exhaust port.
- (3.) Carburation.

Comparing the two designs of two-stroke motors published this year in *The Motor Cycle*, one notices that in the Scott motor the clearance on the underneath side of the piston is reduced to a minimum, so that it should not suffer specially from causes 1 and 2. On the other hand, the Rex, designed on ordinary four-stroke lines, cannot have a very high compression or suction pressure, and one naturally asks, why not fit the sparking plug on the opposite side of the cylinder, so as to be nearer the fresh mixture when deflected upwards by the piston. The ordinary spray carburetter does not seem to me suitable for this type of engine, and this problem might be solved by a carefully designed wick carburetter.

Finally, I see a correspondent asks if a V two-stroke motor could be made with cylinders at 90° . Certainly it could, and a very sweet-running motor it should make. I suggest the following lines: Crank case would have to be made with a central division and a narrow ball bearing for crankshaft. Cylinders staggered sufficiently to allow connecting rods to come one each side. In order to reduce the amount of staggering, big ends of connecting rods would be fitted with ball bearings.

H. E. RENDALL.

Infinitely Variable Gears.

[4398.]—I observe in the issue of November 15th that a Mr. William F. Frost has written a letter [No. 4369] on the subject of my variable speed gear. His chief point appears to be that my gear resembles one fitted by Mr. Lang, of Johnstone, Glasgow, to lathes and machine tools, although I fail to understand Mr. Frost's motive in writing the letter.

Evidently your correspondent is not acquainted with the rudiments of the procedure in obtaining a patent, or he would know that one of the first necessities is to collect specifications of similar devices to that for which patent rights are sought. Had he been better informed he would have avoided the "considerable alterations" to which he refers. It was a matter entirely in his own hands.

It may interest Mr. Frost to know that I saw Mr. Lang's gear working on lathes three and a half years ago, and it was Mr. Lang's ingenious device which first prompted me to design a gear for motor cycles on the same principle, but, needless to say, operated in an entirely new manner. I had Mr. Lang's specification beside me when I designed my gear, hence, unlike Mr. Frost, I found no necessity to make "considerable alterations."

HENRY B. WEDGWOOD.

Belts on Lightweights.

[4399.]—I also have had experience of the 1908 $1\frac{1}{4}$ h.p. N.S.U., as I have been running one since November, 1908. The machine itself is very satisfactory. The belt could not be so described. I tried copper-sewn round belts, raw-hide, and twisted leather belts, and I can lump the lot together and describe them as abominations. My experience was that once the "stretch" was out of the belt—in other words, when the belt ought to be at its best—the fastener tore through in spite of any device, and many were tried. In my difficulty I wrote to *The Motor Cycle* and the makers, but they did not help me much. I got plenty of the usual advice of the "place-the-hole dead-centrally and use an awl for making it" style of thing from various people, which made me tired. At last I found salvation in *The Motor Cycle* of May 5th, and recommend your correspondent to follow the advice. On July 16th the following alterations were made: New 22in. belt rim fitted, pulley turned out, jockey pulley filled up and a new $\frac{5}{8}$ in. V-shaped Watawata belt fitted on. Since the above alterations my belt troubles have ceased. On three occasions a segment has been cut out of the belt on account of stretching, and it looks now good for a while to come. In order to give an idea of the difference I may say that between December 19th, 1908, and July 10th, 1909, I had four new round and twisted belts—an average of less than two months for each.

I hope you will publish my letter, as it may be of use to some other belt-worried motor cyclists. I may say that I use my machine almost daily in visiting my patients, and I consider that with a V-shaped belt the N.S.U. $1\frac{1}{4}$ h.p. is very suitable for a doctor in town practice, or in a country district where the hills are not too stiff. In cold weather the oil used for water-cooled engines makes starting much easier.

EO 194.

Electro Galvanising.

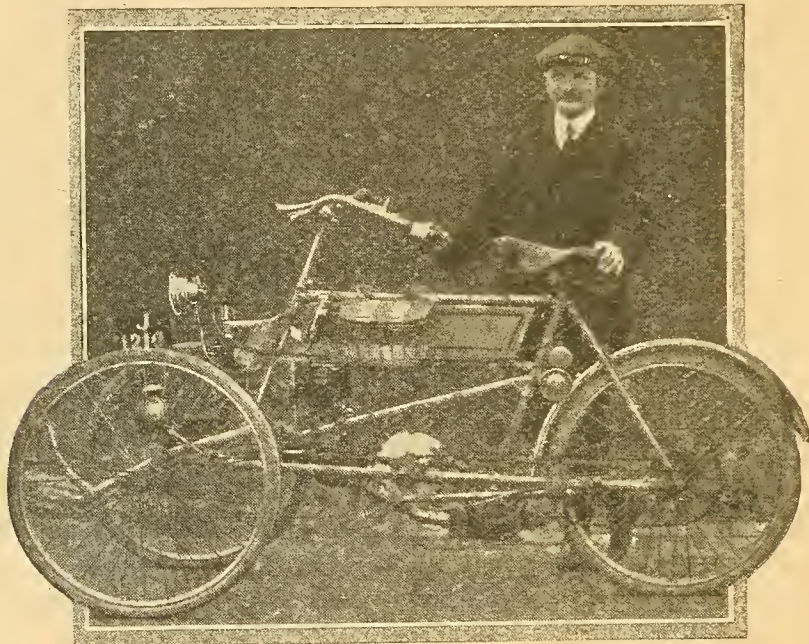
[4400.]—Replying to your enquiry for experiences of electro galvanising done by Mr. Wainwright, of Leicester, I can speak in unqualified praise of the same. I had the plated parts of my Bat done last December by this process, and it is in as good condition as the day it came home. It never rusts, looks smart, and mud only requires removing with a hosepipe or wet rag, and will dry itself without further bother. For springs, levers, hubs, and all the usual plated parts on a motor cycle it is far before the old style of nickel-plating, and the time saved in cleaning the machine is enormous. It looks as well, in my opinion, as the nickel-plating.

C. HOLT.

A Plea for the Tricycle.

[4401.]—There has recently been a lengthy correspondence on the merits of the three-wheeler. As the owner of a tricycle, I will just give an account of my experiences.

Owing to disability of one arm, I never ventured on a bicycle, but have ridden a push-tricycle some years. Last year I bought an Olympia tandem, second-hand, and rode it the year out. At the beginning of this year Mr. W. J. Rigby, of Appleby and Wolsingham, our local dealer, and myself put our heads together, and after having strengthened the frame put in a 2 h.p. Humber engine, chain-driven, geared $8\frac{1}{2}$ to 1, with dry battery ignition, with which I get a speed of sixteen to eighteen miles an hour, and frequently



G. F. Myer's home-made tricycle, which was built up with the frame of an old Olympia tandem and a Humber engine. (See accompanying letter.)

get that extraordinary condition which has been mentioned in your paper, by which the speed rises to over twenty miles per hour. The district round Wolsingham is very hilly, but I can ride from there to Cowshill up the dale without dismounting, and also to Durham and Darlington and Leeds. Of course, I have to give a little pedal assistance at times, which really only amounts to following the engine round, and certainly no exertion. I find the chain drive all that I could wish, and certainly incomparably superior to belt.

You will observe by the accompanying photograph that the engine is fitted horizontally, so that the whole pull is in a direct line, and there is no overheating, although the engine must attain nearly 3,000 revolutions per minute. I run about seventy-five miles to the gallon, which is not bad for such a low-geared machine.

I trust this account may be of interest to some of my fellow readers.

GEO. F. MYERS.

The Lessons of the Tourist Trophy Race.

[4402.]—While thanking Mr. H. Siddall for his response to my queries introduced by a letter of Mr. Constant, his remark *re* my letter not being quite clear prompts me to think that he has somewhat misunderstood the gist of it, and to wonder if we are not arguing at cross purposes, and confusing the matter of bore and stroke ratio with compression. Mr. Siddall's letter certainly makes such appear to be the case. It is generally understood that high compression accentuates vibration caused by unequal torque. I do not

query that, or the fact that high compression has a tendency to greater wear and tear and to overheating. Are not these the features Messrs. Constant and Siddall wish to emphasise *i.e.*, the detriment of high compression, and *not* the detriment of long stroke? If I am mistaken in this assumption may I be allowed to repeat the queries *re* stroke in my letter published in the issue of the 8th inst., and say why? It would be very interesting, Mr. Editor, to have the views of your readers on the respective merits of the two types—*th* is, long and short stroke—given the same capacity and compression ratio. Which would be the most satisfactory all round engine, say, for power, flexibility, etc.?

The importance of the matter of valve breakage mentioned by "Ixion" compels me to crave your indulgence and further space in your truly valuable columns. It astonishes me to learn of the prevalence of this bugbear. Perhaps my friends have been born under lucky stars in this respect. However, to enumerate some of the factors (without attempting an explanation, but in the hope of inducing correspondence which determine the endurance of the valve, or minimise the detrimental effect of the very severe work it is called upon to do. Perhaps one of the most important factors is metal. I have experimented with steel of high and low carbon, with one and two piece valves, with heads of various metals, and with as varied results, soft and hard heads, nickel and carbonised steel, and, generally speaking, have come to the conclusion that the one piece valve nickel steel, if carefully designed, is the one that all round gives the least trouble. Other factors of importance are: Shape of head and stem; root; amount of lift, and curve of lift as determined by cam design; design and section of port; valve timing; carburation; size of valve in its relation to cylinder capacity, and, of course, gear ratio and speed; ignition point; and spring design. All these are patent factors in valve life.

"Ixion" remarks *re* breakage: "It is the demand for very high efficiency which creates this nuisance." Possibly it is so indirectly, but does it necessarily mean that an engine of high efficiency is a valve eater? The efficient engine is the one that returns the greatest amount of useful work for a given amount of fuel, and (of course, ignoring for the moment that I am interested in the sale of valves) I do not consider that useful work which is employed burning or breaking off valve heads.

JAS. L. NORTON.

Lubrication.

[4403.]—With regard to a paragraph by "Ixion" on lubrication, it is surely a mistake to suppose that there is a necessity for using three different brands of oil at different times of the year. I have always used Vacuum A all the year round, both in the hottest weather, such as the beginning of last August, and also last winter, when it was freezing, with snow on the ground. My motor shed is now warmed in any way, and I have never had the slightest difficulty in starting the engine at once without injecting either petrol or paraffin into the cylinder, nor does it overheat in the summer. I think you will agree that with ordinary intelligent use as to quantity, according to the temperature, a single brand of oil is all that is necessary.

E. S. NEW.

[Some motor cycle makers recommend the use of a thinner oil in winter, and our own experience does not lead us to agree with our correspondent. Most engines, when using ordinary thick motor cycle oil, require a little paraffin to ease the rings and facilitate starting in cold weather.—E.]

EXPERIENCES WANTED.

"A. C. M." (Plymouth) would like users of the $3\frac{1}{2}$ h.p. two stroke two-speed Scott to advise him (1) if the machine is suitable for sidecar work in hilly country like Devonshire (2) also if there is back-firing in crank case or sooting of plugs. "Clutch" would like readers' experiences with the L.M.C. free engine and Auto-Varia pulley as regards wear of belt slip, and ease of control. Also the Mabon pulley and free engine as regards wear and reliability of Bowden wire mechanism used to control the clutch.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

MOTOR BICYCLES FOR SALE.

MINERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines; deliver new machines from stock at low prices; exchange or gradual payments; charged accumulators for hire, 1s. per week.—Cookson Bros., 511, Market Rd., Old Trafford.

SECTION III.

Marvion, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

Minerva, wants tyres and accumulator; £5, or offer.—23, Wellesley St., Stoke-on-Trent.

Twin Rex, very fast and powerful, good condition; 19 guineas.—Harper, Old Park, Dawley.

Rex, adjustable pulley, spring forks, long bars, accessories, reliable machine; £9 10s.—P. Anderson, Braigielea, Oswestry.

Moto-Reve, shop-soiled, H.B. control, adjustable pulley, Druid forks, stand, horn, tools, two belts, powerful, reliable; £28.—Everitt's Garage, Droitwich.

Enfield, 4h.p., adjustable pulley, Amac H.B. control carburetter, 2½ in. tyres, perfect, stand, car lamp, horn, £13, lowest, worth double.—28, Need St., Burton-on-Trent.

3h.p., 1907 (magneto), with trailer (motor); a bargain, £26 10s., complete; will sell at once; face any Shropshire hill.—Baynard, Drug Store, Ironbridge, Shropshire.

J.A.P.-Ariel, twin-cyl., B. and B., J.A.P. patent lubrication, accumulator, Dunlop tyres, 26 by 2½, strong cane trailer, both just overhauled; £24, or offer.—Haighton, Crewe Rd., Nantwich.

Bargain of the Week.—3h.p. F.N., long and low, Chater-Lea frame, Whittle belt, adjustable pulley, separate generator, enamelled French grey, 26 by 2½, footboards, very fast and powerful; accept 12 guineas, or best offer, or exchange for lightweight.—10, West St., Chesterfield.

Quadrant, low built, 26 in. wheels, Bosch magneto, nearly new, new B. and Barlow H.B. control carburetter, engine re-bushed lately at makers, spare covers, rubber and steel studded, powerful light, tools, and two spare tubes; £25, or near the cycle will carry 22 stone anywhere reasonable.—E. Dean, Upton Mill, Chester.

SECTION IV.

ingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

Moto-Reve, twin-cyl., in new condition, guaranteed faultless; £26, complete.—27, Smithford St., Leicester.

Quadrant (Birmingham), 3h.p., spring forks, exceptionally good condition; £13 10s.—Beddows, 231, St., Erdington.

Gain.—2h.p. Minerva, new Palmers, long handle-bars, low, powerful, first-class condition; £10 10s.—Arden Rd., Handsworth.

Antoine, M.O.V., takes a sidecar anywhere, very reliable; £14, or offer.—J. Chapman, 4, King's Earl Shilton, Hinckley.

Grey Moto-Reve, spring forks, as new, perfect order; cost over £41, bargain, 29 guineas.—3,608, Motor Cycle Offices, Coventry.

Motor Cycle, Cunard engine, good order, very reliable, Brown and Barlow handle-bar control; willing; £12.—J. Pilgrim, Burbage, Hinckley.

Ariel, Ariel, —To clear, a few 1909 2h.p. lightweights, magneto, handle-bar control; one of them bargains.—Ariel Wks., Bournbrook, Birmingham.

N.S.U., handle-bar control, 1908 pattern, only ridden 2,500 miles, will exchange for castor sidecar and cash, or sell for £20.—Fowkes, Loseby, Leicester.

Alldays Motor Cycle, Clincher tyres, engine just overhauled, new forged pulley, Stanley belt, 2 belts, two accumulators; can be seen and tried; 10s., or best cash offer.—Welch, Rempstone, Notts.

Triumph, 3h.p., magneto, late 1906, condition perfect, new cylinder and piston by makers this year, Bowden handle-bar control, petrol gauge, petrol to compression tap; photo: £20.—144, Kimberley, Leicester.

N.S.U., 5h.p., magneto, two speeds, Amac carburetter, Tee Bee, hand starting, footboards, title R.O.M. band, Rich's tubes, perfect also Montgomery sidecar, detachable frame, non-skid device; sell a bargain.—J. Hartley, Alwalton, Peterborough.

Excelsior-Minerva, 1910, B. and B. handle-bar controlled carburetter, handle-bar control ignition, double coil, long bars, footrests, spring forks, horn, carrier, just overhauled; £13, or near offer, or exchange good piano.—Martin, 104, Hucknall, E. Bulwell, Nottingham.

3h.p., 1909, two-speed model, has been starting, recently overhauled by makers, and fitted with 10 improvements, such as Druid spring forks, and new connecting rod bearings, exceptionally good engine; complete for £36, or nearest offer.—Box No. 3,611, Motor Cycle Offices, Coventry.

1910 HUMBERS.

TWO SPEEDS. £50 FREE ENGINE.

We have contracted largely for a supply of these high-class machines, and can deliver in December. The best side-car machine on the market. We will make MARVELLOUS ALLOWANCES for your present machine in part payment, especially 1909 Humbers. Push Cycles taken in Exchange.

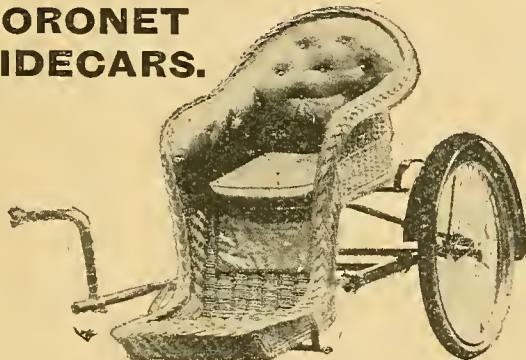
BIG DISCOUNT FOR CASH.

3½ h.p. MINERVA, magneto, 2½ tyres.....	£18 15
3 h.p. TWIN FAIRY, light and handy.....	£12 12
6 h.p. J.A.P., Chater Lea frame, spring forks....	£18 10
3 h.p. TRIUMPH, magneto, spring forks, 1906....	£18 10
4 h.p. ANTOINE, 26 in. wheels, M.O.V., smart..	£11 10
2½ h.p. LLOYDS, vertical engine, 26 in. wheels ..	£8 15
2½ h.p. CLEMENT GARRARD, 26 in. wheels, low built	£8 15
3½ h.p. 1909 HUMBER, two speeds	£37 10
3½ h.p. REX, 1908½, ball bearing, h.b. control ..	£29 10
3½ h.p. TRIUMPH, new	£45 0
3½ h.p. N.S.U., magneto, 2½ in. tyres, long bars ..	£22 10
3 h.p. N.S.U., magneto, 1908, smart	£17 10
3 h.p. REX, 1908, magneto, h.b. control	£17 10
3½ h.p. REX, 1909, nearly new	£32 0
5½ h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4½ h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£13 10
3½ h.p. REX, spring forks, trembler coil	£10 10
3½ h.p. REX, 26 in. wheels, M.O.V. h.b. control..	£8 15

TRICARS AND CARS.

6 h.p. REX Litette, 1908, two-cyls., magneto, water-cooled, two speeds; cost £79	£35 10
4 h.p. STEVENS, fan-cooled, belt drive.....	£12 12
10 to 12 h.p. LEADER, two-seater car, four-cylinder, three speeds, reverse, wind screen, etc. ..	£55 10

£4 17s. 6d. CORONET SIDECARS.



superior to others in style, adaptability, and comfort. Nothing is one of our main features. None better. Write for descriptive circular, showing how these sidecars are better than others. Fully guaranteed. Delivery from stock to suit Minervas, Rexes, N.S.U.'s, Triumphs, Phoenix and Moore's.

CORONET ADJUSTABLE PULLEY.

The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

12/6



"GRIPSKIN" BELTING.



Made from selected parts of hides, correct angle, perfect drive; the best leather belt on the market. Longer life than rubber. ¾ in., 10d.; 1 in., 11d.; 1½ in., 1/1; 2 in., 1/2. Special terms to the trade.

CARBURETTERS.

BROWN AND BARLOW. AMAC. Let us quote you for converting your machine to handle-bar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,
CHARLES STREET, off Square Road,
Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1909, free engine, first-rate condition. Dunlop tyres, Premier lamp, side satchel, unbreakable valves, complete; £42, offers.—A. B. Jepson, 8, Queen's Rd., Coventry.

TRIUMPH, 1907, magneto, H.B. control, Clincher studded tyres, excellent condition, searchlight, two belts, spares, overhauled this year by makers; £26.—Sale, Orchard, Atherstone.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

3h.p. Humber, free engine, in good order, R.O.M. tyres, £6 10s.—37, Searle St., Chesterton, Cambs.

F.N., 4-cyl., June, 1908, first-class condition, all accessories; great bargain; sell best cash offer to £20.—3a, Bridge St., Cambridge.

MOTO-REVE, 1909, complete, spares, perfect order, bargain, £28, or near offer; take good push bike.—22, Maid's Causeway, Cambridge.

3½ h.p. Humber Tricar, free engine clutch, chain drive, 32 new Dunlops, perfect order, for Drummond screw-cutting lathe, or sell.—Motorist, 8, High St., Hilgay, Norfolk.

3½ h.p. Excelsior Motor Cycle, B. and B. handle-bar control carburetter, adjustable pulley, long bars, Clincher tyres, fast, perfect order; £14.—Motorist, 8, High St., Hilgay, Norfolk.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1908 N.S.U., magneto, B. and B. carburetter, handle-bar control, spring forks, splendid condition, going well.—Ault, Usk, Mon.

1909 3h.p. Minerva, magneto, French grey enamel, new last August, only ridden 200 miles, guaranteed perfect, horn, lamp, and generator; £25.—3,608, The Motor Cycle Offices, Coventry.

SECTION VII.

Gloucester, Oxford, Buckingham, Berkshire, Wilts, and Hants, and Channel Islands.

DOUGLAS, 1909, Palmer cords, as new, only a month old; £35.—Evans, Cranmere, Cosham, Hants.

2h.p. Douglas, Model B., in first-class condition, 24 new tyres.—Rossiter, 23, South Rd., Kingswood, Bristol.

1909 Motosacoche, low frame, magneto, horn, stand, spares; £25, or nearest offer.—Everett, Forest Hill, Oxford.

TRIUMPH, 1907, magneto, Clinchers, fully equipped, new condition; £24, near offer.—Glasier, 5, Clarence Rd., Southsea.

3h.p. Triumph, magneto, handle-bar control, new tube, recently overhauled, splendid condition; trial; £20.—Lewis, Coal Merchant, Loudwater.

HUMBER, 1909 model, two speeds, hardly ridden, perfect machine, also Millford castor wheel sidecar, nearly new; owner buying car; bicycle, £37; sidecar, £9.—Howard Watson, Palace Theatre, Reading.

3½ h.p. Silver Rex, first-class order, new piston, gudgeon, pin, re-bushed throughout, new accumulator, lot of spares, £10 10s.; 1½ h.p. 1908 F.N., condition as new, new silencer, magneto, electric lamp, trinode horn, better bargain than new machine, very low, at £17 10s.; 1 in. coupling, cost 20s., take 10s.; take offer for the lot.—W. Clarabut, Stecke Goldington, Newport Pagnell.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent and Sussex.

F.N., 3h.p., spring forks, accumulator, excellent order, £8 10s.—1, Mornington Place, N.W.

2½ h.p. J.A.P., perfect running order, accessories; £10 10s., or offer.—101, Camberwell New Rd., S.E.

1909 Triumph, only run 500 miles, perfect condition; £35.—Wilkinson, 10, Crieff Rd., Wandsworth.

3½ h.p. Peugeot, Chater-Lea, very low built, perfect condition; £14.—133, Upton Lane, Forest Gate, E.

3½ h.p. Peugeot, Chater 6, footboards, a beauty; £17 10s., lower power part.—4, Thompson Rd., E. Dulwich.

MOTO-REVES.—Call or write for particulars and cash prices.—Storey's, 337, Euston Rd., London, N.W.

MOTOR Cycle at once, will give two-speed free engine, Phoenix tricar, or sell £18.—23, Organ St., Leigh.

3½ h.p. Rex and sidecar, rigid, in good running order, price £12 12s.—Page, 74, East Hill, Dartford, Kent.

2h.p. Bat, in good condition, spring frame, horn, spares; £15.—Stedman, Heathway, Ox-holme, Surrey.

£12.—Midget Bicar, 3h.p. Fafnir, good condition, good accumulators.—Back, 25, Moresby Rd., Clapton.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

3 h.p. Humber chain drive, Dunlops, free engine, perfect condition and reliable; £9, offer.—1, Ivy Lane, Brockley.

2 h.p. J.A.P., B. and B., good climber, everything perfect order; £9 10s.—Green, 28, Park St., Brighton.

2 h.p. Minerva, splendid condition, little used, fast, reliable; bargain, £14.—Dover House, Clifton Hill, Brighton.

6 10s.—Minerva pattern, engine as new, Palmers, ridden 100 miles; bargain.—75, Belmont St., Kentish Town.

PHYLON-MOORE, with sidecar, 1909, like new, splendidly equipped; a great bargain, £45.—Bunting, Vealdstone.

3 h.p. Werner Motor Bike, good running order, Whittle belt; bargain, £7 10s.—109, Broadway, Cricklewood, N.W.

LIGHTWEIGHT 2½ h.p., like new; what cash offers? splendid little low mount.—2, Burne St., Edgware Rd., London.

12 h.p. Twin Minerva, perfect order, spring forks and rests; cash £16 10s.—126, Lordship Lane, East Dulwich, S.E.

32 h.p. Bradbury, two speeds; exchange for sidecar and cash, or sell £12, or offer.—Cross, 180, Liverpool Rd., Islington.

2 h.p. J.A.P., B.S.A., as new, Michelin tyres, not scratched; any trial; £10.—French, 37, High St., Newhaven.

3 h.p. Minerva, low, good running order, 26in. wheels, 4 tyres new; £8.—Fairhead, builder, Melville Rd., Valthamstow.

h.p. Minerva, 26 by 2 Hermetic tyres, spring seat-pillar, fast machine; £6 10s.—G., 1, Shalimar Terrace, Acton.

TRIUMPH, 1906, magneto, H.B. control, perfect condition; £19 10s.—2, Reepham Villas, East End Rd., E. Finchley.

WHITTLE'S.—1909 F.N. lightweight, magneto, spring forks, absolutely as new, perfect, and unscratched; sacrifice 20 guineas.

WHITTLE'S.—Bat, 3½ h.p., spring frame, genuine M.M.C. engine, De Dion carburetter, nearly new, unscratched; great sacrifice, £16 16s.

WHITTLE'S.—N.S.U., 5-6 h.p., twin, latest type, magneto, suitable for sidecar, very powerful, like new; 26, offers.

WHITTLE'S.—Kerry, 2½ h.p., Model de Luxe, perfect order; £8 15s.—Whittle's Motor Exchange, Earlsfield, Phone, 711, Post, Wimbledon.

1 h.p., fast, low position motor cycle; £12, or nearest offer; no use to owner; must sell.—Chilworth, Victoria Rd., Upper Norwood.

M.M.C., 3½ h.p., M.O.V., Chater frame, friction clutch, good tyres, footboards, Longuemare; £18.—100, Albert Rd., Dalston, London.

3 h.p. De Dion Pattern, Longuemare, new belt, Continentals, enamelled grey, red lined; bargain, £11 12s., Napier Rd., Leytonstone.

8—3 h.p., magneto, Chater frame, Continentals; bought higher power; large gas lamp, 6s.; tters.—14a, Maple Rd., Surbiton.

32 h.p. Centaur, excellent condition, Clincher front, Peter-Union back, 26in. by 2½in., Longuemare; 15, offers.—Pasfield, Theydon Bois.

If You Want Bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

h.p. Lightweight Twin, taken for debt; first cheque above £12 10s. secures.—Barwood Manufacturing Co., Wingate Wks., Ravenscourt Park, W.

2 h.p. Quadrant, Amac H.B. control, two accumulators, tools, spares, splendid running condition; £9, or offer.—2, Albert Villas, Broxbourne, Herts.

h.p. Twin Antoine, Chater-Lea, spring forks, footboards, Continentals, adjustable, Whittle; £15.—Chauffeur, 11, Lancaster Mews, Paddington.

12 h.p. Twin Minerva, B. and B. carburetter, handle-bar control, adjustable pulley, spring forks, Whittle belt, perfect condition; £22 10s.—Below.

12 h.p. Minerva, handle-bar control, free engine, spring forks, band brake, splendid condition; £14.—Below.

12 h.p. Excelsior, spring seat-pillar, very fast; £9.—60a, Trinity Rd., Upper Tooting, S.W.

9 09 N.S.U., 3½ h.p., twelve guinea Montgomery sidecar, used week; cost all together £50, bargain, £33.—P., 15, Craven Terrace, Paddington.

h.p. Minerva, 1908, Palmer cords, 1910 Amac carburetter, Price's stand, lamp, hooter, spares; photograph, trial; £30.—229, Burdett Rd., London, E.

32 h.p. Motor Cycle, Amac H.B. control carburetter, Fuller trembler coil, two 20 amp. accumulators, mp, horn, tools; £8.—126, Lordship Lane, S.E.

N., 4-cyl., splendid condition, R.O.M. tyre, Bosch magneto, overhauled, spares, and accessories, spring forks; £20, bargain.—Hawkins, 57, Bell St., Reigate.

12 h.p. Fafnir, Chater frame, accumulators, Stanley belt, lamp, horn, tools, new spare Palmer cover; £2.—Gardner, Laburnam, Rohe Av., Kenley, Surrey.

No. 1877. 3½ h.p. PHYLON AND MOORE, 1908 model, two-speed gear and free engine, in perfect running order; guaranteed; cash price £35 0

No. 1874. 1½ h.p. MOTOSACOCHE, 1907 model, in nice condition; guaranteed £15 15

No. 1873. 2 h.p. 1908 MOTO-REVE, grey finish, smart machine; guaranteed 21 Gns.

1910 New EXCELSIORS, both free engine and direct drive models. Supplied from stock.

No. 1868. 3½ h.p. 1908 TRIUMPH, fitted with Albion free-engine clutch, nice condition throughout, easy starter; guaranteed £33 0

No. 1867. 3½ h.p. ARNO, two-speed gear and free-engine clutch, up-to-date machine, in new condition; guaranteed £32 10

No. 1862. 2½ h.p. 1910 DOUGLAS Lightweight, immediate delivery from stock; guaranteed .. 38 Gns.

No. 1861. 3½ h.p. BAT, sound machine, fit for the road; guaranteed £12 10

No. 1860. 3½ h.p. T.T. TRIUMPH, 1909 model, splendid machine and perfect as new; guaranteed £35 0

1910 BRADBURY'S. Immediate delivery from stock. Exchanges arranged.

No. 1855. 1½ h.p. MOTOSACOCHE, perfect order, ready for the road; guaranteed 15 Gns.

No. 1853. 4½ h.p. HUMBER Water-cooled Tricar, running order £10 10

1910 MILLS AND FULFORD Sidecars, cane seat, spring wheel. Immediate delivery from stock.

No. 1851. 4½ h.p. Twin-cylinder MINERVA, splendid machine, running perfect; guaranteed. Price £16 10

No. 1847. 2 h.p. 1908 MOTO-REVE, twin-cylinder engine, spring forks, magneto ignition, splendid condition, direct V belt drive; guaranteed .. 19 Gns.

No. 1845. 3½ h.p. brand new PHYLON & MOORE, 1909 model, two-speed gear and free engine. Offers.

No. 1842. 3 h.p. TRIUMPH, spring forks, 1906 model, nice condition throughout; guaranteed £16 10

No. 1837. 3½ h.p. 1907 MINERVA, smart machine; guaranteed £13 10

No. 1836. 2½ h.p. MINERVA, 1907 machine, nice condition; guaranteed £12 10

No. 1835. 1½ h.p. MOTOSACOCHE, magneto ignition, 1909 model, spring forks, as new; guaranteed £23 10

No. 1834. 3½ h.p. TRIUMPH, 1909 model, magnificent machine; guaranteed £35 0

No. 1829. 3 h.p. SCOTT-JOWETT Two-stroke Motor Cycle £25 0

No. 1828. 3½ h.p. 1909 TRIUMPH, all accessories, magnificent machine; guaranteed £35 0

No. 1826. Sidecar, rigid type, second-hand £4 4

No. 1822. ½ h.p. ARIEL Lightweight, shop-soiled only, never used. Offers £17 10

No. 1814. 3½ h.p. MATCHLESS, magneto in tank, Druid spring forks, nice machine; guaranteed 20 Gns.

No. 1813. 3½ h.p. FAFNIR, nice condition, accumulator ignition, sound machine; guaranteed 9 Gns.

No. 1810. 3½ h.p. PEUGEOT in No. 6 Chater-Lea frame, low frame, torpedo copper tank, good, sound machine; guaranteed 17 Gns.

No. 1801. 2½ h.p. 1908 Featherweight REX, nice condition, magneto ignition; guaranteed £17 0

No. 1764. 5-6 h.p. Four-cylinder F.N., 1908 model, good, sound condition; guaranteed. Price .. £25 0

2½ h.p. DOUGLAS, 1909 model, magneto, spring forks, condition as new; guaranteed £28 0

A few 1910 REX Motor Cycles; Show finish. The identical machines offered are those shown on the Rex Stand at the Stanley Show. Immediate delivery from stock. Cash or exchange.

WAUCHOPE'S,
9, Shoe Lane, Fleet Street
(Just off Ludgate Circus),
LONDON, E.C.
Telephone, 5777 Holborn. Telegrams, "Opificer, London."

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for great bargains, new and hand, gradual payments taken on any exchanges.—Only address, 5, Heath St., Ham Tel.: 2678 P.O.

HAMPSTEAD (£15).—F.N., 1½ h.p., lightweight spring forks and magneto, cost £35 last.

HAMPSTEAD (£29).—1909 Speed King, 3½ h.p., most new; Triumph, 3½ h.p., T.T. model, n dition, £30.

HAMPSTEAD (£13).—N.S.U., 3 h.p., all accessories, splendid condition; Whitley, 3 h.p., gain.

HAMPSTEAD (£12).—Riley, 3½ h.p., M.O.V., accessories, splendid condition; another, 24 bargain.

HAMPSTEAD (£23).—4-cyl. F.N., 4½ h.p., model, magneto, spring forks, with all accessories.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½ h.p., condition, with all accessories, late model.

HAMPSTEAD (£27).—F.N., new condition, 1908 model, 4½ h.p., magneto, spring for accessories.

HAMPSTEAD.—1910 new Triumphs in stock. Reves and F.N.'s at special reduction, models.

HAMPSTEAD.—Sole London and district agent, Lincoln Elks, all models in stock; special trade.

HAMPSTEAD (£12).—Singer, 3 h.p., magneto non-skid on back, in splendid order, with series.

HAMPSTEAD (£17).—F.N. 1½ h.p. Lightweight neto and spring forks, with all new accessories, bargain.

HAMPSTEAD (£26).—Genuine 1908 V.S., model, 5 h.p., magneto, and spring forks, all series.

HAMPSTEAD.—Are now showing all the leading machines; exchanges entertained; delivery stock, no waiting.

HAMPSTEAD (£12).—Lincoln Elk, 3 h.p., model, new condition, with accessories, a gains, guaranteed.

HAMPSTEAD (£4 10s.)—2½ h.p. Minerva, frame, special bargain, guaranteed. Tel. P.O. 5, Heath St.

5 h.p. Twin Peugeot Motor Cycle and coach-bui car for sale. Mabon clutch, and in good condition.—E. Porter, 54, St. John's Rd., Clapham Junction.

4 h.p. Antoine, low, powerful, long handle-bar condition, 15 guineas; also lady's Hudson 50s., or best offers.—35, Allen Rd., Stoke Newington.

REAL Bargain.—3 h.p. Quadrant, spring forks, bar control, Brown-Barlow, climb anything 10s., or nearest.—Edwards, 138, Churchfield Rd.,

24 h.p. Kerry, engine re-bushed, low position, 26 by 2½in. tyres, all good going order; £8, or exchange higher power.—126, Broom Rd., Teddington.

4-CYL. F.N., 4½ h.p., magneto, spring forks, just roughly overhauled, most reliable, starts with ease; sacrifice £22.—17, Kenmore Rd., Mare St., New.

h.p. 1908 Bradbury, spring forks, Clinchers, tanks, low, lamp, everything complete, guaranteed; £23; take small car.—Lloyd, 31, St. King's Cross.

MINERVA, 3½ h.p., Mabon clutch, spring forks control, Millennium stand, lamp, etc., splendid condition, very fast; £18.—Watson, Hilliers Lane, Croydon.

1909 Triumph, equal new, 14 guinea Mont sidecar, used once, gas lamp, mirror, valves, cost complete £70, bargain. £46.—Stevens, 3, Elm Bayswater Rd., W.

1909 5 h.p. Rex de Luxe, two speeds, Aut lamp, Jones speedometer, watch, spare V belt, valves, etc.; cost £65, £45, lowest.—Bleas Roman Rd., East Ham.

FAFNIR, 3 h.p., excellent condition, H.T. Bosch magneto ignition, spring forks, 26 by 2½ in. spare tubes, lamp, generator, many spares; £16.—New, 199, Piccadilly, W.

ROC and Sidecar, 6 h.p. twin J.A.P. engine, ma two speeds, handle starting, thoroughly over very powerful, smart, reliable combination; b £33 10s.—Stanton, below.

1908 Minerva, 3½ h.p., magneto, spring forks, able pulley, studded tyres, not done 800, almost new condition; £22 10s.; stand expert extension.—Stanton, below.

1908 N.S.U., 3 h.p., magneto, splendid condition, powerful, thoroughly reliable; £18 10s. that?—Stanton, below.

4-CYL. F.N., 4½ h.p., and sidecar (nearly new), Leal, powerful, reliable, handsome combination £33 10s.—Stanton, 619, Lea Bridge Rd., Leyton don.

SECOND-HAND Machines taken in part payment the Hulbert-Bramley Motor Co., 96, Uppermond Rd., Putney; liberal allowances for old machines in part payment for 1908 Triumphs, or any other makes.

MOTOR BICYCLES FOR SALE.

9 Rex de Luxe, 5h.p., two speeds, special finish, and Mills-Fulford castor wheel sidecar, just as any trial; only run 600 miles; £42, no offer.—8, ans Mews, Chalk Farm.

p. Minerva, fast and reliable, long handle-bars, low position, splendid condition throughout, lamp, bag, tools, stand, numbers transferable; sacrifice 2, Market Sq., Horsham, Sussex.

MINERVA Twin, 4h.p., Chater-Lea frame, and free engine, footboards, long handle-bars, special Chater, very powerful, fine hill-climber; open to reason-ffer.—J. Grove, 151, Knights Hill, Norwood.

9 3h.p. Tourist Model Triumph, all tools, spare belt, tyre, and all accessories, complete, very little perfect condition; no offers; £40.—J. and R. ey Motor Co., 96, Upper Richmond Rd., Putney.

9 Triumph, fine order, £38; 1909 3h.p. Minerva, little used, £38; 1907 3h.p. Triumph, first-rate £26; 1907 4h.p. F.N., £22—Apply, Hulbert-ey Motor Co., 96, Upper Richmond Rd., Putney.

9 Rex Twin, two-speed, 2h.p., tyres, London-Edin- burgh, End-to-End successes, spring wheel sidecar, searchlight, all spares, tyres, tubes, belt, valves; 0, cost £80 July.—Adams, 56, Shepherd's Bush Rd., ersmith.

p. Minerva, inclined engine, B.S.A. frame, taor- oughly overhauled and enamelled; owner going 1; new 26in. wheels and covers, long handle-bars, new; £14, lowest.—Can be seen and tried at 's Motor Works, Rainham, Kent.

Lightweight, 1h.p., as new, 1h.p. new special Palmers and tubes, new Druid spring forks, new syntonic high speed coil, Bowden h.b. control, brake, very economical (170 miles to gallon), fine machine; offers wanted.—Pullman Bros., London Torbury, London.

9 Triumph, exceptional bargain, practically new machine at season's wear price, run 300 miles, used 20th September, engine dated 17th August, ad Clincher front, Palmer and butt-end back, F.R.S. lamp, Mangin model, and generator; £40; purchased car.—Apply, "Celestine," Gordon Rd., arley.

9 Rex de Luxe (5h.p.), new March, run 1,000 miles only, everything as new, and absolutely tee? perfect; also Millford sidecar, in similar ion; owner buying Rex Sidette, only reason for ; 100 miles trial to intending purchaser; outfit £75; await best offer.—Rixon, 1, Wellesley Rd., w, Middlesex.

Do You Visit the Stanley Show, and decide on your next year's machine?—If so, we shall be pleased apply same, taking your old machine in part pay- Please don't forget, we have been established years, and make a speciality of exchanges, and ng machines to clients' own designs. We also second-hand machines in stock.—Write, 'phone, or he Cripps Cycle and Motor Co., 24, 26, 28, Wood- Rd., Forest Gate, London, E. 'Phone, 75, Strat-

SECTION IX.

erset, Devon, Dorset, and Cornwall.

p. Twin Brown, 1908, magneto, Druid spring forks, handle-bar controlled throttle, Premier ab-, spring footrests, excellent condition, not ridden miles; cost, new, as fitted, £59, take £25, or near -A. Loe, Church House, Heavitree.

SECTION X.

land.

D of Season Clearance Sale of Second-hands, all makes and powers. Let us know your wants; we supply from £6 upwards; write for special list.—nder's Motor Exchange, Lothian Rd., Edinburgh.

E Largest Stock and largest variety.—Rex, V.S., Moto-Reve, Excelsior, Douglas, Roc, Minerva, Grif- Zenith, Indian, Norton. We can supply any other —Alexander's Motor Exchange, Lothian Rd., Edin-

D of Season Bargains.—1909 3h.p. Bradbury, new condition, not run 200 miles, £38; 1908 3h.p. va, magneto, B. and B. carburetter, perfect con- , £20; 2h.p. F.N. splendid running order, good etc., £9; 2h.p. Ormonde, good order, £7 10s.; Brown, good order, but wants new covers, special £4.—Central Cycle Works, Peterhead, N.B.

SECTION XI.

and and Isle of Man.

p. F.N. Motor Bicycle, new magneto, new tyres, everything in perfect order, offers; also two No. motor cycle lamps, Lucas Acetyphote, cheap.—David w. Lurgan, Ireland.

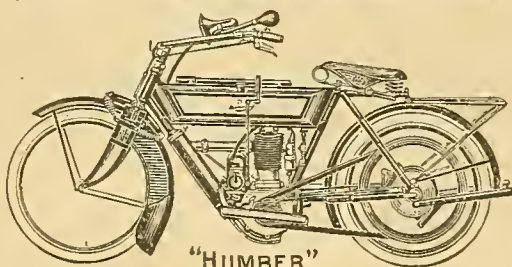
p. Triumph, August, 1906, fine order and condi- tion, B.B. engine, B. and B. carburetter, new Con- tal, 1909 spring forks; giving up; £20.—39, The t. Mountpottinger, Belfast.

IUMPH, 3h.p., splendid condition, magneto, B.B. handle-bar carburetter, Continental and Michelin new tubes, £in. Dermatine new, spare cylinder, 1, valves; £21.—3,607, The Motor Cycle Offices, istry.

TRICARS FOR SALE.

IEL Tricar, splendid going order; offers; exchange old quad, or bike considered.—Clifford, Elm Rd., ech.

1910 HUMBERS.



"HUMBER"

Single Gear model £45.
Two-speed model £50. Druid spring forks fitted.
Special allowances made on Rexes and Humbers, 1909.
Write us. We defy competition.

BOOK FOR EARLY DELIVERIES UNDER PENALTY.

1910 NORTONS. Sole Agents.

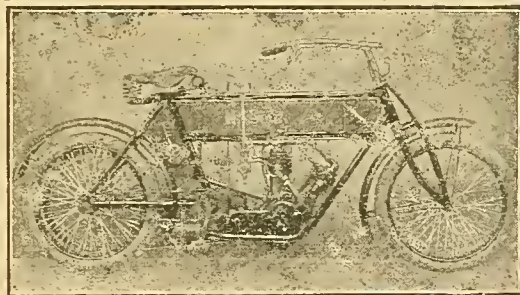
F.N.
BAT
L.M.C.
BROWN
NORTON
HUMBER
DOUGLAS
PREMIER
BRADBURY
WILKINSON
MOTOSACOCHE
PHELON-MOORE
MATCHLESS
MOTO-REVE
QUADRANT
TRIUMPH
INDIAN
KERRY
N.S.U.
ROC
V.S.

Diamonds of the first water. At prices of brilliants.

Our prices and delivery dates are always right.
Deliveries under penalty.

Send for our lists of second-hand motor cycles and accessories. We save you pounds, and it only costs a half-penny for a postcard.

N.S.U.'s. N.S.U.'s. N.S.U.'s.



SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.
WHEELS—24in. and 26in.
TYRES—Peter Union 2h.p. section to singles, and 2h.p. to twins.

CARB.—N.S.U. float-feed type.
BRAKES—Two Bowden band brake rear wheel, and back pedalling brake.

EXTRAS—Combined stand & carrier, belt punch, two oil-cans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.

GENERAL—We guarantee fully every machine sold.

PRICES:	Maker's price.	Our price.	Deferred payments
3 h.p.	£37	£25	—
3½ h.p.	£40	£31	£33
3¾ h.p.	£42	£32	£34
4 h.p.	£50	£35	£37
5 h.p.	£52	£37	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

1909 HUMBERS.

All practically new models. Fully guaranteed.
508.—3½ h.p., two-speed, magneto, Druid spring forks; large belt rim and pulley, Brooks Bro5/4 saddle, Dunlop studded tyres, practi- cally new £37 0
509.—3½ h.p., two-speed gear, Dunlop studded tyres and perfect, magneto £33 0

MAUDES' MOTOR MART,

136, GREAT PORTLAND STREET (off Oxford Circus), LONDON, W. Also at POWELL STREET, HALFAX Telephone: 552 Mayfair. (See our other advt.)

TRICARS FOR SALE.

8 h.p. De Dion, Chater-Lea open frame tricar, mag- neto, bucket seats; £16.—Ellwood, Jesus, Buttery, Cambridge.

£15 15s., no offers.—5h.p. water-cooled tricar, perfect, new Dunlop tyres.—Apply, 134, Highgate Rd., Kentish Town.

4½ h.p. Riley Tricar, two speeds, water-cooled; must sell; offers.—Lambert, 20, Westbourne Terrace North, Paddington, W.

MINERVA, 4h.p., twin, Osborne four speeds, nearly new tyres; bargain, £16.—Franklin, Langleybury, King's Langley, Herts.

9 h.p. Riley, three speeds and reverse, non-skid on back, splendid order; any trial; 58 guineas; Triumph part exchange.—785, High Rd., Leytonstone.

£15.—Zenith tricar, 6h.p. Antoine twin engine, single gear, splendid condition, with basket removed, ideal winter mount.—B., 20, Eyot Gardens, Hammersmith.

ASHFORD Tricar, 6h.p., 2-cyl. Stevens engine, water- cooled, Chater-Lea fittings throughout; £35.—Par- ticulars, Brine, Carisbrooke, Chelmsford Rd., Woodford, Essex.

4½ h.p. Beeston Humber Tricar, two speeds, free en- gine, water-cooled, chain driven, coach-built, per- fect; £25; cash wanted.—49, Abbott's Park Rd., Leyton, Essex.

BAT Tricar, 4h.p. Stevens engine, tyres unpunctured, fan, clutch; £20, part exchange, or reasonable offer.—W. Boot, 8, Beverston Rd., Thornton Heath, Surrey.

TRICAR, Humber, 4h.p., free engine, handle starting, chain driven, clutch, in excellent condition and run- ning order; any trial; bargain, £18.—Sharpe, Mildenhall, Suffolk.

4½ h.p. Riley Tricar, two speeds, water-cooled, wheel steering, bucket seats, lamps, horn, apron, few spares; £20, or offer; bargain.—3, Marine Villas, West Bay, Dunoon.

6 h.p. Zenette, J.A.P. water-cooled tricar for sale, coach- built body, car tyres, wheel steering, condition as new, all spares; trial by appointment; price £40.—Pain, Foord Rd., Folkestone.

10 h.p. Lagonda Tricar, water-cooled, mechanically equal to new; absolutely the best ever produced; cost £145, sacrifice £50; take motor cycle part.—R. Else, Leawood, near Matlock.

QUADRANT 6h.p. Carette, coach-built, two-speed, free engine, lamps, and spares, perfect going order; £30, or exchange 3h.p. Triumph, or other good make.—82, Turnmill St., London, E.C. First floor.

TRICAR for sale, 7-8h.p. Fafnir, twin, three speeds and reverse, gear Chater-Lea, sprung frame, wheel steer- ing, 700 by 85 tyres, and in good condition; £40.—E. C. Porter, 54, St. John's Rd., Clapham Junction.

REXETTE, 10h.p., twin-cyl., two speeds and reverse, seats two in front, twin wheel on back, Dunlop car tyres throughout; £35; would consider furniture or motor cycle in part payment.—Claremont, Florence Rd., Erding- ton.

5 h.p. Twin-cyl. Tricar, Kerry engine, coach-built front seat, two speeds, excellent condition and running order, lamps, leather rug, all accessories; bargain, £22; trial; owner bought car.—Findlay, Tyndale Park, Herne Bay.

9 h.p. Singer Tricar, latest model, water-cooled, wheel steering, three speeds forward and reverse, heavy car tyres, Panhard red finish, very fast, in splendid condition; cash offers wanted; appointment.—W.S., 15, Alpha Rd., New Cross, S.E.

LITETTE, 1908, 6h.p., water-cooled, magneto, two speeds, handle starting, coach-built, finished green and white, car tyres, unpunctured, has just been over- hauled by makers, acetylene lamps, etc.; £46.—Harris, 588, Commercial Rd., Portsmouth.

IDEAL Winter Machine.—6h.p. Air-cooled Quadrant Tricar, open frame, two speeds, wheel steering, chain drive, in splendid condition; will sell complete, with all accessories, £22 10s., or exchange first-class motor bicycle.—Seen, Tamplin's Motor Wks., King St., Twicken- ham.

BY Order of the Owners!—Two tricars, in good order, to be sold this week by tender; 3h.p. J.A.P., over- head tappets, 26 by 24 Continentals, spring seat, etc., largest offer over £6; 3h.p. Fafnir, two speeds, 26 by 24 tyres, handle-bar, B. and B., etc., offer over £10.—Nye's, 69, Leather Lane, London.

5 h.p. Twin Kerry, Rover frame, powerful engine, nearly new, cane forecar, large, two Peto-Radford accu- mulators, R.O.M. contact breaker, two Acetyphote lamps, tyres uncut, rear rubber studded, new 3in. Whittle belt, good running order; illness and moving only cause sell- ing; £21, quick sale; appointment.—19, Albion Sq., Dalston, N.E.

5 h.p. Auto-Carrier Tricar, new June, 1,500 miles, en- gine just thoroughly overhauled, good as new, dual ignition, Autoclipse lamp, generator, tail lamp, spare tyre, tube, two horns, luggage carrier, etc.; this tricar got full marks A.C.U. summer trials, 125 miles; seen in London; cost £95, price complete, £55.—Lampson, 9, Regent St., London, S.W.

SIDECARS AND FORECARS.

RIGID Sidecar, left, 26in., cane, upholstered green, apron, spares, basket; £4.—Lewis, 23, Arden Rd., Handsworth.

The Halifax Motor Exchange

**Largest Rex Dealers,
16, Westgate, HALIFAX.**

'Phone, 766. Telegrams: "Perfection."

BARGAINS IN 1909 REXES. 1909

1909 3½ h.p. Tourist REX £38
1909 3½ h.p. REX DE LUXE, 2-speed £48
1909 5 h.p. REX DE LUXE, 2-speed £50
Compare these with 1910 prices.

SIDECAR MACHINES.

1909 5 h.p. REX DE LUXE, brand new,
cash or exchange Offers
1908 Twin Tourist REX, magneto £26 10
1908 Twin REX DE LUXE, Palmers .. £32 10
1907 Twin Magneto REX £20 0
7-8 h.p. Twin MINERVA and N.S.U.
Sidecar, very smart lot £29 0
Twin WERNER Lightweight, spg. forks £12 10
5½ h.p. REX DE LUXE, Roc clutch .. £25 10
6 h.p. Twin NATOINE and Sidecar .. £18 10
6 h.p. Twin IZENTH, spring frame .. £13 10
6 h.p. Twin REX and new De LUXE
Sidecar, 26 x 2½ in. Clincher £21 0

EASY PAYMENTS.

£3 DOWN secures any of these.
Balance 5/- per week.

2½ Ariel	£9 5	3 Rover	£10 10
2½ Bradbury ..	£6 10	2 Sarola ..	£6 0
4 Antoine ..	£16 10	2½ Kerry	£9 10
3 Humber ..	£10 0	4 Coronet ..	£15 0
3½ Rex	£10 10	3 Ariel	£9 10
2½ Lloyd's	£7 10	3½ Werner...	£13 10
4 Atelier	£13 10	2 Humber ..	£8 10
4 Stevens' ..	£13 10	3 Bradbury..	£10 10
2½ Buchet	£6 10	2½ Whitley ..	£6 15

Push cycles taken in exchange.

5½ h.p. REX DE LUXE, fitted
with new De Luxe Sidecar,
mag., Roc clutch, handle-
starting. **£29 10**

SPECIAL OFFER.

26 x 2 in. and 28 x 2 in. Beaded Edge Covers,
13/6 each. These are a well-known standard
make. New and perfect. Tubes, 3/11.
Bargain list on application. Approval
against cash.

"POPULARS."

1909 3½ h.p. Magneto REX, shop-soiled £38 0
1909 3½ h.p. TRIUMPH, two-speed .. £42 10
1908 3½ h.p. Magneto REX, spring forks £24 10
1908 REX, 3-6 h.p., R.A.C. rating £17 10
4 h.p. ROC, magneto, clutch £24 0
3½ h.p. Magneto N.S.U., spring forks .. £18 10
4 h.p. ANTOINE, high tension magneto £18 18
3 h.p. Magneto SIMMS, 2½ in. Palmers £17 10
1907 3½ h.p. QUADRANT, spring forks £17 10

SPECIAL BARGAINS.

2½ h.p. WHITLEY, long bars, low saddle,
spray, vertical engine £6 6
3 h.p. HUMBER, spray, free engine .. £10 10
3 h.p. BRADBURY, long and low £10 0
1906 3½ h.p. REX, spring forks, M.O.V. £15 10
3 h.p. SINGER, belt drive, H.T. mag. £19 10
4 h.p. STEVENS, H.B. control, band b. £13 10
3 h.p. CLYDE, magneto ignition £15 0
2½ h.p. KERRY, light and low, spray .. £9 10
3 h.p. ROVER, M.O.V., Longuemare £10 0
3½ h.p. REX, handle-bar control, Amac £7 10
3 h.p. BEESTON HUMBER, spray .. £9 10
3½ h.p. WERNER, used with passenger £13 10
2½ h.p. Light ARIEL, low build £8 15
2½ h.p. LLOYDS, vertical, spray £8 0
3½ h.p. REX, spray, wants repair £4 15
Monster list on application.

Cash offers considered.

5½ h.p. Twin REXES, spring forks, long
bars, low frames, aluminium finish,
blue lines, 26 in. wheels £15 10
GRAND SIDECAR MACHINES. EXCHANGES.

NEW CARBURETTERS.

Handle-bar Control Amac, 19/6. Brown and
Barlow, 25/- 1910 Carburetters, 30/- and 32/-
Cash discounts.

DE LUXE SIDECARS, 2½ in. tyres,
everything of the best, built by
experts, three-bolt attachment,
26 x 2½ in. Clincher A Won tyres.
See our £4 17s. 6d. Sidecar before purchasing
cheap sidecars.

1908-9 Magneto Machines
wanted for spot cash. Full
trade value given.

1,000

SIDECARS AND FORECARS.

A REVOLUTION in Sidecars.

BRAMSON and Co., 5, Farleigh Rd., Stoke Newing-
ton, London, N., call attention to their original
patented detachable Homegarg sidecar with two small
invisible hinged joints, which in riding position looks
and is an ordinary sidecar, with usual chair, but by
loosening a few nuts it closes up, so that without detach-
ing from the cycle it occupies together with the motor
cycle 23 in., and in no case more than 26½ inches, and
then they can be easily wheeled about together and ac-
commodated in that space. The small hinged joints
come only in use when closing up, and are not used at
all when riding. Whether they are loose or not does
not affect in the least the strength or rigidity of the
sidecar, which is really stronger and more rigid than
the ordinary one. We shall fit our device to your own old
sidecar, convert it into Homegarg one, for £1 15s.
6d. It will repay itself in six months.

PRICE of new Homegarg sidecar from £6 10s. 6d.

OUR celebrated rear car for two passengers, converts
motor cycle into motor car for three riders, re-
quires no balancing whatever, £14 14s.

SAME as above for one passenger; £11 11s.

REAR Car for pedal bicycle, with hand propeller, re-
quires no balancing; £9 9s.

SAME as above, but with hand propeller; £8.

RIGID Art Cane Sidecar, adjustable to fit any make
motor cycle; £4 10s.—106, Empress Av., Ilford.

RIGID Sidecar, nearly new, cane seat, upholstered, fit
any machine; £3.—Brown, 2a, Seagrave Rd., Ful-
ham.

RIGID Sidecar (left), good condition, new Michelin
tyre; £3 5s.—Symons, Elmwood, Warwick Rd.,
Thornton Heath.

ROOMY Sidecar, rigid, hardly used; cost £12 12s.,
take £4, good condition.—Mrs. Edward Reynolds,
3ridport, Dorset.

FARRAR'S Halifax Sidecars are sent on approval;
guaranteed 12 months; immediate delivery; to fit
any motor cycle.

HALIFAX Sidecars are superb value; £4 17s. 6d.
each; equalling others costing double.—Farrar's
Motories, Square Rd., Halifax.

FORECAR Attachment, excellent condition, band
brakes, fittings; 35s.; no tyres.—Hitchcock, 114
riory St., Colchester.

WHOLESALE and Retail manufacturers.—Baskets,
springs, fittings.—Middleton and Co., Watson St.,
Newington Green, London, N.

12 Guinea Sidecar, brand new, and built throughout
with genuine Chater-Lea fittings, fit any machine;
£6 8s.; wanted, Sunbeam cycle.—H. Bent, 9, Gaskell
St., Clapham, London, S.W.

SIDECARS.—Before buying elsewhere call and inspect
our new models; best value in England; prices
£4 15s. and £5 10s.; second-hands from £3 15s.; fitting
free.—C. A. Edgar, 123, Holloway Rd., London, N.

J. DAVIS, Automobile Engineer, Barnsbury Grove,
N., begs to inform readers that he is the inventor
and sole builder of the protected double-seated sidecar,
illustrated recently in *The Motor Cycle*. This sidecar,
with tiller steering, is the last word in comfortable
motor cycling. Particulars and prices on application.

TANDEMS.

MOTOR Tandem, 26 by 2 Palmer cord, new
Renolds motor chain, lantern, generator, sidecar,
£3 10s.; trailer new cycle £10 10s.
juring, anything entertaining.—Mystic, Fivecrosses,
Frodsham.

CARS FOR SALE.

6 h.p. Swift-De Dion, 2-seater, hood, in perfect condi-
tion; £38.—741, Garratt Lane, Tooting.

14 h.p. Handsome Prunel Car, 4 cyls.; £65; smaller
car, tricor. or motor cycle part exchange.—Below.

10 h.p. Mercedes, 2-seater, 4 cyls., hood, screen; great
bargain. £53.—20, Potterneton Lane, Leeds.

14 h.p. Pritchett and Gold, 4-cyl., tonneau, splendid
order; sacrifice £72.—43, Wimbledon Rd., Tooting

6 h.p. Clyde, 2-seater, Aster engine, perfect order; £27
10s., or exchange.—Brown, 2a, Seagrave Rd., Ful-
ham.

10-12 h.p. Tonneau, 5-seater; best offer accepted; cash
or exchange; photo.—28, Grove Lane, Stamford
Hill.

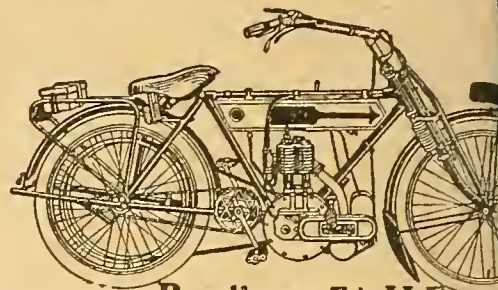
8 h.p. M.M.C., 2-seater, three speeds and reverse, artill-
ery wheels, good running order; £20.—F. Row-
ley, Slough.

ROVER, 6 h.p., Stepney, hood, electric lamps, and in
perfect order; £80 cash, or exchange entertained.—
Bunting, Wealdstone.

6½ h.p. Aster-Regal, 2-seater, usual speeds, in good run-
ning order; photo; £30, or nearest offers.—Fear,
Sadler St., Wells, Somerset.

8 h.p. De Dion-Progress, 4-seater, back entrance, climb
anything two speeds, reverse; £45.—Mortlock,
Richardson's Place, Greenwich.

1910 BRADBURY



Bradbury 3½ H.P.

£46 COMPLETE

We give dates for deliveries under pe

Deferred Payment Terms.

£16 down and ten monthly payments of

A few Standard 1909 £46 Models to clear a

1910 NORTONS

We are Sole London Agents for these. The
standard model on the market.

3½ H.P. 43 gns. 3½

Book your orders now for early delivery.

1910 PHELOON MOOR

3½ h.p. model £55 0 2½ h.p. model

Deferred payments. Earliest deliveries under pen

**N.S.U.'s —IN STOCK AT BOTH
HALIFAX & LONDON.**

3 h.p.	£37 0	.....
3½ h.p.	£40 0	.....
4 h.p.	£42 0	.....
3½ h.p.	£52 0	.....

All brand new and perfect, and fully guaranteed
Let us have your enquiries. Best allowances give
506. 3½ h.p. 1909 two-speed model, finished French
grey, Druid forks, Dunlop or studded tyres;
bargain
507. 3½ h.p. 1909 two-speed, Bros saddle, padded,
standard specification, almost new
In fact, all these machines are like new, and gua-
ranteed. They have been used for trials and demon-
strations only. Exchanges entertained. Let us save
enquiries.

Second-hand Bargains in Halifax S

REX, 3½ h.p., Bosch magneto, practically new,
1908 model
MINERVA, 2½ h.p., cream finish, practically new
tyres to both wheels
HAMILTON, 4 h.p., vertical engine, just over-
hauled and plated
N.S.U., 3½ h.p., magneto, Roc two-speed gear,
handle starting
N.S.U., 3½ h.p., 1908 model, 24 in. wheels, low
built, very good condition
MOTO-KEVE, magneto, spring forks, perfect order
TRIUMPH, 3 h.p., Palmer tyres, magneto ignition
ROVER, 2½ h.p., vertical engine, spray, handle-bar
control
FAIRY Lightweight, aluminium finish, two-
cylinder. An orphan
DUKKOPP, 2½ h.p., low built, grand condition.
First cheque secures
MINERVA, 4½ h.p., low built, handle-bar control,
perfect order
F.N., 2 h.p. £10 1 MINERVA, 2 h.p.
HUMBER, 2 h.p. .. £8 1 HUMBER, 2½ h.p.
QUADRANT, 3 h.p. £10 1 SINGER, .. 2 h.p.
WERNER, 2 h.p. .. £8 1 BROWN, 2 h.p. ..

Have you our Lists by yo

If not, you should have. We save you money.
p.c. and prove our statements.

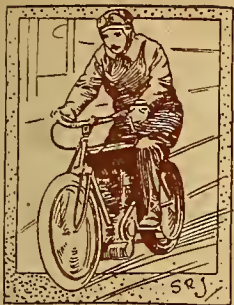
MAUDES' MOTOR MA

**Powell Street,
HALIFAX.**

Telephone—433. Telegram—"Petrol, Hali

Also 136, Great Portland Street, LONDON

Telephone—552 Mayfair.



THE MOTOR CYCLE SUPPLEMENT



This Week's Special Feature

CLUB LIFE IN ALL PARTS.

Auto Cycle Union Council Meeting.

A meeting of the Council of the A.C.U. was held at 112, Piccadilly, on Saturday evening last under the able chairmanship of Mr. Robert Todd. The first important item on the agenda was to read the report of the work done by the Union, which since the last meeting has been of a most useful character, no less than seventy-five members having received legal assistance. Mr. V. Hart then proposed that the annual subscription for individual members should be reduced to 10s. 6d. Neither the Union nor the clubs, he said, were receiving sufficient support from the thousand odd motor cyclists residing in the London district, and the proposed reduction should attract those riders who had no intention of joining a club. At present those living outside the London radius paid only 10s. 6d., while those residing inside paid a guinea and obtained no more advantages; moreover, the A.C.U. was encountering some competition in certain directions. He did not think this step would interfere in any way with the affiliated clubs.

Mr. Booth ventured to differ, and said that these men ought to come into the Union through the clubs; he therefore opposed the motion.

Mr. H. G. Cove said the proposal had been sprung suddenly on the meeting; it was not asked for, and it was not wanted. Mr. C. A. Smith (hon. treasurer) also opposed the motion from a financial point of view.

Mr. Hart then replied, and the Chairman said he thought it would be best for the subscription to remain as it is. On the motion being put to the meeting it was lost, as was Mr. Hart's further motion that candidates for membership should be admitted without payment of the usual entrance fee.

Road Dangers at Night.

Mr. R. Vernon C. Brook (Birmingham M.C.C.) then proposed that steps should be taken directly, or through the agency of the Royal Automobile Club, to induce county councils to consider seriously the provision of a byelaw compelling all drivers of cattle to carry a green light after dark to give due warning of their presence on the highway. In putting this forward Mr. Brook pointed out that all motorists were aware of the danger, but concerted action had not yet been taken.

Some discussion then ensued as to whether the suggested light should be green or red, but Mr. Todd thought that for the present it should be mentioned merely as coloured.

Mr. Beevor then proposed that the matter should be brought to the notice of the R.A.C. General Committee, and joint action be taken if possible by the A.C.U. and the R.A.C. This motion was carried unanimously.

Mr. H. C. Pickering (A.C.U., Midland Centre) proposed that the Quarterly Trials should be held in different parts of the country, and that local centre officials should be asked to give their assistance. A long and interesting discussion followed this suggestion, in which Messrs. Brook, Brough, Booth, Bischoff, and others took part.

The majority agreed that certain competitions might with advantage take place in various parts of the kingdom, but as the Quarterly Trials were held primarily for the trade, it was necessary there should be a fixed course, so that the performances could be easily compared.

Mr. Pickering was then asked to delete the word "quarterly," and after he had consented to do this the motion was carried.

Mr. Hardy suggested that the Quarterly Trials might well on two occasions during the year start and finish at Banbury, but, after careful discussion, it was found that the general feeling was that it would entail too great an expense.

Mr. C. A. Smith asked the chairman to sound the meeting as to whether Saturday was the most convenient day on which to hold a council meeting. This was done, and all the provincial delegates voted in favour of Saturday.

The meeting then concluded with a vote of thanks to the chairman.

THE A.C.U. VISIT TO H.M.S. LORD NELSON.

On Thursday last a party of members of the Auto Cycle Union, numbering twenty-five, and including several ladies, accepted the kind invitation of Captain Sir R. K. Arbuthnot, Bart., R.N., to inspect Chatham Dockyard, and to go over H.M.S. *Lord Nelson*, of which magnificent vessel he is the commander. At Chatham Station an officer from the *Lord Nelson* was in waiting to receive the party, who entered a number of vehicles kindly sent by Captain Arbuthnot to convey them to the dockyard, where some considerable time was spent in looking over the various schools of gunnery. A move was afterwards made to the *Lord Nelson*, where the party were received by Captain Sir R. K. and Lady Arbuthnot, and shown over the Captain's quarters and as much of the ship as was possible in the short time at their disposal. They were afterwards entertained to tea, Lady Arbuthnot presiding. Among the objects of special interest to the visitors were the motor cycle trophies won by Captain Arbuthnot, particularly the silver cup won by him in the 1908 Tourist Trophy Race.

AN IMPORTANT MEETING OF MANUFACTURERS.

On Friday last, at 11.30 a.m., a meeting of members of the motor cycle trade, under the able chairmanship of Mr. A. E. Bennett (Bosch Magneto Co.), was held at the Agricultural Hall, at which it was decided to form a body to be known as the Association of Motor Cycle Manufacturers and Traders, the object of which will be to look after the interests of those engaged in the motor cycle business. The meeting resolved itself into a general discussion on such points as do not interest the general reader, but dealing with exhibitions we may mention that the feeling was prevalent that a separate motor cycle show was needed. The result of the meeting was a decision to form definitely an independent body bearing the above mentioned title, the committee of which should consist of Messrs. R. S. Banks (Brown Bros., Ltd.), C. E. Rockham (Palmer Tyre, Ltd.), W. G. Bower (Zenith Motors, Ltd.), J. R. Nesbit (E. M. Bowden's Patent Syndicate), H. H. Collier, sen (Matchless Motors), H. Williamson (Rex Motor Mfg. Co.), J. A. Stevens (Bosch Magneto Co., Ltd.), T. H. Tessier (Pat Motor Mfg. Co., Ltd.), W. Pratt (Phelon and Moore, Ltd.), W. H. Wells (Hendee Mfg. Co., Ltd.), J. J. Prentice (Triumph Cycle Co., Ltd.), and R. O. Mitchell (Rom Tyre and Rubber Co., Ltd.), secretary.

Nottingham and District M.C.C.

The annual dinner and prize-giving will be held at headquarters, Welbeck Hotel, Nottingham, on Friday, December 10th, at 7.45 prompt. Some excellent talent has been engaged for the concert. All motor cyclists are welcome. Tickets, 4s. each.

Essex M.C.

The annual dinner has now been definitely fixed to take place on Saturday, January 15th, at the Holborn Restaurant.

Members will be glad to know that Mr. A. G. Reynolds, who has been very seriously ill, as a result of his fall in the recent Six Days' Trials, is now gradually improving in health, although it must still be some time before he is able to get about again.

Proposed New Manchester Motor Cycling Club.

For some time past it has been the opinion of a number of motor cyclists in Manchester that there is ample scope for the formation of a motor cycle club which shall hold club runs and competitions on Wednesday afternoons, and Mr. E. V. Stevens, 100, High Street, Manchester, would like to have the opinion of motor cyclists with Wednesday afternoons free who are interested in the formation of a club. Mr. Stevens is certain that the new club could be made a success.

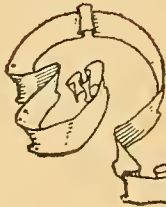
Oxford M.C.C.

At a general meeting of members, held on the 19th inst., an interesting paper on "All Speed Gears for Motor Cycles now on the Market," illustrated by lantern slides, was read and supplemented by Mr. H. G. Hill. The paper and slides were prepared by Mr. R. Vernon C. Brook, secretary of the Birmingham Motor Cycle Club, to whom great credit and thanks are due.

Slides from photographs taken at social runs and competitions during the year, prepared by the captain of the club, Mr. J. F. Salter, were of special interest and amusement.

The competition for the club challenge cup will be held on Thursday and Saturday next.

CLUB



Auto Cycle Union.

Mr. P. W. Bischoff will on Thursday, January 13th, read a paper before members of the A.C.U. at 112, Piccadilly, entitled "The Problem of the Private Owner." The subject is an interesting one, and it is to be hoped that all interested in this important problem will attend.

Western District M.C. (London).

Members are invited to attend the series of papers at the Great Eastern Hotel, Liverpool Street, E.C., in accordance with the invitation kindly extended by the Essex M.C. The first paper is on December 9th, and the subject "Novelties at the Stanley Show," by H. G. Cove.

Middlesbrough and District M.C.C.

At the Corporation Hotel, Middlesbrough, on Wednesday night, Mr. G. R. Sanderson read a paper on "Winter Clothing and Accessories for Motor Cycling." He impressed his audience with the necessity for studying the details of clothing for winter riding, so that they could enjoy it to the full. He gave some useful tips for keeping warm in winter. He recommended handle-bar muffs, special boots, scarf, ear flaps, and leather gloves.

Afterwards Mr. J. H. Dale, who had attended the Doncaster Flying Week, explained the different types of aeroplanes which were used.

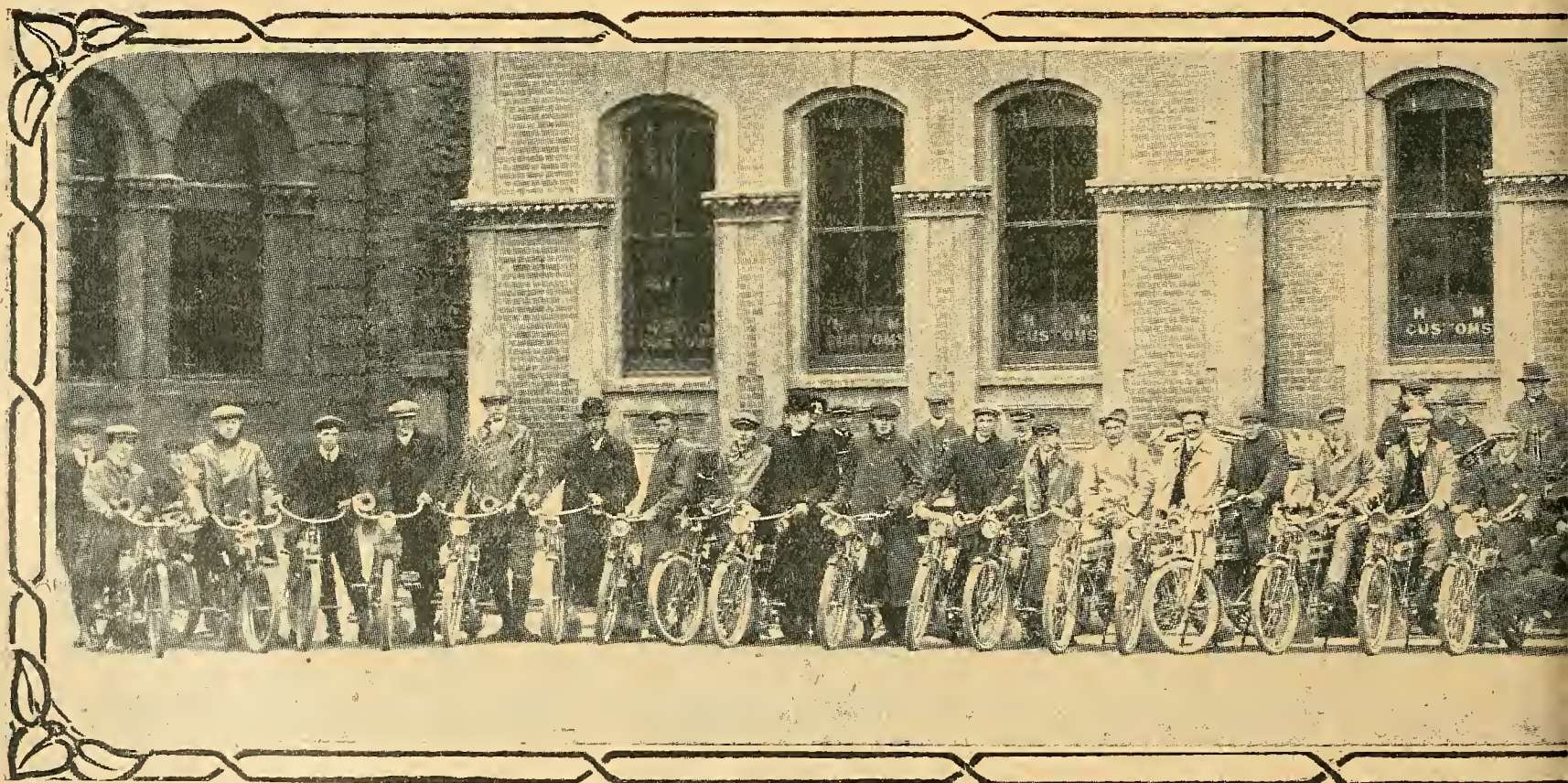
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On Saturday, was held. The five times. The

- E. D. Dickson
- E. C. Bradford
- C. H. C. Smith
- C. F. Burnard
- A. W. Britain
- V. F. M. Oliver
- G. C. Tylor (3½)
- A. Wrigley (3½)
- Gray (3½)
- F. P. Dickson (7)
- F. M. Dimond (5)
- A. M. Cott (5)
- C. K. Wigram
- E. N. Clifton (4)
- J. E. Horniman
- W. T. Palmer
- J. Ashworth (2)

As nine rider was declared by medal and the adjudged to E.

BRITISH-BUILT MO



The above photograph is unique as showing the preference our Antipodean relations have for British-built motor cy that twenty-seven of the machines are of one make—the trusty Tri

NEWS



Sidney R. Jones

Sutton Coldfield A.C.

The annual smoking concert of the above club will take place on Saturday, December 4th, at headquarters (the Royal Hotel), commencing at 8 p.m. sharp. An attractive programme has been arranged, and the committee hope that a large number of members will be present.

Perth and District M.C.C.

The above club held its final gathering of the year in the shape of the second annual meeting and election of office-bearers. Mr. A. T. Paterson (president) occupied the chair. Mr. D. Batchelor (hon. treasurer) gave his financial statement, which was very satisfactory, and leaves the club with a very sound basis, and a balance to carry forward to next year's account.

Mr. J. W. Robertson (hon. secretary) gave a long report of the working of the various competitions, etc., and the active part taken by the club in assisting the Edinburgh M.C.C. with its five days' Scottish trials and the open competition on the famous Amulree Hill. He mentioned also that the club had a representative in J. Adamson in the Tourist Trophy Race.

Dr. McCall Smith presented the prizes won in the various competitions during the year, and the rest of the evening was spent in harmony.

Walthamstow M.C.

The third annual dinner, distribution of prizes, and Bohemian concert will be held on Saturday, December 4th, at the City Arms, St. Mary Axe, E.C. The president, Mr. L. Stanley Johnson, has kindly consented to take the chair, and Messrs. C. T. Wilkinson and G. West (chairman of the club) in the vice-chairs, will be supported by many well-known gentlemen. During the evening the prizes will be distributed by Mrs. L. Stanley Johnson. An excellent programme has been arranged. Mr. F. Straight, secretary to the Auto Cycle Union, will be present to respond on behalf of the A.C.U. Tickets can be obtained from Mr. J. W. Percival, 13, Church Hill, Walthamstow.

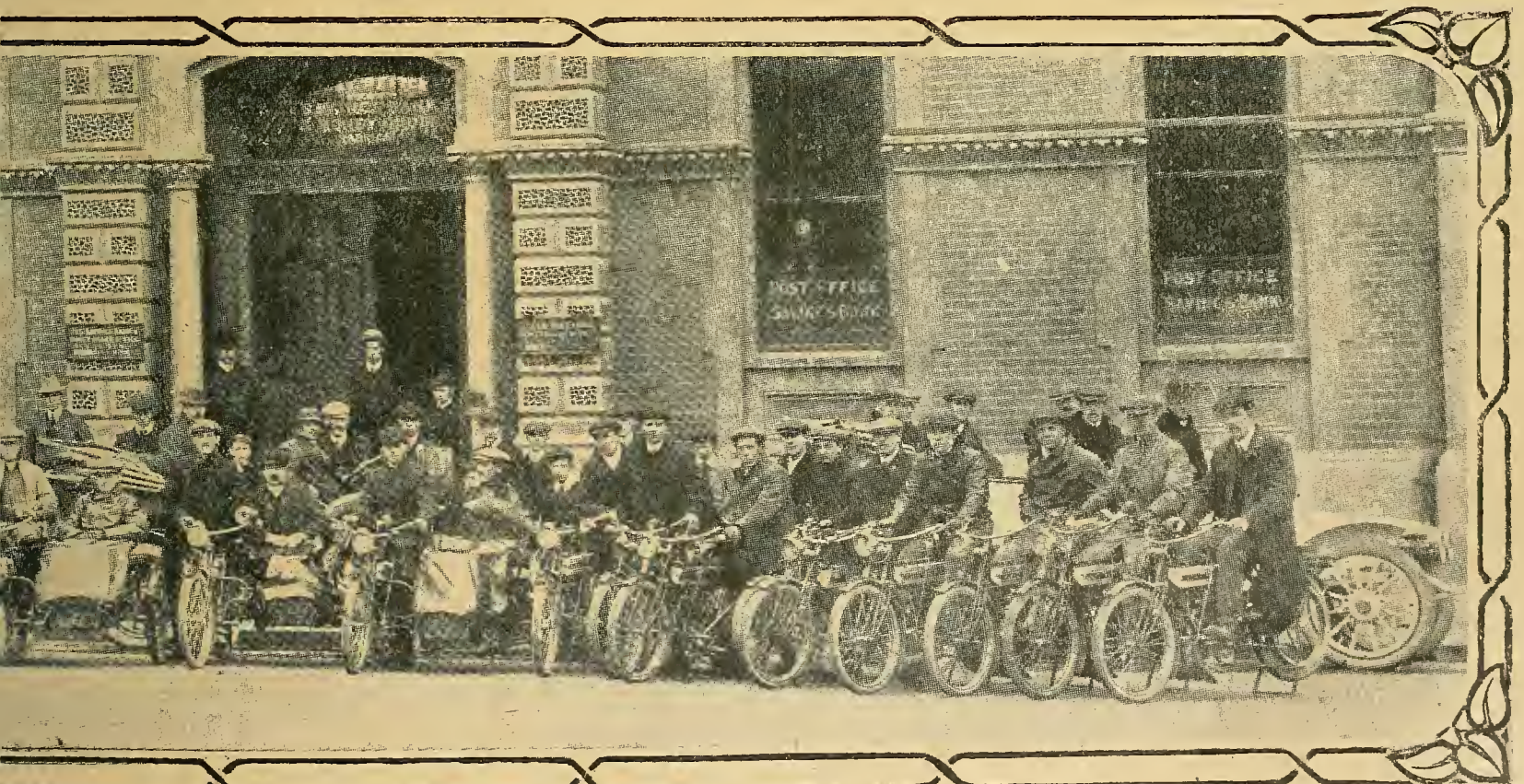
Richmond and District M.C.

The annual dinner of the above club was held at the Trocadero Restaurant. There was a very fair attendance of members, and the table was beautifully decked with the club's colours—orange and purple. After the toasts of "The King and the Royal Family," the chairman, Dr. Paul, in proposing "The Club," referred to the injustice of the speed limit and the unfairness of police trapping, and urged the members not to spend their money in unclean towns and counties, and mentioned the good work "The Autocar League" was doing in this respect. He expressed his regret that Colonel Harrison Hogge, who was to have been chairman, was absent unavoidably, and that their president, the Marquis de Mousilly St. Mars, was prevented from attending. This toast was responded to by Messrs. W. H. Wood and E. M. P. Boileau. Various cups and medals won in competitions were then presented by the chairman, among which may be mentioned the following motor cycle trophies: The St. Mars Cup, won by H. C. King; and the Carpmael Cup, by F. C. Wood. "The Officials of the Club" was proposed by Dr. Simmons, and responded to by Mr. A. Carpmael; and "The Visitors" by Dr. Paul, replied to by Mr. V. Riley; while the toast of "The Chairman" was proposed by Dr. Horder.

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THE ANTIPODES.



g of motor cyclists are congregated outside the Post Office, Christchurch .New Zealand. It is significant to note
aining four are represented by three Minervas and a Wanderer.

NEW RECORDS AT BROOKLANDS.

ON Monday last, at 10 a.m., H. Martin and F. W. Dayrell started on an attempt to break world's records from one up to four hours. Martin was riding a twin 7 h.p. Bat-J.A.P., 85 x 85 mm., overhead mechanically operated valves, J.A.P. carburetter, Bosch magneto, Rom tyres, and Stanley-Dermatine belt. He started well, but was at first unable to attain sufficient speed to keep inside record, though to outward appearances he appeared to be travelling exceptionally fast. On the fortieth lap he stopped to take in petrol, and at the forty-second lap he stopped near the timekeepers to look round his machine. At the forty-sixth lap he stopped at the beginning of the railway straight to change his wheels, as the back tyre was somewhat worn. He completed 50 miles in 50m. 45s., the record standing at 48m. 25³/₄s., accomplished by H. V. Colver. Martin covered 100 miles in 1h. 40m. 22¹/₂s., Colver's time being 1h. 39m. 41s. For the hour and two hours he was also outside record. After he had been going for a couple of hours Dayrell retired, owing to having broken an exhaust valve. Martin continued to ride round the track with great regularity, and kept an average of about fifty-nine miles an hour. At the conclusion of three hours he had covered 165 miles 936 yards, beating the world's record by 15 miles. The previous best performance was accomplished by Martin himself at Canning Town on February 15th of this year, on which occasion he covered 150 miles 1,730 yards.

O. C. Godfrey Annexes Two Records.

Brooklands was to have been the scene of further record attempts by O. C. Godfrey on Tuesday, but on arrival at the track it was found that his carburetter had been damaged (presumably in the train), and so the attempt had to be abandoned for the day. Next morning (Wednesday) was fine, though cold, and Godfrey on his 3¹/₂ h.p. single-cylinder T.T. Rex started out to lower the one and two hours, 50 and 100 miles records. After a trial spin round the track in 2m. 52s., he started at 11.45 for the records. In an early circuit he had the unusual experience of killing a pheasant

which was a treasured possession on the Rex stand at the Stanley. Godfrey rode splendidly, rounding the bends hardly three feet from the grass, and steering a perfectly straight course. The first record to be captured was the fifty miles held by G. Lee Evans (4 h.p. Indian), time 53m. 58⁴/₅s. Godfrey reduced this time to 49m. 59²/₅s. He afterwards

stopped to replenish his petrol and lubricating oil. His halt cannot have exceeded 30s., but we were unable to clock the performance, as we were attending to the rider's carnal wants in the form of supplying him with hot Bovril.

The 500 c.c. hour record of 59 miles 485 yards, standing to the credit of H. H. Bowen, was lowered by 865 yards, the Rex rider covering 59 miles 1,350 yards—a really wonderful performance. After riding for another thirty-seven minutes he was seen to be in difficulties just after passing the fork, as he was holding his magneto, which had come loose. This proved his undoing, for he was compelled to retire when on the railway straight, after covering 37 laps in 1h. 37m. 47.2s. This was particularly hard lines, for when Godfrey stopped he was over 7m. ahead of the existing record, and was about to finish the 100 miles.

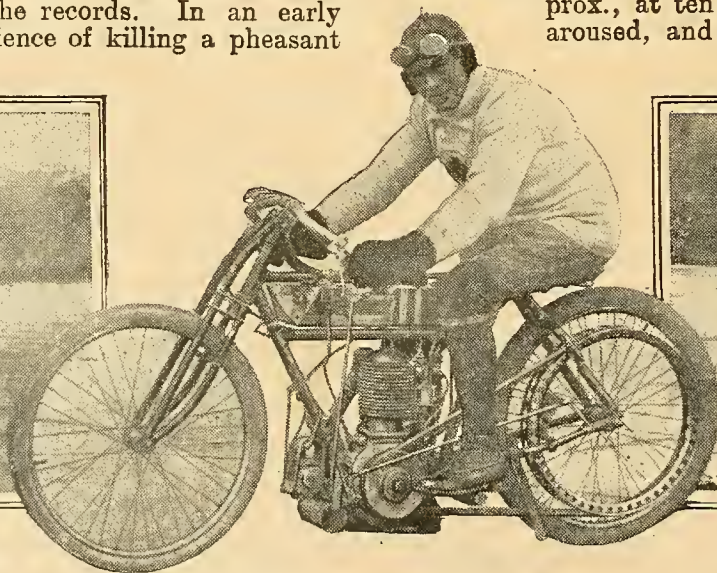
Godfrey was riding the identical machine which carried him so well in this year's Tourist Trophy Race. It has a bore and stroke of 84 x 89 mm., and was fitted with an Amac carburetter, Rom tyres, and a Stanley belt.

He used Shell spirit and Price's *huile de luxe* lubricating oil.

Mr. H. C. Tromp van Diggelen, who, through *The Motor Cycle* correspondence columns, challenged his 2¹/₂ h.p. Wanderer for speed against any standard touring machine up to 3¹/₂ h.p., confirmed the offer in a conversation with several members of the Western District M.C. (London) at the Stanley Show last week. The club decided to put the claims of Mr. van Diggelen to the test, and it was arranged to meet him at the Milford Hotel, Isleworth, on the 5th prox., at ten o'clock. Considerable interest has been aroused, and a big crowd is expected.



Harry Martin and the 7 h.p. Bat-J.A.P., on which he set up a new three hours' record last week.



O. C. Godfrey and his 3¹/₂ h.p. T.T. Rex, on which he rode 59 miles 1350 yards at the rate of over a mile a minute.



As Godfrey slowed down on one occasion, one of his helpers exhorted him to "oil," Brooklands number plates being used for the purpose. Figure 7 was reversed for L.



Godfrey's only stop (after covering fifty miles). It was a record one, for the machine was only standing about thirty seconds.



THE MOTOR CYCLE



Vol. 7. No. 350. CONTENTS. Dec. 6th, 1909.

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FOUR-PAGE COLOURED SUPPLEMENT.

Current Chat. Club News.

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Influence of Car Design on Motor Cycles.

IN comparing the design of motor cars and motor cycles, and more particularly different features which are common to both types of vehicles, we may justifiably draw attention to the fact that in many instances the motor cycle has influenced motor car design and *vice versa*. Motor cycle and car manufacturers may be compared to two machines racing side by side, which are constantly passing and repassing each other in the race towards perfection. It would be quite absurd to say that one section of the industry can learn nothing from the other, for it has been proved over and over again that designers in one branch of the business can learn a great deal from those in the other.

This is particularly noticeable in connection with the universal fitting of the high tension magneto to motor cycles, which is being followed now by its more general adoption on cars. Motor cycle makers were the first to recognise the value of the high tension magneto machine, and it became a standard fitting on more than one well-known make of motor cycle long before it was possible to obtain it on many makes of cars. In this connection, therefore, the motor cycle maker has shown the car manufacturer the lead.

Turning to another phase of the movement, motor car manufacturers discarded tubular frames some time ago, and the pressed steel chassis is now almost universal on cars. A motor cycle manufacturer at the Stanley Show this year showed what is, we believe, the very first *pressed* steel motor bicycle frame. Time alone will prove whether a pressed steel bicycle frame is preferable to one built up of tubing. If it is lighter, stronger, and more readily adaptable to the fitting of

various parts, such as tank, engine, and magneto, there is no manner of doubt that it will be adopted. Motor car practice has shown it to be correct for a quadrangular construction, and if it can be produced as cheaply as the tubular frame, and embody all its advantages, with a few additional ones of its own, it is certain to become general.

Another instance of car construction which has been thoroughly tested and proved satisfactory is the multiple plate clutch, which has now been adopted on three or four makes of motor cycles with great success. The wire wheel on cars, although not copied from motor cycle practice, is appertaining to the bicycle, and was first introduced and made for them. Take another example. The two-stroke engine has been, and is being, exploited on both cars and motor cycles, but we believe there has been more practical riding done on two-stroke motor cycles than there has been on cars with this type of engine. Motor cycle manufacturers have not hesitated to enter two-stroke engined machines in competition with others of the four-stroke design. If the two-stroke engine proves a success on motor cycles, and is universally adopted, it will be almost certain that car makers generally will experiment along the same lines.

Word of Warning.

ROUND about Show time there are usually a number of silly articles and paragraphs in certain daily papers regarding cycle and motor manufacture, and this year has been no exception to the rule. The theme that has been seized upon by many daily press writers, who have little or no knowledge of the motor cycle pastime or industry, is that motor cycles have now emerged from

their shells, so to speak, and become a reliable means of locomotion, therefore the time is ripe for all and sundry to embark on their manufacture. That we are pleased to see a considerable increase in the ranks of motor cycle manufacturers goes without saying, but we should be very sorry to see manufacturers misled and commence over-production—a state of affairs which for a time benefits the purchaser but eventually recoils on his head. Over-production causes intense competition, and the natural result is that in many cases reliability and workmanship suffer, and in the long run the purchaser is not so well off as when he paid the manufacturer a fair price for a really good article.

It should be borne in mind that one of the reasons why the number of motor cyclists is increasing so rapidly is because a very large number of reliable motor cycles are now being turned out, and each one that gives satisfaction to its owner is an advertisement for its maker and for the pastime.

If over-production took place and prices had to be cut, the quality of both material and workmanship would receive a corresponding amount of pruning, with the result that we should probably return to the bad period of a few years ago, when riders of motor cycles were often subjected to considerable ridicule owing to the difficulty they had to keep an imperfect article in mechanical working order.

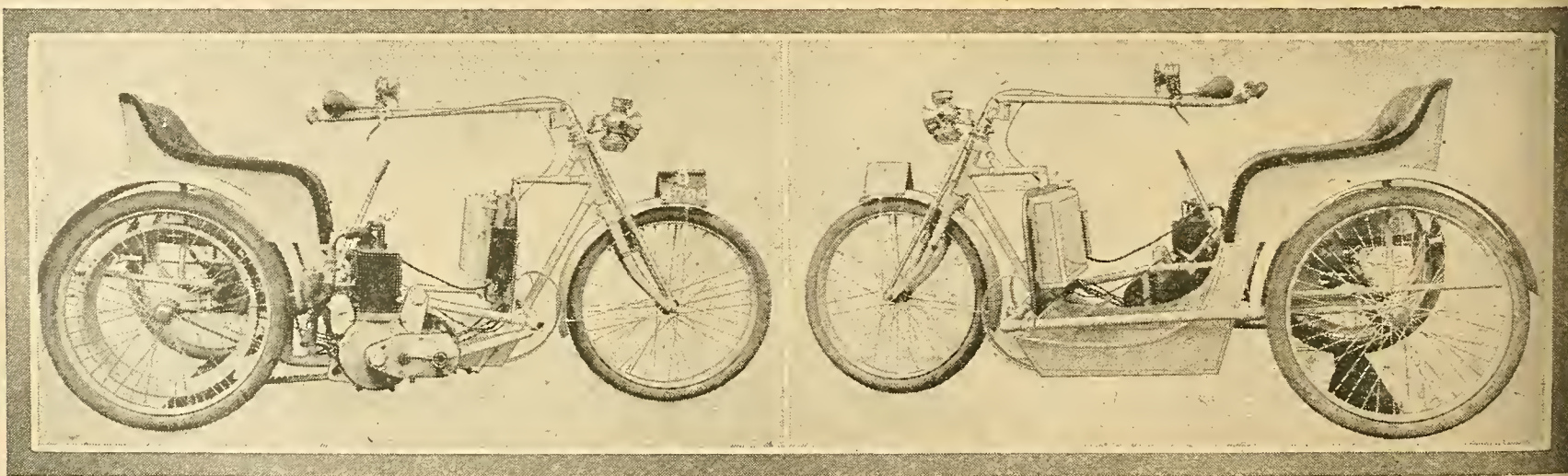
The number of firms in the motor cycle industry and the number of machines exhibited at the Stanley Shows have steadily increased since 1904, and we should like to see this steady increase maintained without any feverish desire for what is ordinarily termed in trade circles a "boom."

One of our contributors points out this week that the number of motor bicycles exhibited at the Stanley Show of 1903 was very much larger than it was even this year. This is accounted for by the fact that at the 1903 Stanley Show many exhibitors fitted a motor set to a strengthened pedal cycle frame, more because it was the fashion than for any real desire to cater for the motor cyclist's wants. Many of these machines were built with the same motor set, with the result that immediately after the Show price-cutting set in, and instances occurred where motor cycle manufacture of this description did not extend beyond the actual show machines exhibited. An exactly similar occurrence is unlikely to take place again, but there is an indication that, unless precaution is used, there will be a rush for the motor cycle industry by many who have not had sufficient experience. These firms, to get their wares on the market, may be tempted to cut prices to their own detriment and that of the responsible makers who, by dint of supplying the right article coupled with good business methods, have made the motor cycle what it is to-day. What is most amusing to those who have kept in touch with the movement since its inception is the way in which some of the daily paper scribes treat the motor cycle. They refer to it as though it was a machine which had only been heard of within the last few months. That the number of motor cyclists and makers of motor cycles will continue to increase we are firmly convinced, and no one is more pleased to see the increase than ourselves, but we wish to issue this little caution to prevent, if possible, a "boom" in the manufacture of motor cycles.

A SINGLE-SEATED THREE-WHEELER.

THE accompanying illustrations represent the Unecar, a three-wheeled motor cycle which should be particularly suitable for all-weather riding, made by Mr. W. W. Bannister, Maidstone, Kent. It consists of a motor bicycle and side-car built inseparably, and it is driven by a $3\frac{1}{2}$ h.p. engine of well-known make with which a two-speed gear is incorporated. From the engine to the rear wheel the transmission is by rubber V-belt. The chief

control is by means of varying the lift of the inlet valve from a lever attached to the handle-bar. Brakes are fitted to the front wheel and to the rear belt rim. The machine seats but one passenger and is well sprung, being suspended on C springs behind and at the junction of the handle-bar and the steering column. In a test run, so the maker informs us, the machine averaged eighty miles to the gallon, and ascended a hill with a maximum gradient of 1 in 4.



Left and right side views of the "Unecar," made by W. Bannister. It is a single-seated three-wheeler with two speeds, especially suitable for all-weather riding.

We are in receipt of the latest catalogue published by the R.O.M. Tyre and Rubber Co. (1909), Ltd., Brook Street, Holborn, in which readers will find full details concerning the latest patterns of R.O.M.

tyres, the success of which has been little short of astounding. The catalogue is well got up and amusingly illustrated. It is probably the only catalogue solely devoted to motor cycle tyres.

SOME ADVENTURES, ON A TRICAR.

By the Passenger.



LIVERPOOL was our starting point, Llangollen our destination, on a dull day in September, when we started on our week's holiday in Wales. Our vehicle a somewhat ancient 3 h.p. air-cooled, belt-driven tricar, our outfit a Kodak, maps, contour book, plenty of spares, covers and air tubes, a spare accumulator, rugs, and sandwiches (solace of the punctured). The crew consisted of my brother S., myself, and Dickey, our inseparable chum, a small Yorkshire terrier and an ardent motorist. Much previous evening work had brought the tricar up to concert pitch, and when we started off at 3 p.m. it sailed off and up the small local hills like a bird. Our spirits being correspondingly high, we anticipated a good time.

As we were not pressed for time, we chose the long route, *via* Warrington, Chester, Wrexham, and Ruabon. A burst back tyre necessitated an hour's delay in taking out the back wheel to put in another tube (we now go in for butted-ends), and then the rain started, but we did not care, and arrived in Llangollen hungry but happy at dusk.

Here we spent the night, and next morning we climbed up to Castel Dinas Bran, from which we obtained a very fine view. We returned for dinner, and after an inspection of the tricar, a fill up of petrol, and charging the headlight generator with carbide, we started off for Bettws-y-Coed.

Two Warnings.

Here I would like to add two warnings to motor cyclists who contemplate a Welsh tour. A powerful headlight is an absolute necessity, owing to the shameful way in which vehicles are driven after dark without lights, both waggons and carts, to say nothing of the cattle and sheep one overtakes and meets in dark places with nothing to warn one of their presence. We once previously spent a week in the same district, having only paraffin oil lamps, and I shall never forget the misery of it. To ride after dark was a nightmare, and we had to give it up. My other warning is always to take some eatables, as one may get stranded miles

from anywhere, and we found the charges for even a cup of tea and bread and butter were sometimes extortionate.

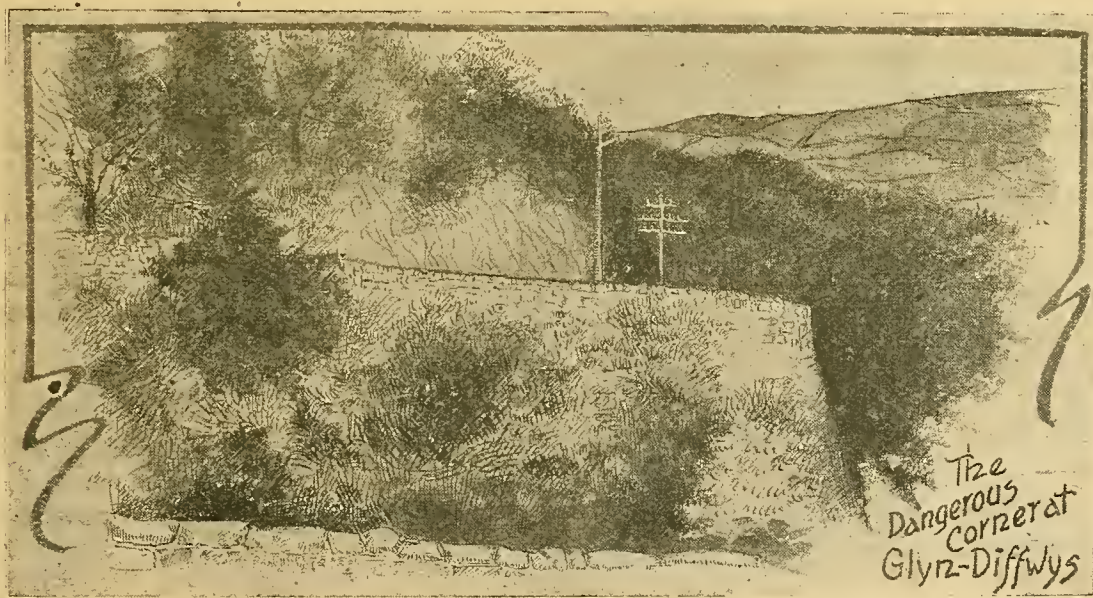
We left Llangollen in lovely sunshine at 1.30, Dickey intensely excited at the sight of sundry squirrels in Berwyn Woods. The engine purred along grandly, the little tricar climbing gamely up the hills. Just before reaching Corwen we came up with a motor car in distress. A wondrous collection of luggage was spread all along the roadside, and the two passengers in turns were pumping a very flat tyre. We were hailed and advice asked. S. suggested trying the little rubber topped pin in the valve, and sure enough it proved to be perished, and upon a new one being inserted the trouble was ended.

Once more off, through Corwen and over the Dee Bridge, to the Bettws-y-Coed road. The surface was very greasy, and we were very lucky to avoid side-slips. We are great believers in maps, and on the way I kept referring to our Bartholomew (coloured elevations) and pointing out the places of interest.

At Pont-y-Glyn-Diffwys, about six miles from Corwen, we went warily, and being so struck by the scenery, dis-

mounted and

pushed the tricar on to the bridge. The corner here is most dangerous, and as we were standing on the bridge looking backward across the glen to the road, the pop-popping of an engine announced the approach of another tricar with a lady passenger in front, going towards Corwen. It passed very quickly, and we both exclaimed, "It will never round the corner at that speed." The next moment we heard a crash, and saw the driver waving his arms to us over the wall at the bend. We ran down the road as fast as our legs would carry us to find our prediction only too true. The tricar had been unable to round the dangerous bend at the speed it was travelling, and also the brakes did not act properly. The result was that it had crashed into the wall, buckling the off-side wheel, and the poor lady passenger received some nasty cuts and bruises about the face and head from the stone wall. It made one feel queer to think



Some Adventures on a Tricar.—

what would have happened if she had been thrown over the wall, for at that point the drop is a sheer abyss. S. ran up the road to the little inn and got some brandy, which revived the poor passenger, and when a little recovered I accompanied her to the inn, while S. and the owner patched up the tricar sufficiently to push it to the same place. After doing all we could to assist them, we once more continued on our way, but it was then after three, and the sky had become overcast. The moors past Cerrig-y-Druidon and Pentre Voelas are dreary in the extreme, though one gets peeps of the mountains ahead. Our accumulator gave out, after sundry misfires, in the glen of the Conway, and had to be changed, and taking into consideration the fast-closing afternoon and dull sky, we stopped at the Conway Falls. Leaving the tricar by the roadside, we scrambled cautiously down the remarkably slippery path into the glen for some photographs of the falls, which were tumbling over in fine cascades owing to recent heavy rains, and were much interested in watching the attempts of a fine salmon to leap up the roaring torrent.

As it was nearly dusk when we climbed back to the road we decided to turn for home, and after a very cold ride we arrived back at Llangollen ready for ham and eggs and hot tea.

The next day, on overhauling the tricar, S. found a soft cone showing signs of wear, so we went a walk to the beautiful old Valle Crucis Abbey before dinner while the local Vulcan hardened the cone for us.

Racing the Local Express

In the afternoon we enjoyed a run to Chirk, and up the lovely valley to Glyn-Ceriog. The road up the valley is ideal, and gives one the impression of going downhill either way. A tiny toy railway runs along the roadside from Chirk to Glyn-Ceriog, and we ran alongside the "express" to the annoyance of the driver, who vainly tried to out-distance us. At one station—Pont-Fadog, I think—we were vastly entertained at the manner in which an enormous sow persisted in holding up the train while she grubbed along the track. After much useless shouting the train started, and the last glimpse we caught was of the sow obstinately trotting along the line and the train crawling behind awaiting the brute's pleasure.

An otter hunt next claimed our attention, and interested us so much that we gave up our ride to watch the proceedings, which on this occasion seemed to consist of blowing a good imitation of a penny trumpet and wearing red stockings. We returned to Llangollen

in time for an early tea and a walk over Barber's Hill.

The weather continued to favour us, and next day the sun shone brightly as we started off for Llanuwchllyn as a starting point for a ten miles tramp up over the hills to the Bwlch-y-Groes (Pass of the Cross). This was an attraction to us, as in the contour book it is marked as having a gradient of 1 in 4, and being the steepest high road in England and Wales.

We stopped outside Corwen to inspect the great Owen Glendower's Mound, and the site of his house. From Corwen we took the upper road, crossing the Dee, it being the shortest, and in my humble opinion the nicest. The engine ran finely, and we were whizzing along towards the Boot Inn, when we came upon a herd of those awe-inspiring long-horned Welsh cattle. I

was scared out of my wits as the brutes crowded round us, and the engine not being fitted with a two-speed gear, it stopped owing to the slowness of our progress, and there we stuck! The drover was nowhere in sight, the beasts apparently being out for a stroll in the way dear to a Welsh cattle drover's heart, and, to add to the trouble, when Dickey started to growl the brutes instantly presented their horns. I was so glad when finally we got clear of them, poor S. having to push the dead weight of the tricar through the lot.

Glorious Bala Lake.

The lake at Bala looked very fine, but of all the rides I have ever been, I never met such millions of mosquitos. I should think the supply for the whole kingdom is bred here. All round the lake they buzzed in clouds. My veil was full of them at once, and they "pinged" and buzzed and tickled till I was frenzied, and S. did nothing but fish them out of first one eye and then the other.

At Llanuwchllyn we put up the tricar, and after leaving word for tea to be prepared at six o'clock we set off to walk over the Bwlch. This district is absolutely unspoiled by tourists, and the views of huge Aran's 2,870 feet are very fine. Ferns and flowers line the hedges, and we met several natives using the horse-drawn sledges, which, I understand, are the recognised mode of transit in this little known corner of the world. The scenery is wild and desolate, and the only human being we met on the pass itself was an ancient Welshman accompanied by an equally ancient sheep tied to a rope, which promptly bolted into a ditch, dragging its infuriated attendant after it into the black peaty mud to the tune of many Welsh swear words. We duly inspected the almost precipitous road, and, taking a few photographs, we arrived back in Llanuwchllyn at dusk after



Some Adventures on a Tricar.—

another fright from those abominable cattle, and enjoyed our tea.

At 7.15 we started for Llangollen with a grand blaze from our headlight. It was a lovely balmy night, though as black as pitch, and we had literally to feel our way round the lake, scaring many rabbits, which darted along in front, to Dickey's delight, for he persisted in jumping out of the rugs and letting awful draughts chill my hands, till I had to roll him up so tightly that he could not move, but had to content himself with monotonous howls of rage and disgust.

Road Dangers at Night.

We were enjoying the ride very much and chatting away, when beyond Corwen suddenly a yell of warning pulled us up in the nick of time. A great load of hay with two horses were in front of us going the same way, and our light had not shown up the dark hay. It gave us a nasty fright, and we roundly rated the driver for not carrying a light. A few miles farther on I chanced to spy a curious flicker dead ahead, and shrieked to S. once more in time to prevent a smash. The flicker was the reflection of our headlight on the varnished back of a baker's van, also without a light and in the middle of the road. A drunken man was the next diversion, suddenly looming up in the glare of our thrice blessed headlight, and providentially falling into a ditch instead of under our wheels. Our nerves were rather tried by this time, and we were not sorry to reach home, the twenty-six miles being done in fairly good time, considering the many stops and the dark night.

Accumulators are a nuisance, and we found them an expense also at the Llangollen price of 1s. 6d. per charge. On the fourth day we thought we would visit Ruthin, *via* the hill road. We began to repent very quickly, for the hills were anything but kind to our poor little engine, which soon got nearly red hot, and we were not long in ignorance as to the cause of the grins of some men, who seemed much tickled to see us attempt the road. We arrived at the foot of the hill just past the Britannia Inn, and our hearts failed us. S. pulled, I pushed, and so we progressed, the engine acting the idiot and refusing to fire, and finally we gave it up, leaving the tricar under cover by the roadside, and enjoying a climb through the glorious sweet-smelling heather to the summit of Moel-y-Gamelin, and were well repaid by the fine panorama of Snow-

donia, Colwyn Bay, Rhyl, and the sea, and all the justly far-famed Vale of Llangollen spread like a map below us.

Our return was far too rapid for my liking, the tricar fairly flying down the steep hills, in spite of brakes, S. having at last to jump off and use his boots as supplementary brakes to check our mad career, to the great detriment of his foot gear. No more Ruthin road in a light tricar for me!

Oh that cone! The fifth day was wasted as regards motoring, through the tiresome thing, and once more it was sent to be hardened, being now worn very badly. That day was devoted to a walk to the World's End, and incidentally to procure some photographs of Plas Uchef, a fine old timbered mansion far away from anywhere, and of great local historical interest.

The sixth day we steered for Dolgelly, the route as far as Llanuwchllyn being the same as previously covered, and beyond, though the road surface is very broken up and covered with loose stones, the scenery is extra fine, the Arans on the left, and a rocky range of mountains on the right, while the huge bulk of Cader Idris fills up the view ahead. Here the stillness and solitude of the country is very pleasing to those who are no lovers of modern scenic resorts, spolt by trippers and their attendant noise, but rather prefer the unspoiled mountain districts, now, alas! so few. Here one meets none but the natives, and the eye is unoffended by new brick hotels and picture bedizened hoardings.

Cader Idris is well worth a long ride to see, but the September days close in so early, and it was dusk before we had

finished seeing half the town of Dolgelly, we therefore reluctantly started to return, running slowly up the rise past Pont-Newydd and Drws-y-Nant to the summit of the pass, 770ft.

We were not to escape without some excitement. First, while running down the other side at a smart pace we discovered that the belt was gone, and such was our momentum that when we managed to pull up our tempers were tried by quite a respectable walk back to where the wretched thing lay in the road. Time was further wasted in adjustments, as it proceeded to slip at every ensuing hill. The next affair was on the steep hill between Bala and the Boot Inn.

A flock of sheep had been left (Welsh style) on the road. The tricar was doing all it could to climb up, and S., knowing that a stop would mean no restart on such a gradient without endless trouble, yelled



Some Adventures on a Tricar.—

At the sheep to clear the road. Off they started, Dicky barking madly. I began to wonder if they would ever stop. Instead of turning to one side, they tore along the middle of the road in front of us, and, after traversing a couple of miles, finally disappeared over a wall. I wonder what their owner thought when he went to find them; in any case it served him right for leaving them on the roads in such a dangerous manner. Our headlight was invaluable, and we were saved many frights from drunken men, who seemed everywhere that night.

The Ride Home.

The eighth day meant home, and so, to make the most of it, we took a long walk over the Panorama Walk, and did not start till three o'clock. Oh, that ride! When near Ruabon a strange knock started in the engine, and we were a long time discovering the cause—want of oil, lubricator not doing its duty, and cylinder very hot. Then our troubles began. No sooner did we start than the belt began to slip badly, S. doctoring it with Fuller's earth, etc., and all the usual emergency tips were tried without avail. He shortened it time after time, but oil began to leak from the engine, and the belt was hopelessly greased before the leakage was located and stopped. There was nothing for it but to put on our spare, which, being an old one, was not much good, and steep hills were now looked forward to with apprehension. Wrexham was passed, and Chester came in sight, when the engine suddenly stopped without warning, and, misery! investigation revealed a broken exhaust valve.

After an hour and a half by the roadside, during which S. had to file the stem of another valve, which was much too long (a very laborious piece of work), a repair of sorts was effected, and we stopped at Chester G.P.O. to send a wire home stating that our arrival would be later than we expected. It was well that we did, for it was very late indeed.

It was dark by this time, and we stopped some little way out of Chester to light up, only to find that in our haste to leave we had forgotten to put water in the generator. No house was in sight, so we had to obtain water from a muddy ditch, getting our hands cold and dirty in the process.

We were coasting down a little hill, when out of the darkness a large sheep dog dashed in front of us, and before we knew anything there was a bang and a howl, and we had struck it with much force. S. instantly pulled up and ran back, expecting to find the dog seriously injured, to discover the animal un-

hurt by the collision and its owner beating it lustily.

Much relieved in mind, we started on again, and ran through Frodsham very well. Then began a slowing up on hills, which we soon found out meant that the petrol was almost exhausted, and we reached Warrington at 9.15 p.m., to find every shop shut, and wasted much valuable time trying to find petrol.

A Difficult Town to Negotiate.

At length we procured that most necessary spirit, and gladly we turned into the Liverpool Road, for Warrington is a nasty town to ride through; but we had not done yet, and misfires galore announced that our accumulator was down. An exchange had to be effected in the middle of a gang of rough humorists and a busy but none too well lighted street.

With all speed we ran out of Warrington, and found

an icy cold fog rapidly rising from the marshy ground round Sankey and onward, chilling us to the bone and condensing on our clothes like fine rain. Then, to add to our contentment, the back tyre began to bump on the rim, and S. discovered the cause in a tiny but malignant thorn.

However, we eventually reached home all right, tired but triumphant, and after a good meal and a night's rest felt none the worse for our adventurous last day's ride.

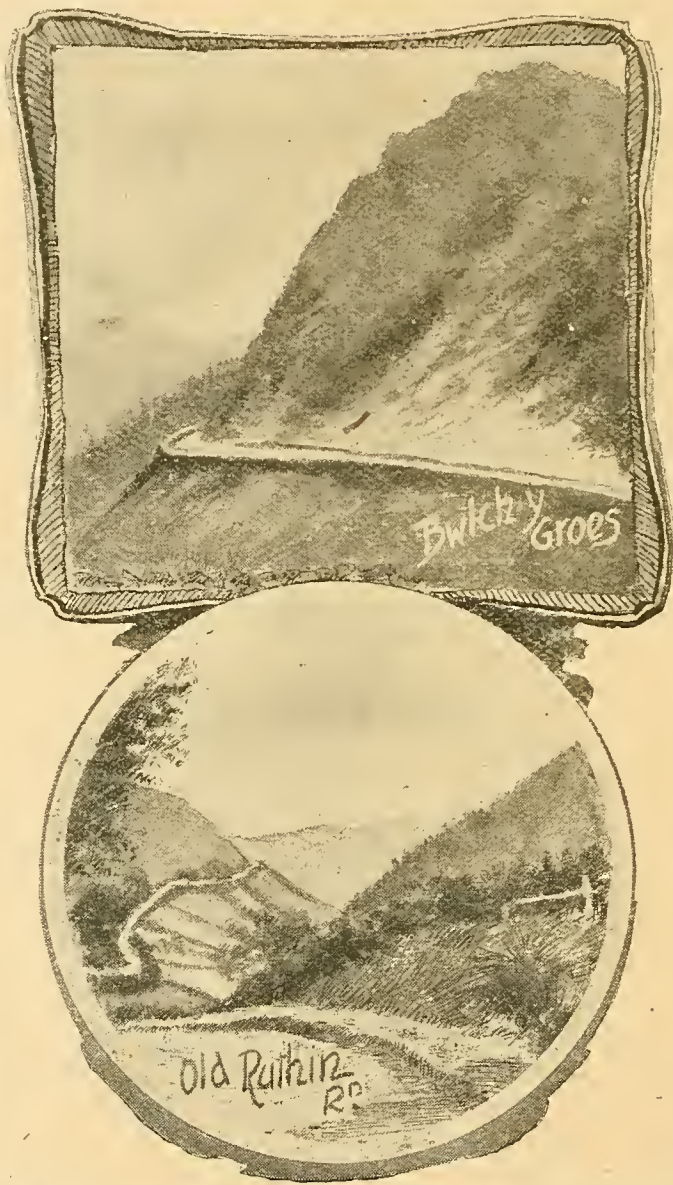
Of course, the distances we covered were a mere nothing to some motor cyclists, but one must take into consideration the low power and single gear of our machine, and that it had to cope with the stiff Welsh hills; also it had nineteen stones of passengers alone and much luggage and sundries to carry.

S. has driven alone from Liverpool *via* Llangollen, Bettws-y-Coed, Conway, Llandudno, Colwyn, Chester, and back to Liverpool in one day, with several long stops.

Some tourists would consider the time of year (late September) rather late for a motor cycle passenger tour, but the short evenings and cold nights were

more than compensated for by the almost total absence of dust, as the motor touring season was at an end, and the roads were chiefly noticeable for their deserted appearance. Finally, the effect of the autumn colouring of trees and purple heather cannot be equalled at any other time of the year.

A pocket edition of the catalogue issued by G. T. Riches and Co., Ltd., 19, Store Street, W.C., will prove of interest to motor cyclists. It contains illustrations and prices of practically every known motor cycle accessory besides numerous other articles used on motor cars. It will be sent to any motor cyclist who applies for a copy to the firm at the above address.



OCCASIONAL COMMENTS.

BY "IXION."

Overhead M.O.I.V.

In one respect I was a trifle disappointed at the Stanley Show. I guessed, of course, that the entire exhibition was going to be a sort of state funeral for automatic inlet valves, but I did not think that the side by side type of m.o.i.v. would sweep the board so cleanly as it did. It always seems to me that the overhead type of m.o.i.v. headed the poll when other types of m.o.i.v. competed with it. It affords a more workmanlike type of combustion chamber, with less extensive side pockets, forming a good compromise towards the racing design that has both inlet and exhaust valves over the centre of the combustion head. I fancied besides in my innocence that the rush of cold gas past the underlying exhaust valve cooled that unruly member, and did it a power of good. Valve gears of both types are easily designed to be of equal efficiency, but on practically every single and twin the side by side valves figure. If there are any sound technical considerations which justify this system, I should be glad to hear of them.

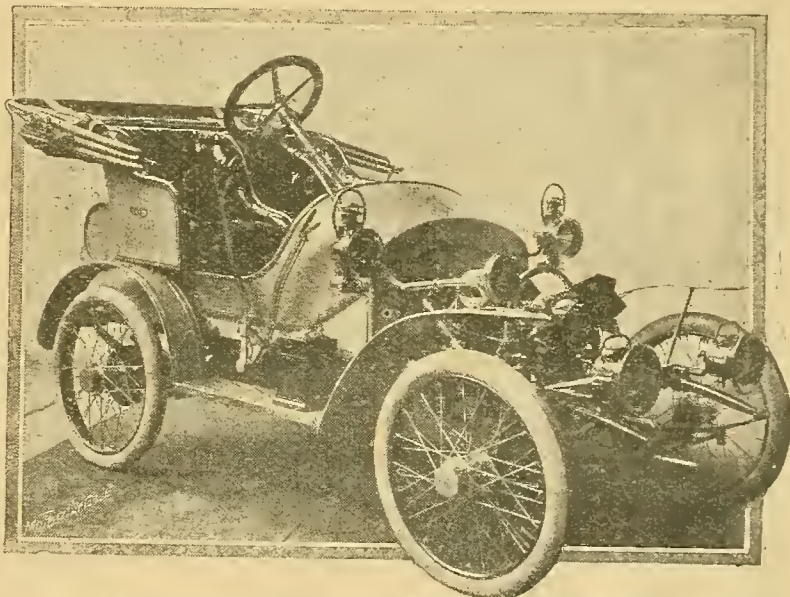
Weather-proof Motor Cycles.

I was interested to see some interest displayed by one or two makers at the Stanley in the question of weather-proofing motor cycles from an appearance point of view. Several machines are already tolerably weather-proof from a running point of view, but almost without exception the finish of the modern machine suggests that it is only intended to be ridden when the barometer is at "set fair", or alternatively, that its owner is able and willing frequently to devote a couple of hours with sundry brushes, rags, paraffin and metal polish to removing the ravages of rain. The plated parts are far too numerous, including not only the whole surface of every separate accessory, but an enormous surface area of the machine itself; and that not limited to plane surfaces, easy to dry and furbish, but including all sorts of little corners and depressions and water traps, which rust easily and are very awkward to cleanse. I personally have met the difficulty for years by smearing all plated work with vaseline as soon as I take delivery, and mopping the accumulated filth off ere I effect a re-sale; but this is a makeshift plan. You not only have to give a jolly good hiding to any meddler whom you catch cleaning the machine, but it always looks filthy, and you make your gloves greasy whenever you touch it. The makers alone can solve the problem. They can first of all machine off all unnecessary crankcase excrescences, they can limit themselves to bulbous-headed nuts, shielding each bolt-end completely, and making each attachment terminate in a spherical knob that is easy to clean, they can enamel a hundred parts which at present are adorned with expensive and useless plating; they can oxidise or Coslettise a good many more twiddly bits; and finally they might try some such process as Brown Bros.' new "black-plating," or the galvanising process of Wainwright's referred to in this journal, in lieu of brass or nickel for such accessories as hooters, lamps, generators, speedometers, and so forth. Given water-proof ignition and bearings, such as are daily becoming more common, the most fastidious of us could then

cleanse his machine after the filthiest bout of mud-larking by swishing it over with a hose, and wiping it down with mutton cloth.

Coaster Hubs for Motor Cycles.

In response to my appeal for riders' experiences with coaster hubs on motor bicycles, I have received a number of truly enthusiastic appreciations. I can only say that if my correspondents are only approximately accurate in their judgments, the coaster hub is an even better brake than the belt rim shoe. Several riders have described their experiences during several consecutive years with one and the same hub on machines of all powers up to 7 h.p. and over five figure mileages. They assert that the brake is absolutely reliable, that the sole attention required is a refill of grease every season, and that it can be used gently for gradual slowings, or roughly for emergency



The V.S. light four-wheeler on motor cycle lines. The engine is a 7 h.p. Peugeot, air-cooled, assisted by a fan. Three forward speeds are provided, operated by a side lever.

stops with complete satisfaction. I do not often mention trade specialities by name in these columns, but as all the letters are enthusiastic, and as all of them apply to the same make of hub, which further happens to be the popular type in the States, it is perhaps only fair to add that all these experiences have been enjoyed with the New Departure special motor coaster hub. I am inclined to think that this is the brake we want on chain-driven machines. It is very simple in construction, being similar in principle to the internal expanding brakes fitted to most cars, and consisting of a segment, eccentrically expanded within a drum by a cam, and from my experience with coaster hubs on pedal cycles I imagine it will give more braking power and less trouble than either an external band or a wheel rim brake, such as are generally fitted to chain-driven motor cycles. The question of a new mode of operation would have to be considered, to avoid retaining pedal gear when it is not required, and to avoid the necessity of keeping one's feet permanently on the pedals, when pedals were retained, but this detail is easy of solution, either by a rod or single run of chain, connected to a brake pedal with a spring pull off.

NOW that the Stanley Show is over, a few remarks concerning motor cycles and past Stanley Shows may not be out of place.

In the 1896 show there was not a single motor bicycle, but 8 motor bicycles were included in the 2,028 cycles shown in 1897, in 1898 there were 6, and the two following years (1899-1900) only 1 motor bicycle each year, but a quantity of motor tricycles. The first year of this century marked a sudden leap forward from 1 the year before to 105 motor bicycles and 10 motor tricycles and quadricycles. In 1902 the numbers almost doubled, viz., 202 motor bicycles and 12 tricycles.

376 Motor Cycles in 1903.

Motor cyclists who think the show just concluded the largest that has ever been held from a motor cycle point of view will be surprised to learn that it was behind that of 1903, when the enormous number of 361 motor bicycles, 14 motor tricycles, and 1 motor quadricycle (376 in all) were shown. Since then the numbers fell away rapidly, until the show in 1907 contained only 216 motor bicycles, and last year 208 motor cycles were exhibited—a decrease of 160 as compared with 1903. The unusually large

number of motor cycles exhibited at the shows of 1902 and 1903 is accounted for by the fact that practically every pedal cycle maker exhibited one or more motor bicycles. The popularity of the Minerva engine sets enabled pedal cycle makers to assemble a motor bicycle with very little alteration to their existing patterns; all that was required were stronger frame, fork, and wheels, and the Minerva engine being especially designed to bolt on the down tube it was a fairly easy matter to make a motor bicycle. In consequence no pedal cycle exhibitors stand was considered complete without a motor bicycle. Then came the introduction of the vertical engine by the Werner Co., and the whole design of motor cycles was changed. Special frames, lugs, and very great alterations were necessary, and that is one reason why the numbers fell off; another was the trouble given by machines of the previous years, which had been hastily assembled by makers who had had no previous experience.

This year, apart from the great improvements in construction, there is a satisfactory advance in numbers, which constitute a second best on record, viz., 276 complete motor cycles—a great improvement on recent years. Comparing the

motor cycles and pedal cycles, we find there were 767 pedal bicycles, their respective values being, say, £6,000 for pedal bicycles and £12,000 for motor bicycles.

"The Motor Cycle" Show Abstract.

The following elaborate table, which has been made out three times and rechecked right through the whole exhibition also on three occasions, may require a little explanation. The total number of machines exhibited on some of the stands might disagree with someone else's count, because several changes were made during the run of the exhibition. For instance, there were more machines on the Service Co.'s stand at the close of the show than the ten with which they are credited; this is because machines were sent there from other stands. Variable gears are only reckoned as such when the change can be effected from the saddle and without dismounting. Adjustable pulleys are not considered, practically every motor cycle being so fitted.

Next year's show is likely to realise even better results, as it was clear from the great interest taken in the new models that there will be a great number of recruits to the pastime in 1910.



An Analytical Abstract of All Motor Cycles at the Stanley Show, 19-27 Nov., 1909.

Compiled for "The Motor Cycle" by H. Hewitt Griffin, Statistician.

Name of Machine.	Motor Cycles.		Pas. Machines		TOTAL all Ma- chines.	Cylinders.			Transmission.			Forks.		Frame.		Valves.		Two- stroke.	Ignition.		Gear.	
	With Pedals	No Pedals	Tri- car.	Side- car.		Single.	Twin.	Four.	Belt.	Chain.	Gear.	Spring	Rigid.	Spring	Rigid.	M.o.i.v	A.o.i.v		Bat- tery.	Mag- neto.		Fixed.	Vari- able.
Rex	I	16	-	I	17	10	7	-	17	-	-	I6	I	17	4	11	4	2	-	17	I3	4
†N.S.U.	15	2	I	I	17	7	10	-	17	-	-	11	6	15	-	17	-	-	-	17	14	3
Douglas	13	-	-	-	13	-	13	-	13	-	-	13	-	13	13	-	13	-	-	13	I3	-
Bat	-	11	-	2	11	3	8	-	11	-	-	11	-	11	-	11	-	-	-	11	9	2
Phelon & Moore ..	-	11	-	I	11	11	-	-	-	-	-	11	-	11	-	11	-	-	-	11	-	11
Moto-Rève	9	I	-	I	10	I	9	-	9	-	-	9	I	10	10	-	10	-	-	10	9	I
Service Co. (various)	6	4	-	2	10	4	5	I	8	I	I	10	-	10	10	7	I	2	-	10	8	2
Triumph	8	2	-	-	10	10	-	-	10	-	-	10	-	10	10	10	-	-	-	10	10	-
Kerry-Abingdon	9	-	-	-	9	9	-	-	9	-	-	9	-	9	9	9	-	-	-	9	8	-
*Motosacoche	9	-	-	-	9	9	-	-	9	-	-	9	-	9	9	9	-	-	-	9	8	-
Matchless	I	8	-	2	9	4	5	-	9	-	-	8	1	9	9	5	4	-	-	9	8	I

Which is the Best Magneto Position ?

MANY would-be designers of motor bicycles have at various times severely criticised in these columns the positions adopted for the magneto by various motor cycle manufacturers. It is easy to criticise, but far more difficult to design, as there are many considerations to be reckoned with. Paramount points which have to be borne in mind in selecting the most suitable position for the magneto are: Firstly, accessibility; secondly, a protected position; thirdly, a short drive and weight low down to increase the machine's stability; and, fourthly, a position which does not prevent the cylinder being easily removed. The positions at present in vogue are as many and varied as the opinions of users as to the most suitable mounting. The most common positions used are the subject of the accompanying line sketches of well-known makes of motor cycles exhibited at the Stanley Show.

The Tank Position.

To deal with the more obvious of the advantages and disadvantages of the various positions, we will consider the Bat and Douglas machines first. The location of the magneto in the tank is ideal in many people's eyes, and in reality it is far ahead of some other positions adopted, for (1) the contact breaker can be cleaned and adjusted as easily as if the magneto were on a bench, (2) the magneto is most efficiently protected from rain, mud, and dirt, but against these good points there are the disadvantages that a right angled and complicated drive (in comparison with the direct chain or gear) is necessary if the engine is placed low down, and the weight of the magneto carried so high up in the frame, although slight, tends to make a motor bicycle top heavy. The Douglas engine being situated rather high up in the frame, ordinary spur wheels can be used, so that only the last mentioned disadvantage applies in this case.

In Front of the Engine.

No. 1 position in front of the cylinder is well away from the carburetter, leaving that unit quite easy of access, but the magneto screens the engine to some extent from cooling draughts, and an engine prone to overheating would suffer with the magneto in this position. Position No. 2 is the most common on present day machines, and it must be admitted that it gives the power plant a very symmetrical appearance. The position entails no alteration to the design of an ordinary frame. *i.e.*, the magneto is tucked away in

a space usually wasted. Moreover, it leaves the cylinder easy of removal. Although this position is also good from a weight distribution point of view (being below the line of centre of gravity), unless the magneto has an efficient cover or guard it is soon covered with wet and mud thrown up by the front wheel. Its chief disadvantage is that cleaning and adjustments are a back-aching process.

Behind the Engine.

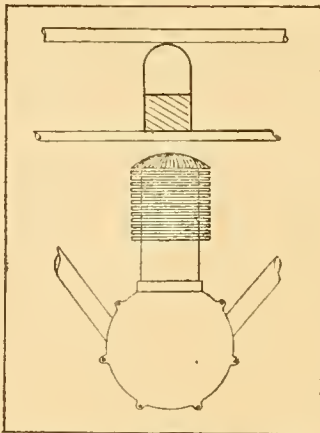
In fig. 3 the magneto is situated astern of the cylinder. Many designers err when adopting this position by placing the carburetter immediately over the magneto. Carburetters always drip or flood, and consequently riders of these machines go in fear of a conflagration. In the sketch the carburetter is depicted in its correct position slightly behind the magneto. Probably this situation has less drawbacks than any of those illustrated. We have, however, ridden a machine with the magneto in this position, and as soon as the belt stretched and swayed slightly it had a happy knack of sweeping the contact breaker cover off.

Most of the foregoing remarks apply with equal weight to figs. 4 and 5, the positions of cylinder and magneto being slightly amended. The magneto of No. 5, which is supported on a platform cast integral with the crank case, is quite good practice, and renders it an easy matter to remove the engine and magneto bodily from the frame without in any way upsetting the timing. In the case of the Scott (fig. 6), the magneto is situated over and driven by a chain from the countershaft. In this position it is well protected and accessible, but the usual fly in the ointment has to be mentioned, and that is, owing to the drive

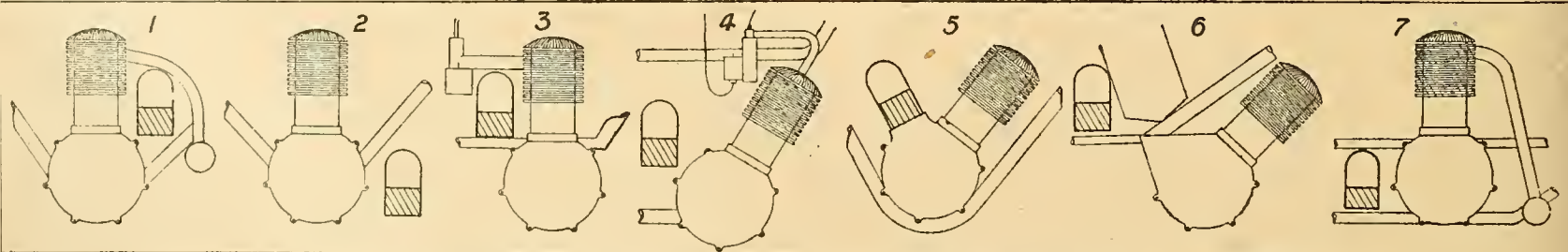
from the engine to the countershaft being by chain, any stretch in the two lengths between engine and magneto must produce lag and variation in the timing.

The last figure showing the magneto at the rear of the crank case is a good position, except for its inaccessibility. The weight is carried low down, and the crank case effectually screens the magneto from dirt thrown up by the front wheel.

Thus having considered the *pros* and *cons*. for each position, we are bound to admit that no one position is ideal, and so long as motor bicycle design remains the same as at present, there will always be champions of the different arrangements of engine and magneto, and we do not think it at all likely that one position will ever become standard practice.



The tank position for the magneto as exemplified by the Bat and Douglas motor bicycles.



Among other motor bicycles, the position adopted for the magneto on the—

(1) Humber
Excelsior
Indian

(2) Triumph
Rex
Premier.

(3) Arno
Roc
Zenith

(4) P. & M.
Wolf
Norton Lady's.

(5) N.S.U.
Motosacocche
Singer.

(6) Scott
(driven from
countershaft).

(7) James
Enfield
Midget Bicar.



INDIAN

Motocycle

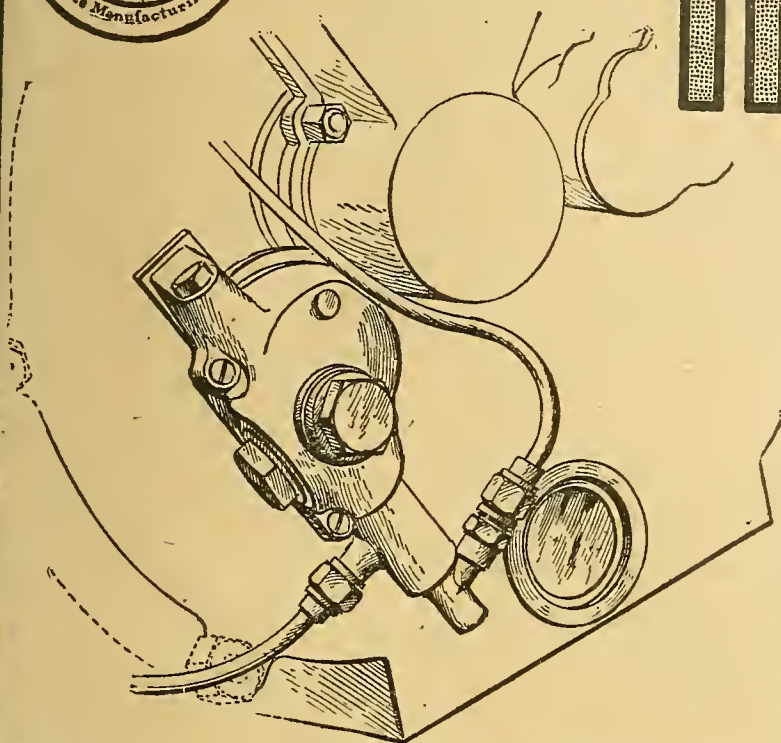
AUTOMATIC LUBRICATOR

Previous methods of lubricating a motor cycle have been either in the form of drip-feed, or a pump which is operated by the rider. In either case, there is more or less uncertainty as to the quantity of oil that the engine will get, and as in the high speed internal combustion motor, proper lubrication is one of the most important matters to consider, a method that insures a constant, certain supply of lubricant is most desirable. The INDIAN is provided with an extremely compact and simple mechanical force-feed oiling device operated by the mechanism of the motor, and this device sends an accurately adjusted stream of oil directly into the interior of the motor. This insures a continuous and ample supply of fresh oil, which does not depend upon the judgment or memory of the rider. A hand pump is also provided as heretofore, but merely as a matter of convenience for adding an additional quantity of oil under special circumstances, or for refilling the crank case after the spent oil has been drawn off.

HENDEE MANUFACTURING CO.,

184, GREAT PORTLAND STREET, LONDON, W.

Telephone: Mayfair 1749. Telegrams: "Hendian, London."



A step in the right direction. The slow-running mechanical lubricating pump fitted to Indian motor cycles. It is driven by means of worm gearing off one of the half-time shafts. Observe the oil level inspection window.—"The Motor Cycle," November 22nd, 1909.

S. & H.

... The ... Remarkable . . . Popularity

at the 1909 Stanley Show of

**"Shamrock-Gloria Rubber Belts" and
"Shamrock-Excelsior Non-skid Tyres"**

was clearly demonstrated.

**Of 179 Rubber Belts fitted to Motor
Cycles 110 were Shamrock-Gloria Belts.**

(Fitted by all best known makers, in most cases exclusively.)

**"SHAMROCK-EXCELSIOR TYRES" were noticed on such well-known makes as
TRIUMPH, N.S.U., V.S., CLYNO, WANDERER, Etc., Motor Cycles.**

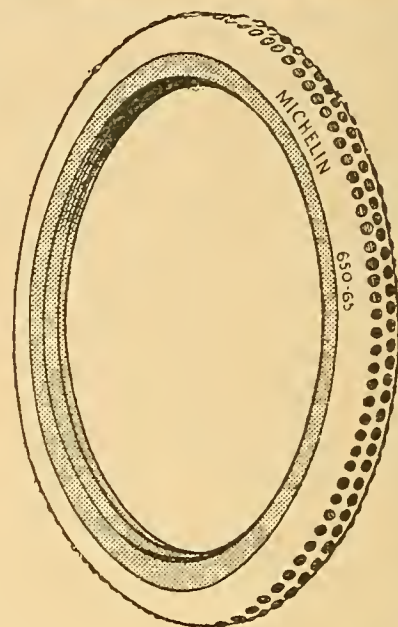
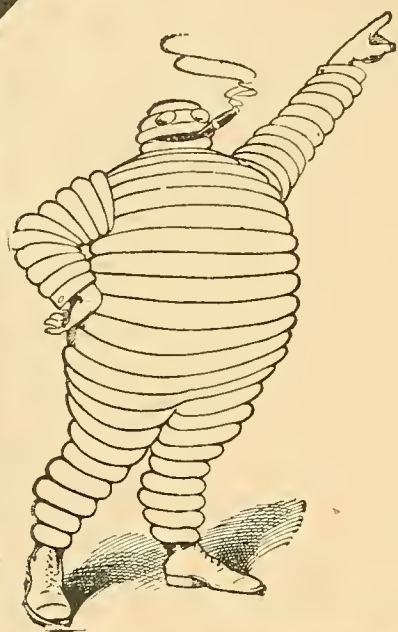
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plan—especially now that the roads are so greasy and treacherous—is to fit

MICHELIN
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Then you can be certain that your wheels will grip; and you need not fear sideslip. A Michelin Nonskid is practically unpuncturable, and is *always* efficient as a nonskid until worn out.

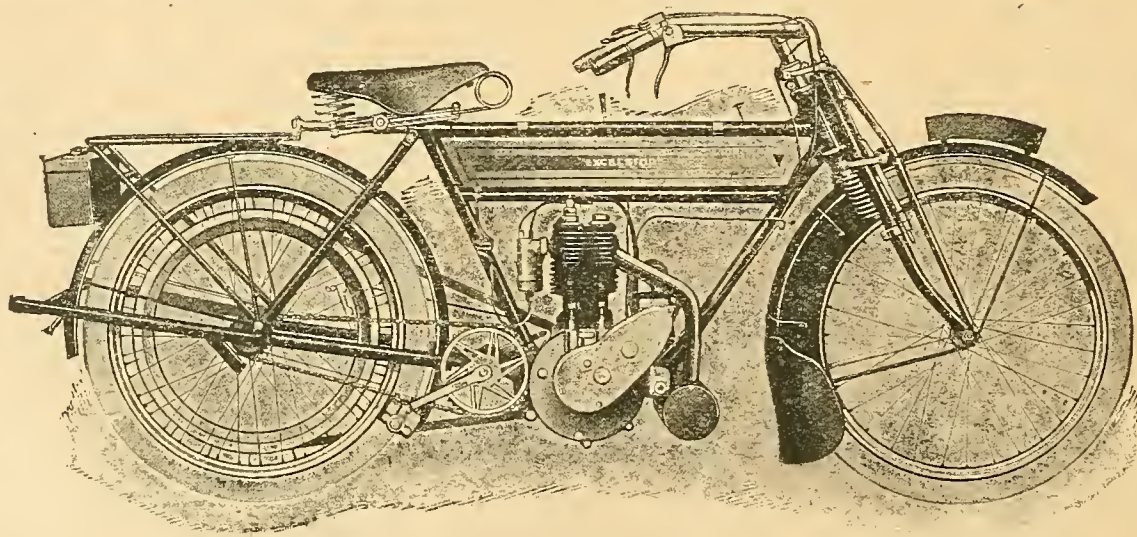
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WORLD'S RECORD

Broken at Brooklands Track, Wednesday, November 24th, by a 3½ h.p. Single-cylinder Engine, identical with that fitted to the

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STILL
TO THE
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Send for Catalogue and Full Particulars.

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E.H.G.

IMPROVEMENTS in LIGHTWEIGHTS.

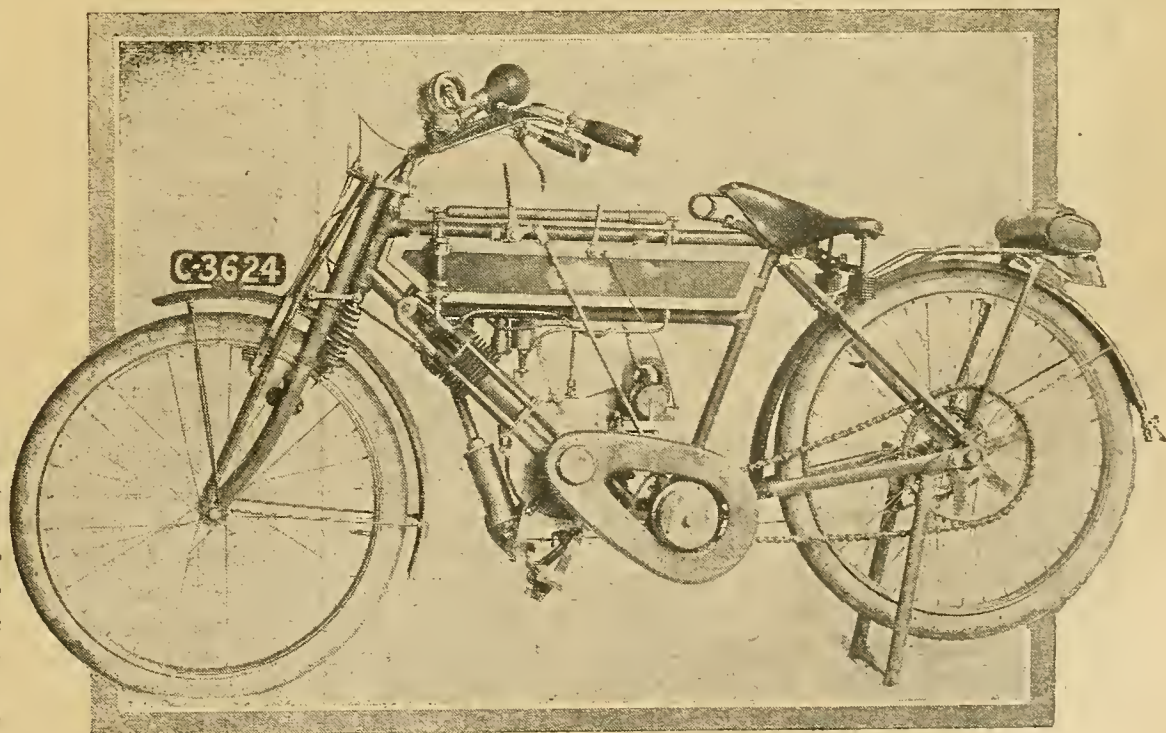
By B. H. DAVIES.

VIEWED as a class, there is a great contrast between the lightweights at this year's Stanley and the middle weights. The middle weights attained a very high standard of excellence, the machines being all much on a level, except for occasional engines of special efficiency, and different degrees of success in incorporating detail fads; this general level was due to widespread copying of successful pioneer machines. But the lightweights evinced marked dissimilarities, and were by no means of so even a quality. Here, too, there has been copying. But the pioneers which inspired the copyists were not themselves already perfect, and while the plagiarist was working, the designers of the machine which formed his model have scrapped their own design, either partially or completely; so that there appear perfected editions of the pioneers, side by side with rather pathetic imitations of abandoned originals.

Machines which have not been on the Road.

Again one or two makers appeared to have been inspired by the notion that a lightweight era was dawning, and so they have hastily rushed together an ill-designed and clumsily built machine in imitation of previous models already defunct. I examined one machine which can never have been on the road, and stands confessed as the first and extremely faulty representative of an output which I pray may be small; for, apart from other staring faults, its belt contrived to foul some five or six important items of the mechanism if the rear wheel were surreptitiously revolved while the attendant gazed other-whither. Ruling out a few machines which I did not see at all, and others which I saw and never wish to see again, I must record several very hopeful systems. We have nearly got rid of miniature tyres, hopelessly ill-suited to motor cycling speeds and weights; we have attained a number of refinements in the way of springing, handy control, petrol squirts for the gumminess inseparable at present from small cylinders, and so forth. I think we had two main quarrels with the lightweights last year. One was the liability of its transmission to temporary derangement in bad weather. I admit that almost any belt will do for a $1\frac{1}{4}$ h.p.—the strain is too small to put any severe tax on the transmission. But the faster lightweights, with 2 h.p. twin engines, could eat up small belts, whether round or V, when mud was flying about.

This year two vast improvements are manifest. Some machines, like the new chain-driven Moto-Rêve and Phelon and Moore and gear-driven F.N., employ a definitely rigid transmission, and carry out their design with sound technique and admirable workmanship. Others imitate what was also originally an F.N. innovation, and begin by gearing the engine pulley down internally, by epicyclic pinions, conveying the final drive from a pulley the size of a bread trencher, on which any belt ought to stand. This is the chief improvement of all, and it has not come a day too soon. Some of these lightweights, except in respect of pace, are every whit as genuine touring machines as the $3\frac{1}{2}$ h.p. single-gear type, and are indeed actually preferable for bad weather riding, provided no winds are blowing. For motor cycling against strong head winds one must either have ample power or be content to crawl. Another vast improvement is that of increased accessibility. Some lightweight designers used to think we were game to take the engine off the frame for any small adjustment; at any rate they tucked their microscopic little valves and sparking plugs close up under the tank, so that they were profanely awkward to get at. I never saw what was to be gained by placing the engine so high up, and I am glad to see the engines are now dropped as far as possible towards the bottom peak of the diamond frame. Some of the smallest engines are miracles of design and workmanship. The control is usually as fine and good as that of a $3\frac{1}{2}$ h.p. The petrol squirt is practically universal. Precautions are taken to baffle surplus oil from flooding the miniature



The $2\frac{1}{2}$ h.p. P. and M., one of several two-speed lightweight machines introduced for 1910.

Improvements in Lightweights.—

magnetos, as it often used to do. Carburetters are less like watches, and may be dismantled without the aid of a magnifying glass. Springing is first class on most samples, while good footrests placed well forward coyly admit that it is not necessary to use L.P.A. except on rare occasions.

Giving pride of place to England, the 2½ h.p. Phelon and Moore steps straight into the absolute first rank. A trifle heavier than the average foreign competitor, it can beat them on the flat and outclimb them, while it contains no promise of trouble either from bad weather or lightness of construction, and its weight is low enough to suit the most unathletic rider who contemplates the pastime. It will seduce many from their allegiance to the 160 lbs. type.

The Pioneer Lightweight.

The Motosacoche still wears the halo of the pioneer. It is in the featherweight class—the last word in the combination of efficiency and handiness. It has a better belt hook than formerly, and the increased diameter of the rear belt rim provides it with extra climbing capacity. It must always rank as the pluckiest youngster of the lot, and in long trials over lofty mountains in the worst of weather its conduct is annually heroic. The Moto-Rêve has now so thoroughly established itself in popular favour that it can afford to blossom out in several models. I was especially struck by the chain-driven twin, which, I fancy, will prove a terror in hill-climbs, as the twin V engine was no mean hill-climber on its single gear. Next to this I liked the largest belt-driven twin. It was evident that earnest and ingenious study has been given to these delightful little mounts. Some makers will only modify or alter their specification when the howls of their enraged customers compel them to do so. But the Moto-Rêve sponsors behave very differently. Their history has been one of uniform success, and when they asked me to criticise their last belt driver there were but one or two details admitting any criticism. Not only has every detail that I ever heard a grumble about from the most pronounced faddist been overhauled, but a whole host of ingenious refinements have been incorporated. I prophesy uninterrupted and increasing success for this very fine little mount.

An Admirable Transmission.

The F.N. two-speed shaft-driver is an old friend. The interconnection of the clutch and gears is a wise safeguard in the interests of novices, and the trio of universal joints perfect an admirable transmission. I have often heard enthusiastic accounts of its running, and should not mind one for a runabout myself.

All the Wandérer models that were staged by the Service Co. are really lightweights, though the 3 h.p. may well rank as a tourist. They struck me as very conscientious and well thought out, while the magneto position, general accessibility, and large geared engine pulley were points of special excellence. The springing of the rear triangle of the frame is all but imperceptible to the eye, and should prove efficient. This detail may be largely imitated in the future. The Chater Lea lightweight should be good. I owned a similar 2½ h.p. J.A.P. engined machine years ago, and found it very decent, though the engine was crude compared to the new model. It

had no magneto, and the weight of the whole machine was fifty per cent. greater. There is nothing shoddy or thoughtless about this outfit, though it needs a spring fork. The Enfield is good English workmanship, with an exceedingly well-made V twin engine set low in the frame to give better accessibility. Comfort has been well studied, and the equipment is all that motor cyclists can desire for touring on all kinds of roads.

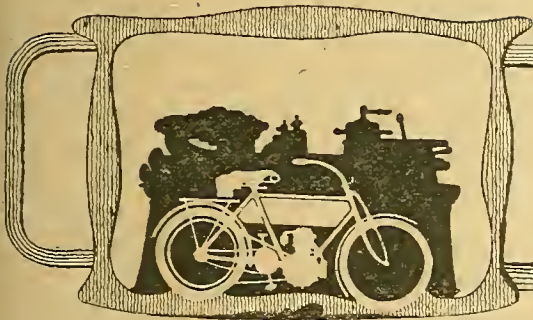
The Singer is another pretty-looking little jigger on purely standard lines. The N.S.U. babies both solve the transmission problem without discarding the light and flexible belt drive. One has a geared pulley and device for tightening the belt by hand without dismounting; the other has the company's well-tried gear embodied in the engine pulley. All the details are well considered, and have several years of experience behind them.

Other British Machines.

The Hobart, Grandex, and Wolf machines form a tidy little British fleet, the Wolf being made in several different patterns. I seldom meet these machines on the road, but as each show contains quite a large selection of them, it is obvious that they possess a really good reputation, and we should all like to see more of them in big trials; the lightweight movement is too much in foreign hands just now, and if British firms can make top hole duplicates they ought to step out into the limelight and prove it. There are hundreds of patriotic riders who would give them the preference, quality being equal. As a general rule, I am afraid the home-made lightweights are heavier in proportion to power than their Continental rivals. After all, the foreigners have been on the market for years past, and all their neat little fakes are public property. It is a liberal education to overhaul a Motosacoche in close detail; at every point one sees where weight has been pared down with no sacrifice of efficiency—e.g., if one looks at a Britisher one will very often find several feet of untidy insulated wiring. If one looks at the Motosacoche, one will find the terminals are set so conveniently near each other that a thin tongue of spring steel or a couple of inches of fine coiled wire suffices to make all the connections, and so forth right through the specification.

A Power Unit in a Small Compass.

The Wall Auto-Wheel was the favourite exhibit with pedal cyclists, who gazed at it yearningly with open mouths. It must stand or fall with the principles of the two-stroke engine; if they boom, it will share their success. It is a very clever and up-to-date transference of the idea which produced the old Singer motor wheel, and the compactness and simplicity of the two-stroke engine undoubtedly lend themselves to compressing the maximum of power into so small a compass, and to atonement for its inevitable lack of accessibility. If all the difficulties concerned with the two-stroke design have been surmounted, we shall soon see thousands of these little wheels rolling push bicycles peacefully along the roads, and even if the two-stroke engine ends in failure as an application to motor cycling, I don't see why Mr. Wall should not fit a four-cycle engine to his patent wheel. Probably he has experimented with both, and knows what he is about.



Two New Gears, a Lamp, and a Back-rest.

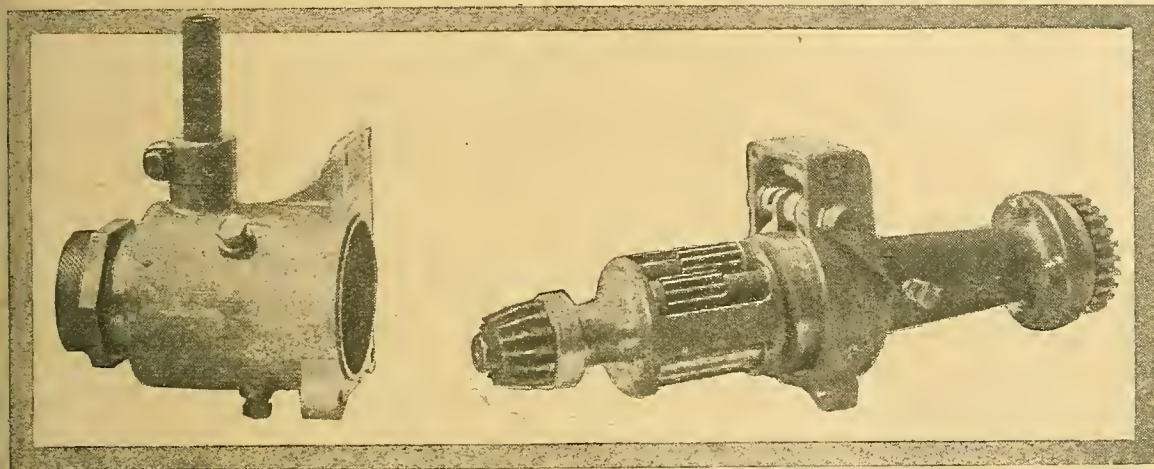
LAST year the Western Motor Company, of Bath, designed an ingenious form of two-speed gear for four-cylinder F.N. motor bicycles, in which the change of speed was effected by means of dog clutches. Though this is a very sound idea, as a dog clutch gear is not easy to damage if ordinary care be used, it possesses the disadvantage of not allowing the machine to be started from standstill with the rider seated unless a separate friction clutch

still further movement engages the top speed. The last movement locks the whole mechanism by sliding a pinion into engagement with the other pinions, which prevents them from turning. The casing shown on the left-hand side of the illustration effectually protects the gear wheels from dust and grit, and provides them with a grease-tight case in which to run.

The next two items were to be seen on the Service Company's stand at the Stanley. The first of these is Messrs. Atkins and Pridmore's back-rest, which can be fitted to the luggage carrier of any motor bicycle. It will be noticed that the back is extremely well padded. When let down the device rests upon the uprights shown on the rear of the carrier, and in this position may be used as a spare seat if desired. To release the back it is only necessary to pull down the plated transverse rod shown below the cushion.

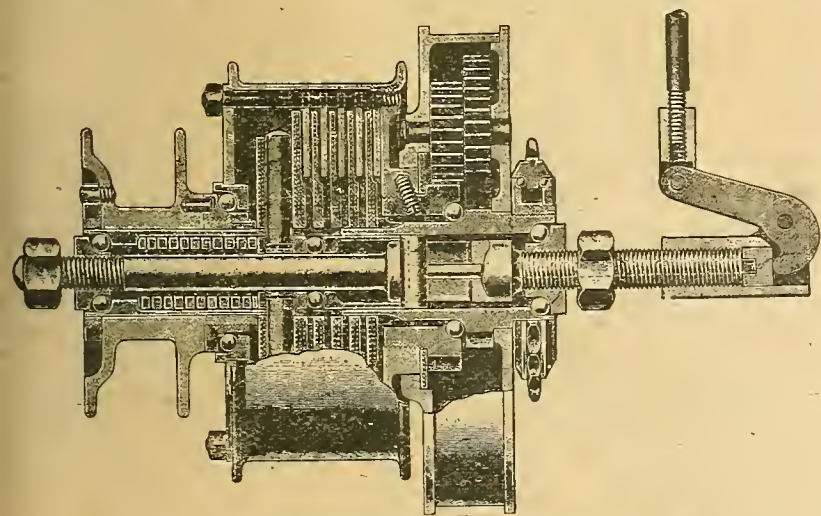
The last item under consideration is the Cowper-Coles patent motor bicycle headlight, constructed by the Cowper-Coles

Eng. Co., Ltd., and shown by the Service Co., Ltd. This lamp may be used either with an electric bulb or with an acetylene gas burner. One important point about the lamp is the construction of the casing, which has no cowl, and consequently no openings, to cause

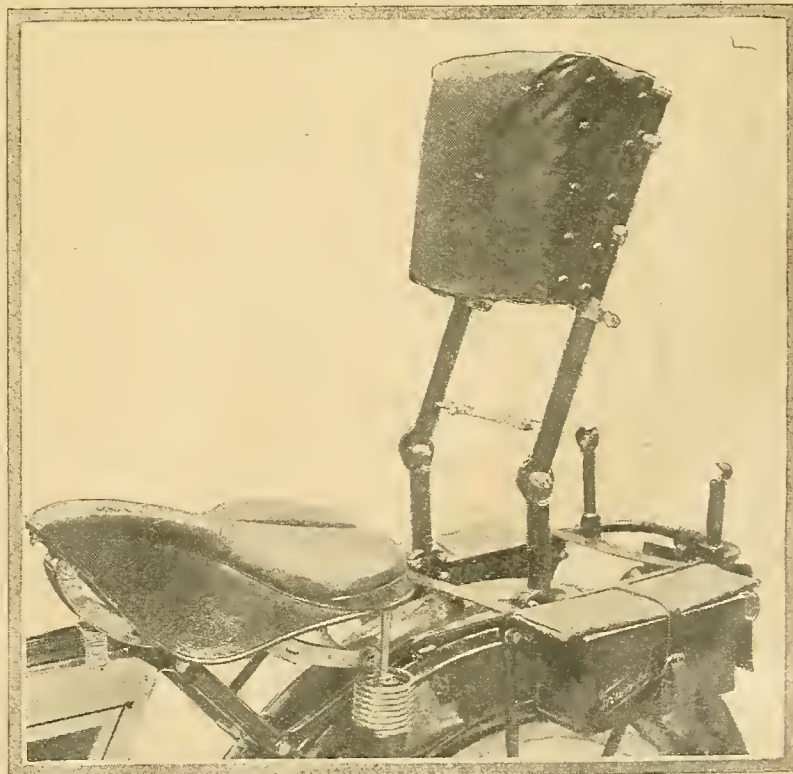


A new epicyclic two-speed gear and free-engine device designed for the four-cylinder F.N.

is fitted. As the four-cylinder F.N. has no separate clutch, the Western Motor Company this year have given the matter further consideration, and have now brought out a gear designed on epicyclic lines which will allow the machine to be started from standstill without difficulty. It will be seen from the illustration that the gear is an epicyclic one with parallel pinions. To apply the low speed, moving the lever shown at the side of the casing contracts a brake band on to a drum, thus allowing the power to be applied gradually. Further movement of the lever releases the band and gives the free engine position, while

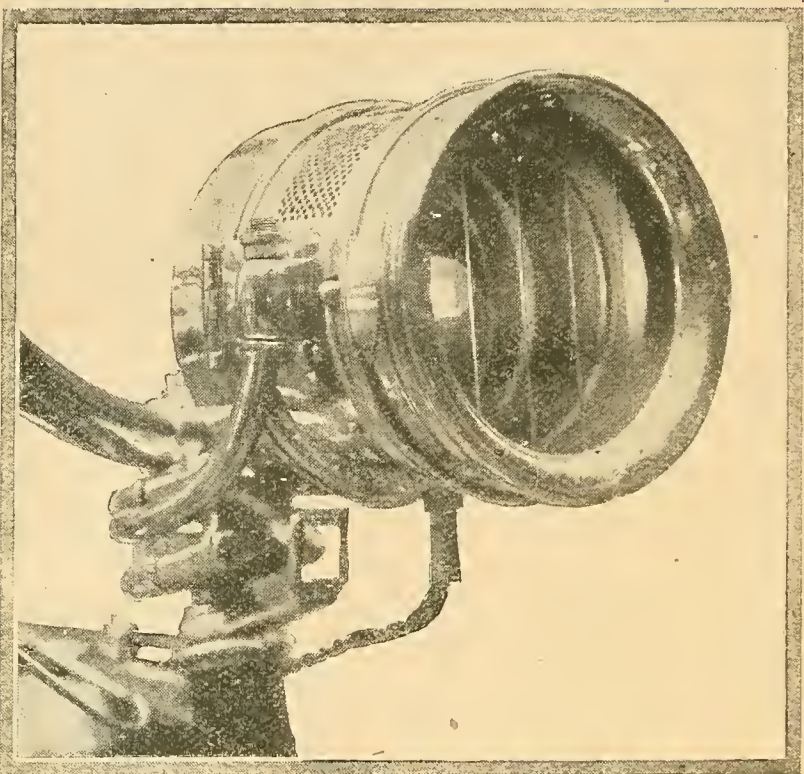


The latest Lake and Elliot Two-speed Gear. This gear is of the epicyclic type, and the construction was originally patented by A. D. Powell. As will be seen from the above, a multiple plate clutch in the hub is now used for the high gear—a great improvement over the former flat leather faced clutch, which exerted side pressure.



Another back-rest for motor cyclists, made by Messrs. Atkins and Pridmore, and sold by the Service Co., Ltd.

Two New Gears, a Lamp, and a Back-rest.—



The Cowper-Coles Patent Gilt Mirror Headlight.

Are Motor Cycles a Success in Army Manœuvres?

A WRITER in a German cycling organ characterises as "exaggerated" the oft-expressed opinion in Germany that the motor cycle is "useless for military purposes, and must be replaced by the voiturette. He remarks: "I have conversed with dozens of volunteers who took part in the German manœuvres [There were 102 in all.—Ed.], and I know of but few cases where the rider failed to execute the commission. In spite of unfavourable conditions of weather and ground [An almost constant downpour of rain and hilly, rough land.—Ed.], by far the greater percentage of riders performed promptly and well the tasks set them. In these unfavourable circumstances the small car would certainly have suffered shipwreck in a like proportion." But some commissions, it transpires, belonged to the category of the unreasonable or absurd, and proved that the officers who gave them have a decidedly singular idea of the powers and limitations of motor bicycles. Such officers remind one of the cross-examining counsel in *Bardell v. Pickwick*, who was snubbed by Sam Weller for implying in one of the questions that ordinary eyes could see through obstructions in the form of a staircase and a deal door. "Being only eyes," wound up Sam Weller, "my vishun's limited." And, being no more than motor bicycles, their powers were limited. For instance, what must one think of the German officer who expected a company of motor cyclists to climb hills which even a horseman could scarcely ascend; or of the officer who ordered another lot of wheelmen to negotiate a ploughed field where horses were sinking up to their houghs? Other officers, again, treated the motor cyclist as a *quantité négligeable*, and gave him nothing but trumpety commissions to execute. Here practically no work at all, there too much, or the wrong, work. Commenting on the kind of machine best suited for

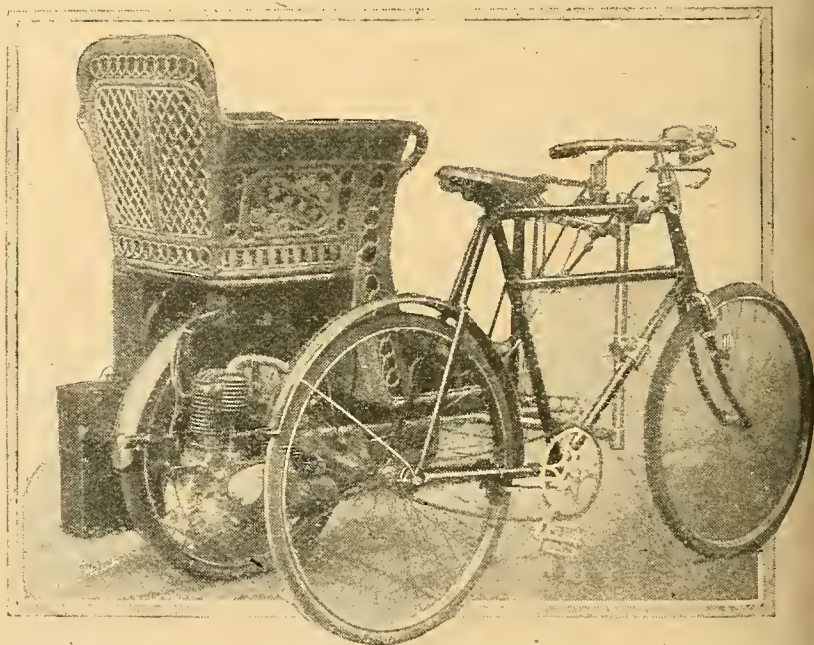
back-glare. The absence of projections enables the lamp to be cleaned easily. Another point is the gilded lens mirror, which, it is said, possesses the advantage of enabling the light to penetrate fog farther than is the case with a silvered mirror. The gilded mirror is said to give a preponderance of yellow and red rays, eliminating most of the violet rays which dazzle the eyes. Each lamp is given a careful photometer test before being delivered. It is interesting to notice that the first three places for maximum rays without dazzle were secured by the Cowper-Coles patent headlight fitted with these mirrors in the recent R.A.C. Headlight tests. Motor cyclists will be interested to hear that they may have their present mirrors gilded for a small sum by sending them to the Cowper-Coles Eng. Co., who, by the way, first made the gilt lens mirrors for Admiralty searchlights.

The Anglo-American Oil Co., Ltd., distributors of Pratt's spirit, are reinforcing the bottom seams of all their cans with a strip of stout metal. This is to overcome the trouble caused by careless handling of the tins, the edge of one tin often being used to unscrew the stopper of another, with the result that tins are often returned with the seam twisted and burst open.

all-round requirements at manœuvres, the writer suggests the golden mean—that is, a machine equipped with an engine developing between 3 and 5 h.p.

In conclusion, he vigorously combats the notion that the motor cycle can be wholly replaced by the voiturette for military purposes, and confidently awaits the results of the trials with the car class by the Experimental Section of the German Transport Service. Voiturette and motor cycle, he observes correctly enough, have their several advantages and disadvantages; the one does not exclude and supersede the other, but supplements it, just as the torpedo boat supplements the ship of the line.

NOTHING NEW UNDER THE SUN.

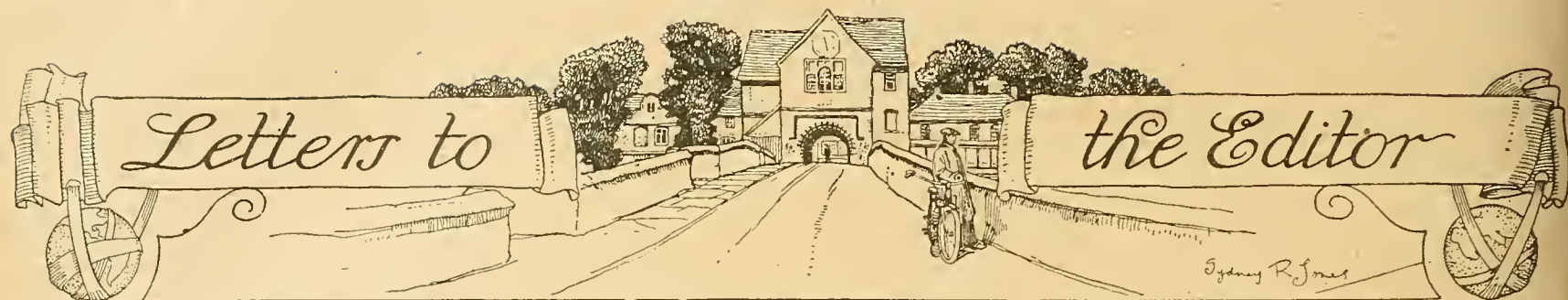


Numerous journals in describing the Wall Auto-Wheel have referred to it as an absolutely new idea. That such is not the case is proved by the above illustration from *The Motor Cycle* of December 4th, 1905, depicting an auxiliary motor wheel exhibited at the Stanley Show of that year. However, the Wall wheel with its two-stroke engine is a much neater and lighter unit than that illustrated above.

Last week *The Royal Automobile Club Journal* published statistics showing the number of motor vehicles registered in the British Isles on Sept. 30th last. The work is the result of characteristic energy on the part of the R.A.C. Associates' Department. Below we reprint the figures showing the number of motor cycles registered in the different districts, and would draw attention to the large and steady increase. The first figures published in *The Motor Cycle* were in 1904 and they showed that there were 21,521 motor cycles registered. This year's total is 75,000.

Registering Authority.	Motor Cycles.	Registering Authority.	Motor Cycles.	Registering Authority.	Motor Cycles.	Registering Authority.	Motor Cycles.
ENGLAND AND WALES.—Counties.		County Boroughs (cont.)—		County Boroughs (cont.)—		Burghs (cont.)—	
Sedford	754	Birkenhead	181	Worcester	103	Leith	66
Berkshire	618	Birmingham	2165	York	184	Paisley	76
Buckingham	576	Blackburn	186	Cardiff	405	Partick	45
Cambridge	545	Blackpool	113	Merthyr Tydvil	17		
Chester	840	Bolton	248	Swansea	284		
Cornwall	366	Bootle	64	TOTAL—England		TOTAL—Scotland ..	5296
Cumberland	343	Bournemouth	295	and Wales	66341		
Derby	688	Bradford	567			IRELAND.	
Devon	530	Brighton	457	SCOTLAND.		Antrim	148
Dorset	374	Bristol	903	Counties.—		Armagh	66
Durham	699	Burnley	170	Aberdeen	308	Carlow	50
Dyfed, Isle of	182	Burton-on-Trent	93	Argyll	41	Cavan	104
Essex	2125	Bury	106	Ayr	220	Clare	35
Gloucester	547	Canterbury	281	Banff	63	Cork	96
Hereford	222	Chester	86	Berwick	79	Donegal	39
Hertford	927	Coventry	879	Bute	58	Down	165
Huntingdon	219	Croydon	607	Caithness	58	Dublin	385
Kent	2119	Derby	207	Clackmannan	69	Fermanagh	58
Lancaster	1358	Devonport	21	Dumfries	101	Galway	—
Leicester	472	Dudley	78	Dumbarton	110	Kerry	82
Lincoln (Holland)	218	Exeter	61	Elgin	66	Kildare	70
„ (Kesteven)	305	Gateshead	79	Fife	358	Kilkenny	35
„ (Lindsey)	412	Gloucester	117	Forfar	138	King's Co.	34
London	10578	Great Yarmouth	73	Haddington	79	Leitrim	31
Middlesex	2585	Grimsby	263	Inverness	66	Limerick	32
Monmouth	292	Halifax	129	Kincardine	40	Londonderry	65
Norfolk	634	Hanley	164	Kinross	90	Longford	37
Northampton	414	Hastings	108	Kirkcudbright	56	Louth	74
Northumberland	550	Huddersfield	116	Lanark	370	Mayo	41
Nottingham	607	Ipswich	202	Linlithgow	55	Meath	—
Oxford	329	Kingston-upon-Hull ..	408	Midlothian	145	Monaghan	39
Peterboro', Soke of ..	207	Leeds	685	Nairn	5	Queen's Co.	57
Rutland	115	Leicester	391	Orkney	38	Roscommon	112
Salop	432	Lincoln	269	Peebles	43	Sligo	—
Somerset	849	Liverpool	927	Perth	236	Tipperary, N.R.	27
Southampton	962	Manchester	1112	Renfrew	112	„ S.R.	46
Stafford	985	Middlesbrough	223	Ross and Cromarty ..	72	Tyrone	83
Suffolk, East	417	Newcastle-on-Tyne	454	Roxburgh	63	Waterford	31
„ West	254	Newport (Mon.)	116	Selkirk	102	Westmeath	37
Surrey	2234	Northampton	230	Stirling	186	Wexford	83
Sussex, East	660	Norwich	192	Sutherland	45	Wicklow	74
„ West	500	Nottingham	372	Wigtown	62		
Warwick	741	Oldham	186	Zetland	62		
Westmoreland	246	Oxford	318	Burghs.—		County Boroughs.—	
Wight, Isle of	175	Plymouth	168	Aberdeen	231	Belfast	452
Wiltshire	732	Portsmouth	456	Dundee	126	Cork	54
Worcester	590	Preston	243	Edinburgh	507	Dublin	519
York, East Riding ..	249	Reading	216	Glasgow	559	Limerick	44
„ North Riding ..	333	Rochdale	88	Govan	39	Londonderry	53
„ West Riding	1464	Rotherham	164	Greenock	51	Waterford	9
		St. Helens	89			TOTAL—Ireland	3363
Anglesey	78	Salford	192			SUMMARY.	
Brecon	85	Sheffield	630				
Cardigan	68	Smethwick	95				
Carmarthen	178	Southampton	280				
Carnarvon	130	Southport	126				
Denbigh	157	South Shields	70				
Flint	129	Stockport	192				
Glamorgan	698	Sunderland	173				
Merioneth	103	Tynemouth	43				
Montgomery	87	Walsall	138				
Pembroke	67	Warrington	129				
Radnor	91	West Bromwich	69				
		West Ham	609				
County Boroughs.—		West Hartlepool	165				
Barrow-in-Furness ..	155	Wigan	147				
Bath	147	Wolverhampton	216				

Registering Authority.	Motor Vehicles Registered.				
	Motor Cars.			Motor Cycles.	TOTAL.
	Private.	Trade.	Public Service Cars.		
England and Wales ..	74,748	13,961	8,131	66,341	163,181
Scotland	6,157	1,056	584	5,296	13,093
Ireland	3,935	164	37	3,363	7,499
GRAND TOTAL, 1909	84,840	15,181	8,752	75,000	183,772
GRAND TOTAL, 1908	71,405	12,104	5,880	65,026	154,415



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The International T.T. Race.

[4404.]—In the name of the Paris Motorcycle Club, I write to say that if the rules for the 1910 Tourist Trophy Race do not impose any limit on cylinder capacity three of our members will be selected and will compete as amateurs. We, of course, do not mind a fuel consumption limit, provided that it would not be reduced below five litres to the 100 kilometres (about fifty-five miles to the gallon).

MANUEL A. FAY, Le Secrétaire-Général.

Cold Fingers.

[4405.]—In reply to "Oile's" letter [4395] if he will wear a pair of fur Canadian mitts, to be obtained from Gamagas, he will find his hands keep beautifully warm. I have had practically every device, but found that only the mitts would keep my fingers warm.

Would C. Holt, who wrote regarding electro-galvanising [letter 4400], kindly give the address of Mr. Wainwright, Leicester, as rusting of plated parts has been my great drawback to winter riding owing to the enormous amount of time taken to clean the machine after a run on wet roads.

B. ROBERTS.

Mr. Wainwright's address was given in *The Motor Cycle* of November 15th. It is Grape Street, Leicester.—ED.]

Belts on Lightweight.

[4406.]—With reference to letter 4362, we believe we were one of, if not the first to market a round copper-sewn belt, which we fitted to a number of our 1907 machines. We discarded this belt for a number of reasons, among which were:

(1.) If the belt hook points are not buried so as to avoid contact with the pulleys, the hook, or the pulleys, or the belt ends, will wear quickly and cause trouble.

(2.) The section (as sketch) is naturally very weak in its outside and inside.

(3.) The copper sewing soon breaks with belt having to make a continual double turn round the engine and jockey pulleys and there are other reasons.

Though we have not the distance from engine pulley to belt on the one-cylinder lightweight N.S.U., we cannot help thinking it is less than on the Moto-Réve, which measures about 24½ in. centre to centre.

THE MOTO-REVE CO.

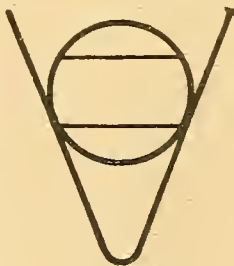
[4407.]—I have had the same trouble in connection with belts as your correspondent in his letter No. 4399. I can see no way out of the difficulty, except by carrying out your advice of May 5th.

Could "EO 194" say whether he used the jockey pulley with flat groove, and if he found by using the jockey that the belt in no way suffered? Does he think it possible to get "direct drive," thus doing away with it altogether? What diameter front pulley has he fitted?

I use my lightweight almost daily for business purposes, and find it quite satisfactory, excepting belt. It would make any hill I meet with if only the belt would grip well enough, and I find if the belt is made tighter there comes no other trouble with the fastener pulling through.

As I wish to make the alterations to my machine I should be glad of any information possible.

P. G. LL. COURTS.



Advertising Transfers on a Motor Cycle.

[4408.]—I would like to add something to the remarks of Mr. B. H. Davies in the article "Medium-powered Roadsters at the Stanley" regarding advertising transfers on the tank. I have ridden all sorts of bicycles for many years, and have always objected to the plastering all over the bicycle of the maker's name. It is no more necessary than that a carriage bought in Long Acre should have the name of the makers emblazoned in gold letters all along its side, and no private person would make use of one thus adorned.

COUNTRY DOCTOR.

Road Dangers at Night.

[4409.]—In reply to "J. F. R." in issue of November 22nd, I would like to say, imagine the position reversed, and that up till now we had been a vegetarian nation, and had no use for bullocks and sheep, and that they were now met on our roads at night, imagine the outcry, and what would be the general opinion as to the danger? And would not drovers be compelled to do something to mitigate it? The supposition seems far fetched. I put it down as showing the effect of custom.

I am spurred to write by an experience I underwent a month or so back. I was riding a motor cycle between Chelmsford and Braintree, and accelerated speed at the foot of a hill just entering the latter town. A short way up the hill I ran into half a dozen bullocks. The night was dark, the roads wet, and brown-coloured cattle are the most difficult things to see on a wet road. Of course I saw them when a few yards away, and had just time to bring the motor cycle to a standstill, one animal helping to do so on the front wheel, and another prepared to do so with his head.

"J. F. R." advises us to be more alert and ride slowly. In my case I had to ride smartly or walk up the hill. If I had seen a red light waved about I should have dismounted or taken without grumbling the consequences of disregarding the signal.

R. H. A.

The Lessons of the Tourist Trophy Race.

[4410.]—I have been very interested in the discussion which has been going on in *The Motor Cycle* under the above heading, and, being rather inclined to favour the short stroke engine, I was sorry to notice the tendency amongst several makers, including Mr. Norton, to adopt comparatively long strokes for their 1910 models.

Owing to the well-known fact that it is practically an impossibility to perfectly balance any single-cylinder engine, it appears to me desirable to keep the stroke fairly short. Given two single-cylinder engines of equal cubical capacity and of equal compression ratio, one with, say, an 88 mm. stroke and the other of 120 mm. stroke, the weight of reciprocating parts being of necessity practically the same in both cases, the 88 mm. stroke engine will run more comfortably at a higher number of revolutions per minute than the 120 mm. stroke engine, because the piston speed of the long stroke engine (if run at the same r.p.m.) will be correspondingly greater, and the unbalanced inertia forces consequently much higher. This is not conducive to the rider's comfort.

It is true that our long stroke engines will develop the same power at a lower speed, enabling our machines to be geared higher, but this means a more uneven torque or turning effort, resulting in a more snatchy pull on the belt, less comfort, and greater wear of the back tyre.

All this is only theory, but, in my experience, it is borne out in practice, as I have always noticed more vibration, more tendency to knock, and inferior accelerating powers when seated over a long stroke engine.

J. T. CLARKE.

SECURE ONE OF THE FOLLOWING BARGAINS AT ONCE.

Cash or Extended Payment offers considered.

These machines must be cleared to make room for 1910 models, and are offered subject to being unsold.

1908 4-cyl. 5-6 h.p. **F.N.**, nice condition... .. £31 0
 1909 4-cyl. 5-6 h.p. **F.N.**, two-speed gear, fine touring or sidecar machine... .. £43 0
 5 h.p. Twin **SAROLEA**, Chater Lea, magneto, low frame, 2½ in. tyres, excellent condition £27 0
 5 h.p. Twin **KERRY**, fast and powerful, h.b. control... .. £18 10
 1908 3½ h.p. **BROWN**, very little used, h.b. control, new Dunlop non-skid... .. £18 0
 5 h.p. Twin **REX**, spring forks, cantilever seat-pillar, smart machine... .. £16 0
 7-9 h.p. **PEUGEOT**, low Chater frame, h.b. control, dual ignition, the speedman's mount £25 0
 1908 5 h.p. Twin **REX**, excellent machine, magneto, adjustable pulley... .. £24 0
 1909 6 h.p. magneto **N.S.U.**, two-speed, h.b. control, all refinements, complete with coach-built Millford Castor Wheel Sidecar... .. £48 0
 2½ h.p. **KERRY**, reliable machine, in good order, with lamp, horn, etc. £10 0

3½ h.p. **FAFNIR**, Chater Lea, Brown and Barlow h.b. carburetter, spring forks, stand, etc. £15 0
 1909 Free-engine **TRIUMPH**, Palmer Cord tyres, practically new machine... .. £45 0
 2½ h.p. **MOTOR CYCLE**, Triumph engine, h.b. control; a fast little machine in perfect order... .. £14 0
 1908 2 h.p. **MOTO-REVE**, magneto... .. £18 0
 1907 4-cyl. 4½ h.p. **F.N.**, magneto, h.b. control, Palmer tyres... .. £19 0
 2½ h.p. **BRADBURY**, shop-soiled only, a reliable mount... .. £21 0

OFFERS Wanted for 2½ h.p. **MINERVA**, 2½ h.p. **BELGIQUE**, 2½ h.p. **F.N.**, 3 h.p. **OLYMPIC**, etc.

THAT NEW MACHINE

EARLY, and in most cases **IMMEDIATE** delivery of 1910 models.

Bear this in mind when ordering your new mount, and thus avoid any possible disappointment.

CASH, EXTENDED PAYMENT, S or EXCHANGE.

Let us know your requirements. We can suit you.

ACCESSORIES

of every kind, and suitable for any machine, in stock.

If you have not already had one, sent for our latest

'MOTOR CYCLIST'S ENQUIRE WITHIN' It will interest you and save your pocket. 112 pages, profusely illustrated, post free to any address.

THE SERVICE CO., Ltd.

292-3, High Holborn, LONDON, W.C.

Telegrams: "Admittedly."

Telephone: 260 Central & 2071 City.

CLINCHER

MOTOR CYCLE TYRES.

QUALITY FURTHER IMPROVED AND DURABILITY ENHANCED.

Of very superior quality, full of life, and thoroughly efficient.

An exceedingly popular tyre, and most effective against skidding on wet or greasy roads.

The rubber-studded "Dreadnought" Clincher, the finest tyre extant for heavy machines and sidecar work.

Clincher motor cycle tyres are made in four patterns, and demand your closest attention.

New list on application.

THE . . .

NORTH BRITISH RUBBER CO., Ltd.

Castle Mills, EDINBURGH.



In answering these advertisements it is desirable to mention "The Motor Cycle."

1910 ROC PRODUCTS

The Talk of the Stanley Show.

ROC TOURIST, MODEL A, 4-cylinder, 60 Guineas.

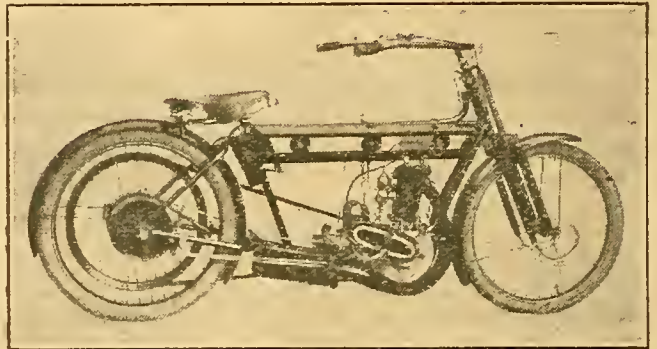
ROC TOURIST, MODEL B, 4 h.p., single cylinder, 50 Guineas.

Single track automobiles built up on the new open pressed steel chassis—the nearest approach to a motor car on two wheels.

ROC MILITARY MODEL, 4 h.p., single cylinder, 45 Guineas.

ROC MILITARY MODEL, 5-6 h.p., twin cylinder, 55 Guineas.

ROC Clutch and Two-speed Gear Conversion Sets, 12 Guineas.



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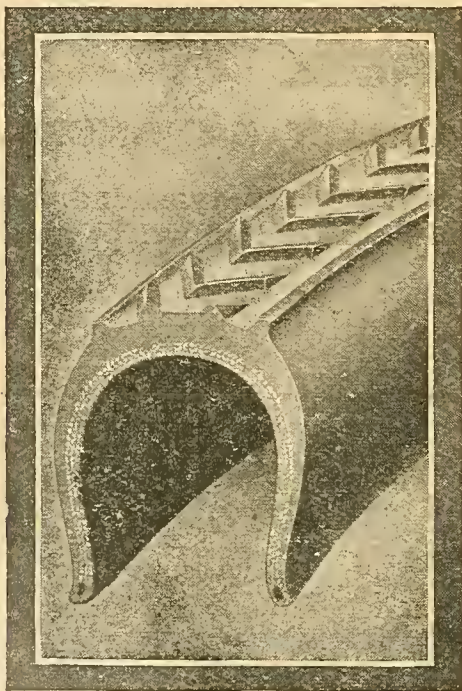
ROC 4 h.p. Military Model, Clutch, Two-speed Gear, etc.

A. W. WALL, LTD., Roc Motor Works, Aston Road and Dartmouth Street, Birmingham.

THE . . .

MOSELEY

"THE
QUALITY
OF
RUBBER
IN
TYRES."



—O—
TYRE
TROUBLES
CON-
SPICUOUS
BY
THEIR
ENTIRE
ABSENCE.
—O—

MOTOR CYCLE NON-SLIPPING TYRE

Send for Catalogue.

**DAVID MOSELEY & SONS, Ltd.,
ARDWICK, MANCHESTER.**

P. & M.

Booked up more than ever.

YOU ABSOLUTELY MUST

**Order now for
Whitsuntide delivery.**

PHELON & MOORE, Ltd.,

Registered Offices & Works :
CLECKHEATON, YORKS.
London Depot : 12, Mortimer St., W.

In answering these advertisements it is desirable to mention "The Motor Cycle."

The Petrol Difficulty.

[4411.]-Noticing in *The Motor Cycle* that there is some correspondence on the difficulty of obtaining petrol in small quantities, it may be of interest to publish a tip which was given to me on the road by some kind motorist. The tip is, always go to an A.A. garage, and those in charge will supply you with any quantity, however small. From my own personal experience I have found this to be true. I do not know if the A.A. makes this a condition with the garages to which it issues signs, as I am not a member of that organisation.

A. V. G.

Improvements in Detail.

[4412.]-I was glad to see in *The Motor Cycle* some weeks ago an article signed "Rotator," suggesting possible improvements in the Triumph machine. Speaking as one who has ridden a 1905 model and owned the 1906-7-8-9 machines, covering many thousand miles thereon, I thoroughly endorse his suggestions. Those who think out their ideas fully usually find that the Triumph Co. have excellent reasons both for what they do and for what they do not adopt. Having now made it plain that I am only a critic because I wish to help paint the lily, may I express an opinion that the following points perhaps deserve further consideration:

(1.) *Protection of Front Hub.*-None too soon did the company announce a weather-proof hub for 1909. I ask any rider to watch carefully the front extremity of his mud-guard on a road that is really "drowned." He will see that the length of it is so arranged that, at an average twenty miles an hour bat, all the drippings shall be intercepted by the hub. It is surely quite easy either to alter the shape of the guard, or to protect the hub adequately by a couple of small shields fitted low down and attached to the forks.

(2.) *Magneto Position.*-“Ixion” has rubbed this in thoroughly, but I find a neat rubber cover extremely effective.

(3.) *Carburettor Gauze.*-I was astonished some months ago to see an editorial answer to the effect that you, sir, had no experience of gauze choking. I venture to say that there are some atmospheric conditions under which it is impossible to run a 1907-8-9 Triumph for twenty miles—conditions which will not occur more than two or three times a year. To remove the offending part you must unscrew two nuts, two minute and soft screws, and one piston, and poke the gauze upwards with some implement not contained in the kit. Replacing the gauze is worse still. It is surely possible to make it more accessible. I now always carry a small sash tool to clear it without removal, but, as stated above, there are afternoons when it must come out.

(4.) *Toolbag Position.*-I confess to a feeling of frenzy on first reading the change introduced in this respect for 1910. In 1909 an admirable carrier was sacrificed to a toolbag, which only occupied one-third of it, and we were driven to forego Messrs. Brooks's good bag and adopt their pannier bags (capital substitutes, too). Now, forsooth, we are to scrap their pannier bags to make room for side toolbags, and I am not yet sure that we shall not have to remove the top bag before we can open them. Poor Messrs. Brooks! Why cannot the carrier be dropped at the back to make a small platform for toolbag opening outwards, not upwards?

(5.) *Belt Protection.*-By guarding the front of the engine pulley and the top of the belt drum, belts might be made to last much longer.

(6.) *Variable Automatic Lubrication, Handle-bar Spark Control, and Unbreakable Exhaust Valves.*-These are, I am sure, the desiderata of every rider. On a certain nameless stretch of country I almost invariably break a valve, the reason being that for nearly an hour I can strive to get the utmost out of my engine, and the exhaust valve will not stand it.

(7.) *Silencer.*-I believe that, by the substitution of two small bolts for rivets, the near side of the silencer and magneto bracket might be made detachable. This would be

a great boon. To clean the silencer and cut-out thoroughly at short intervals, and from the inside, instead of pushing a spoke through the small holes and only making half a job of it, adds greatly to the efficiency, especially for speedy riders who lubricate freely.

All this, I hope, is a real testimony to my ardent admiration of the Triumph. F 3140.

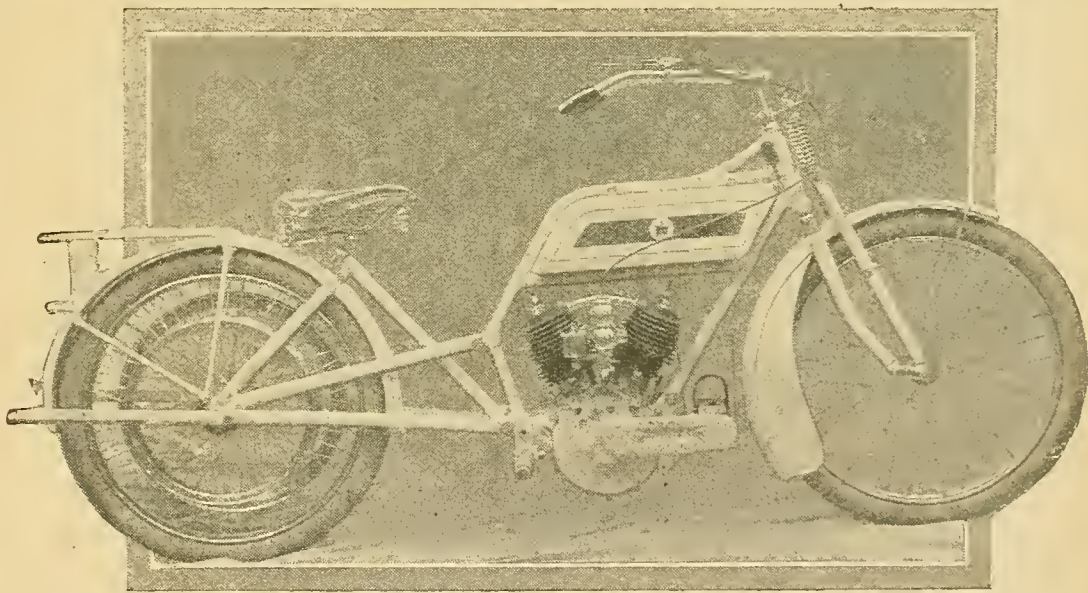
English v. French Measurements.

[4413.]-I have been very much amused at several letters to *The Motor Cycle*, denouncing the metric system of measurements for motor cycle cylinders. It is obvious that Mr. Scott and Mr. Bryly have not been accustomed to the metric system, or they would not have written as they did. The main argument in favour of this system is its extreme simplicity. The inch, on the other hand, is a large and clumsy standard, involving huge fractions. A calculation which would take two or three minutes where the French measurements are employed might take a quarter of an hour in the English ones. The most complicated English calculations may just involve the moving of a decimal place in the French system. The huge fractions which inches would necessitate would be most unwieldy. The 85×85 mm. cylinder would become $\frac{3173252}{500000} \times \frac{3173252}{500000}$ in. Think of the calculations this would involve! No. Let Mr. Scott and Mr. Bryly know the metric system before they write letters denouncing it.

F. L. WOODROFFE.

[4414.]-Most of us will agree with Mr. Henson that our money system should be placed on a metric basis, but in raising the question of a metric system of measurement, there are other things to consider as important as “ease of manipulation.”

First of all, does Mr. Henson seriously suggest a ten hour day, metrically divided into minutes and seconds, with the logical conclusion of a ten day week? Such a change would be just as much justified on account of the “ease of manipulation” as the substitution of the French metric system in place of our universal weights and measures.



A special twin-cylinder motor bicycle which the Rex Motor Mfg. Co., Ltd., are building for Miss Muriel Hind. It was exhibited in the above partly finished state at the Stanley Show.

Secondly, does “it also speak for the conservativeness” of the United States, our Colonies, and the Japanese Empire (to say nothing of Russia), “that the Continental system was not adopted long ago”?

Although Jefferson induced his country to adopt a metric coinage of their own, the American people are still using inches, and lbs., while the Japanese have introduced a metric foot instead of “that universal Continental system.”

Although the advisability of adopting this system in its entirety is a question of opinion, the impossibility of doing so in face of the opposition of our manufacturers and traders is evident, so that we can confine the question to cylinder measurement.

Mr. Henson shows how readily we can convert kilos. to millimetres, but does not explain the advantages gained by expressing cylinder dimensions in millimetres, or show in what way he finds it easier “in calculating cylinder areas and capacities.”

With an engine 3in. x 3in. or 76 mm. x 76 mm. we have the following:

$$- 3^2 \times 3.1416 \times 3 = 21.2 \text{ cubic inches.}$$

$$- \frac{76^2 \times 3.1416 \times 76}{4} = 344.7 \text{ cubic centimetres.}$$

I confess that I do not see any particular ease of manipulation in dealing with the 76 mm., and although your correspondent may consider it only further evidence of "conservativeness," I prefer the ease and simplicity of the English dimensions.

ALFRED A. SCOTT.

Lightweights v. Heavyweights.

[4415.]-Through reading *The Motor Cycle* this time last year I was persuaded to go in for a motor cycle—a lightweight. How have I fared? This is the result. I purchased a well-known lightweight. It was a faulty machine. The firm, after much unpleasantness, had to give me another. After three months' use I found it useless owing to belt trouble. At last I sold it and went in for a Douglas. I have ridden about 5,000 miles on this machine. I am still using it, and have never had any serious breakdown. As a lightweight it is the very best in the market. I would feel grateful to you if you would publish this letter so as to let others know that there exists a lightweight perfectly reliable made by an English firm in England. As a constant reader of *The Motor Cycle* I wish to thank you for having introduced me to the Douglas through your columns.

(REV.) CYRIL A. SHEPHERD.

[4416.]-Referring to Mr. Karslake's letter I am very glad to know my few lines entertained him. It affords me great satisfaction to know that I have been the means of relieving his dull monotony. His sense of humour is of a very marked degree.

The following particulars will no doubt answer his questions satisfactorily. If not, I will try and prolong his amusement by again writing.

I did not carry two full-sized portmanteaux. I did, however, have two bags large enough to carry a change of clothes even to boots. This I think will dispose of the idea of their being tool-bags. One small tool-bag is quite sufficient to take when touring on a Moto-Rêve, which can be disposed of in any out-of-the-way place, as it will probably not be wanted.

The engine was 50 x 85, and rated at 2 h.p. when I purchased it, although I find since the makers have marked it a little higher power. Mr. Karslake would be interested to know that the letter was written early in September, and I therefore did not know any differently as regards horse-power. The belt is still in use. The pulley also has been on the machine since March, and will certainly last a good time yet. Regarding speed, he is at liberty to believe what he likes. I was the rider, and I am convinced my average was from twenty-three to twenty-five miles per hour.

For a considerable distance of the return journey I rode with a gentleman mounted on a 3½ h.p. Quadrant on his way to Birmingham, and should he chance to see this perhaps he will confirm my statements regarding speed and hill-climbing capabilities. He expressed great astonishment at the way I got along.

Lastly, if Mr. Karslake has had no experience of touring on a lightweight, he should not display his ignorance by writing on a topic he knows nothing about. Possibly his letter has proved "irresistibly funny" to more than he thinks.

FREDK. T. TURPIN.

Free Wheeling.

[4417.]-When your belt suddenly parts company with your machine, and permits you to coast in silence and absolute free-wheeling simplicity, you possess an idea that perfection has not been obtained until you can do it again without the disagreeable necessity of bothering with the belt.

Is it not possible to operate a clutch in series with the exhaust valve lifter? The first stage lifts the valve, and a further movement frees the rear wheel. A plate clutch will not do the trick, as none of them are absolutely free. I should think a cone clutch with cork insets might work, but this is only a surmise. When the free-wheel clutch was first

added to the push-bicycle, a popular advertisement read, "Ride fifty and pedal thirty-five." Surely the greater speed and weight of a motor cycle ought to increase by over thirty per cent. the mileage that a gallon of petrol will take us.

H. W. TURNER.

The Cost of Running a Motor Cycle.

[4418.]-Having read some letters in *The Motor Cycle* re cost of running a motor cycle, I thought perhaps my experience with a 2½ h.p. Douglas might be of interest to those who find their machines cost a lot to keep up.

I have kept an account of all expenses, and the table given below includes extra expenses incurred in several large competitions, viz., the Quarterly Trials, Woodford to York and back in twenty-four hours, and two trials of 200 miles each. Also it includes the cost of repairing damages caused by three small accidents.

Total distance, 6,000 miles.

Repairs and replacements ... ½th per mile.

Petrol at 1s. 2d. per gallon, average

120 miles per gallon ... ⅓th "

Oil at 1s. 6d. per quart ... ¼nd "

Depreciation of machine, say £6 6s. ¼d. "

Total, about ½d. per mile.

I have no connection with the Douglas Co., but am more than pleased with their machine.

B. ALAN HILL.

Wired-on v. Beaded-edge Tyres.

[4419.]-May I ask why beaded-edge tyres are so extensively used on motor cycles when they have so few good features as compared with wired-on tyres? It is noticeable that wired-on tyres are almost entirely used on push cycles. Also the same applies to racing motor cycles. I give below the advantages and otherwise of each type:

WIRED-ON.

Cannot blow off the rim.

Cannot pull off going round corners, or when skidding.

Are easier to manipulate.

Are more flexible on the sides.

Are lighter for a given tread.

Do not creep on the rim.

Prevent water entering at rim.

Can be pumped harder with more safety.

Can be rebuilt in event of a burst.

BEADED-EDGE.

Rims rust and damage bead.

Burst at edge.

Are heavier for a given tread.

Liable to creep if not fitted with security bolts.

Allow water to enter at bead.

Are more difficult to repair, and are useless in the event of a burst edge.

The only advantage beaded-edge tyres possess is that they automatically centre themselves on the rim. Of course, I presume, in both cases, that the rims and tyres are a correct fit.

HAROLD KARSLAKE.

SUMMARY OF OTHER CORRESPONDENCE.

If the Belfast correspondent who addressed a postcard to the Editor last week headed "Noisy Gears" will send a stamped and fully addressed envelope for a reply to his query it shall receive attention.

EXPERIENCES WANTED.

Readers who wish queries to be inserted under the above heading, asking for experiences of machines and accessories, are requested to remember that their letters must be accompanied by a stamped and addressed envelope, in which the replies will be sent to them.

"V. H. L." (H.M.S. *Boxer*) desires users' experiences of the Phelon and Moore two-speed gear, or of the Bat conversion P. and M. gear, especially as to reliability and ease in gear-changing.

"G. W. W." would like readers' experiences with the A.C. tricar, particularly with regard to general reliability and hill-climbing capacity.

"P. R. P." (Leigh) and "W. H. B." (Northumberland) would like readers' experiences of the 2½ h.p. F.N. two-speeder.

HORSE-POWER: MECHANICAL AND ANIMAL.

A. J. McKINNEY, M.A., A.I.A.E., Mem. R.P.S.

ONE of the most puzzling things to amateur motorists is the question of horse-power. Obviously some method of comparing one engine with another or all engines with an outside standard is essential, otherwise we would be absolutely at sea as to what estimate to put upon any particular machine or source of energy. In a country like our own, where the horse is the usual beast of draught, it was perfectly natural for engineers of early days to make it their basis when computing mechanical power. The only question was how to convert the output of a mechanical contrivance into terms of the quadruped. This James Watt, of steam engine fame, soon did, his plan being to discover by experiment what weight a horse could lift in a specified time. Using for his purpose a deep well, he calculated that an average horse—of the draught type that is—could lift 22,000 lbs. through one foot in a minute, but to give a good margin he preferred to increase this figure by fifty per cent. Hence a standard capable of easy application to steam engines was set up, and one, too, which has remained unshaken in popularity ever since.

Comparisons of Mechanical and Animal Power

But whatever the results may be when the output of a steam engine is calculated by Watt's formula, they do not seem to most people to be accurate when applied to the internal combustion motor. One often hears motorists asking, for example, why it is that a petrol engine of, say, 2 h.p. can do so little compared with a single horse. The results, indeed, seem so very different as to make it appear that something is radically wrong somewhere. Either motor engineers are wilfully "kidding" a confiding motor public into believing that they are getting a lot for their money or else the horse is a deep animal, and took care to hide his real power from Watt lest he should have to earn his corn by the sweat of his brow. A little reflection will, however, show us that there is really no discrepancy after all, the puzzle being due to nothing else than a want of comprehension of certain fundamental facts.

Power, the Rate of Doing Work.

When we are comparing a petrol engine with a horse, which is really quite logical, since our standard of power is based on that animal, we must bear in mind certain points. First of all, power is the *rate of doing work*. Now we can do a certain action quickly or slowly, but the force necessary per time interval is different in each case. For instance, I can walk a mile comfortably on the level or without effort, as we say, in a quarter of an hour. But when I cover the same distance at fifteen miles an hour I feel distressed at the end, yet I have merely done the same thing as before, *i.e.*, moved my body, the weight of which cannot vary, over the distance of 1,760 yards. Assuming that wind resistance is negligible and certain immaterial side issues are left out of the question, we are reduced down to the fact that performing an action rapidly takes a great deal more power, to use the general expression, than is required at a lower speed. That is, as the *rate of*

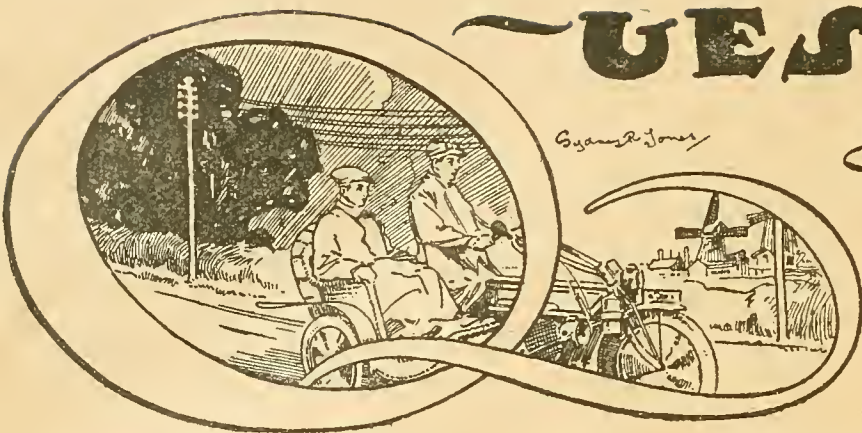
doing work increases more power is expended, or, to put it in another way, the same quantity of energy can be made to do light work rapidly or a heavy task at leisure, which is effected in machinery by varying the gearing or work-power ratio. Now a horse has his limits as to the rate of doing work, being restricted to the lower end of the scale. That is, he can pull greater weights than his mechanical equivalent in the form of a motor cycle engine, but his pace is very slow. The motor cycle, on the other hand, is only suitable for comparatively light loads, but it can rush them along the ground at express speed. The total work done during a given period may in each case be the same, but the *rate* has been different. So, then, merely because a single geared motor bicycle cannot pull one ton along a level road one is not entitled to argue that it is rated incorrectly. A near parallel would be to put a horse on 30ft. stilts, in which case, if he took the corresponding stride, his load would have to be reduced enormously.

There is a second important point also which we must remember when comparing a petrol engine with a horse. In one case the estimate is taken at the *head*, but in the other at the *feet*, so to speak. Watt measured the work done by the horse as a result of the effort exerted by its feet on the ground; he did not deduce it from the fuel equivalent of the corn. But we motorists forget that our machines are rated not at what they do *at the road wheels*, but at the engine or head—stomach would perhaps be a better analogy—which is by no means the same thing. Hence if we take a motor cycle, geared, of course, to give no more than the horse's maximum speed, which does exert 1 h.p. at the road wheels, we shall find that the engine itself gives off more than 1 b.h.p. In the case of a single-geared motor bicycle the excess is not so very pronounced, but with a motor car it is very much so. Indeed, recent figures show that the average car engine at the best of times transmits little more than half the power to the road wheels, owing to friction in the gearing, etc.

The Real Difference between Mechanical and Animal Horse-power.

But there is still another point which makes a comparison between animal and mechanical power a *vexata questio*. Animals possess the power of "effort"—that is, they can exert far more than their normal strength for a brief period. Reference was made in a paper read a couple of years ago at a meeting of engineers to this faculty, and figures were given then showing that a single horse employed in hauling waggons could develop a tractive effort nearly equal to 6 h.p. Now the petrol engine cannot do this—it is one of its weak points—but it can wear down any horse as far as speed and continuous work are concerned. In other words, "we cannot have it both ways"; the animal excels in one thing and the machine in another. Therefore when we are comparing an internal combustion engine with our equine friend we must remember that, while the output or total work done is the same, the manner of producing it is very dissimilar.

QUESTIONS AND REPLIES



A selection of questions of general interest received from our readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor St., E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Hill-climbing Powers of an Engine.

? I have a small difficulty with my 1907 Triumph. (1.) The difficulty is that although a new cylinder has been fitted and several new bushes, and the engine generally is in better condition than it was two months ago, I cannot climb nearly so well as formerly. The compression is quite good. The carburetter and parts are all quite clear and in good order. (2.) The bell crank of magneto is a little worn, but the points still clear by 1-32in. The platinum points do not meet quite squarely. Could this have any marked influence on the climbing?—W. E. H.

(1.) The fact that a new cylinder and new bearings have been fitted would easily account for the machine not pulling so well as previously, until they have been properly run in. (2.) A slight amount of wear on the bell crank would hardly make any difference in the pulling powers. It merely alters the timing of the spark a fraction. Of course, if the wear is enough to alter the timing appreciably, it is quite possible it may cause the engine to run badly. The platinum points should meet squarely, and they should be trimmed and hammered up until they do. If the fibre ring is worn a new one would effect some improvement.

Leather v. Rubber Belts. Lubrication.

? (1.) Will a leather belt stretch and slip when wet? (2.) When using a leather belt, do you lose more power than when using a canvas and rubber one? (3.) What is the advantage of a rubber and canvas belt over a leather one? (4.) How often should the oil be drained out of the crank case? I give a pumpful every twelve to fifteen miles. (5.) I have been about 750 miles on my bicycle. How soon will I need to clean the carbon off the inside of the cylinder?—G. G. W.

(1 and 2.) When wet, a leather belt slips less than a rubber one. Probably the most efficient belt drive is with a flexible leather belt. (3.) On the other hand, a rubber belt is the most reliable. It does not slip unless the roads are covered with mud and water. Its chief advantage is its great cleanliness. An adjustment can be made to a rubber belt without the rider dirtying his hands. (4.) About every 250 miles. Swill the crank case with paraffin every 500 or 600 miles. (5.) Do not dismount the cylinder to remove carbon deposit unless

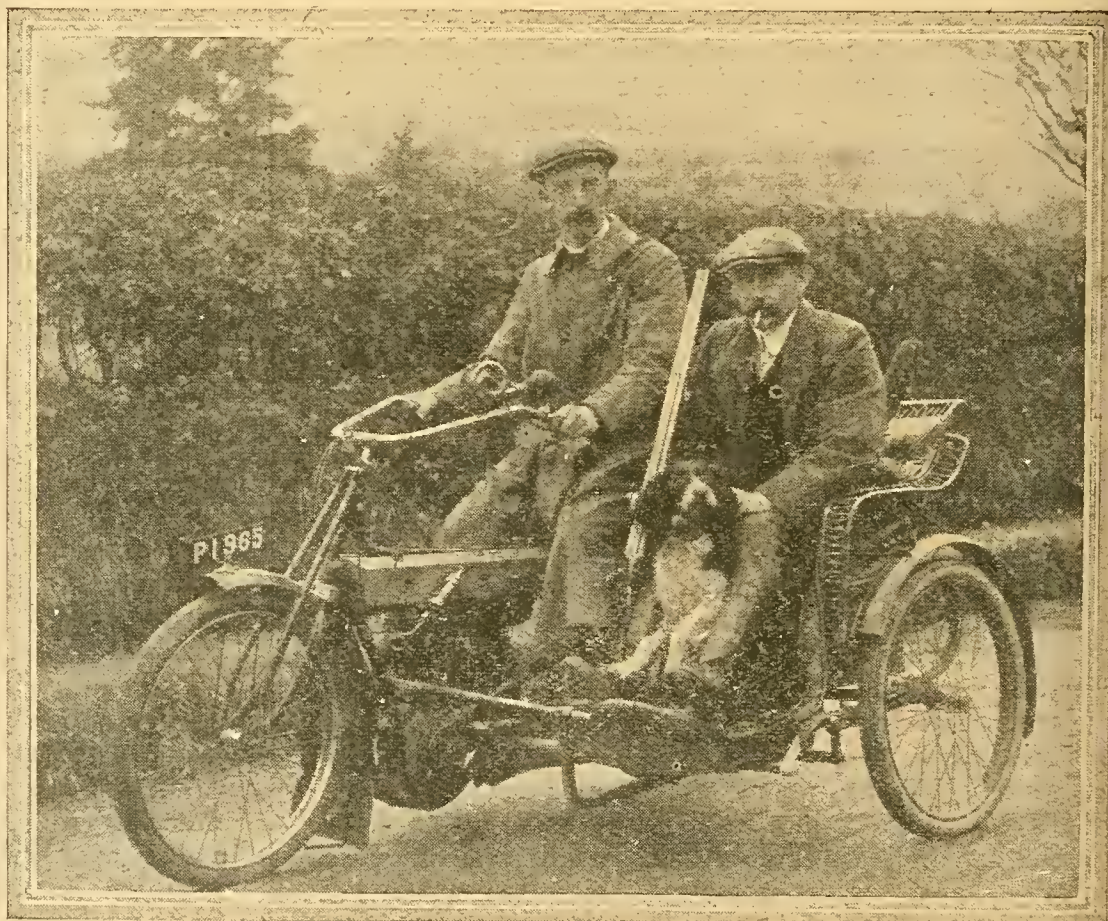
the engine begins to knock or gets excessively hot on hills. There is no hard and fast rule. The formation of carbon depends upon the quality of the oil used and your method of driving and lubrication.

Various Useful Queries and Replies.

? (1.) I have a Singer low-tension magneto motor cycle fitted with an Amac carburetter, and, of course, all control of speed depends on the setting of the air and throttle levers, and there is no such thing as advancing the spark. Although the machine runs well enough at fairly high speeds, I cannot get regular firing at anything less than 10-12 m.p.h. Can you suggest any alteration which would allow me to get regular firing at, say, 6-8 m.p.h.? (2.) Is wood fibre so reliable an insulator as mica when in the form of washers? (3.) Are the flare lamps (acetylene) so good and reliable as the lens mirrors?

Several dealers have told me they are much better, but as I have not had much experience in motor cycle lamps, I thought I would seek your advice. (4.) For general all-round work (solo and passenger) do you recommend a 3½ h.p. two-speed gear machine, or a 4½-5 h.p. single gear?—W. J. H.

(1.) We doubt if you can do much to improve your machine as the spark is incapable of being varied. You could, of course, fit such a device as a White's Economiser, which enables the rider to restrict the amount of the main air opening. This gives greater flexibility to the engine. (2.) As an insulator wood fibre is quite good. (3.) It depends entirely upon the general design of the lamp. The best of either type of lamp we have proved to be practically equal in merit. (4.) Whatever power you have if you take a passenger, a two-speed gear is advisable. Consequently we prefer the first-mentioned machine.



E. W. Hill, of Crewkerne, Somerset, starting out on one of his usual week-end shooting expeditions. The 4 h.p. Roc has a heavy load to pull, for the combined weight of driver, passenger, dog and two guns is over 26 stones. In sending the photograph, Mr. Hill mentions that he is particularly pleased with his Roc on account of the two-speed gear, which enables him to stop and restart in the middle of a steep hill with the ease of a powerful car.

Production of the Driving Licence on Demand.

?

(1.) Can you refuse to show your licence to a policeman if he is not in uniform, and if in plain clothes can you demand from him his authority to stop you before showing the licence? (2.) If summoned for exceeding the speed limit (first offence) can the magistrate cause the licence to be endorsed? (3.) Is it sufficient if you only show the inside of the licence to the police and refuse to let them have it in their possession?—O.B.

Our legal adviser's reply to the above queries are: (1.) Any person driving a motor cycle must produce his licence when demanded by a police constable. Any constable may make the demand, whether he is in uniform or not, and a constable would not be bound to prove his authority before the licence is produced. (2.) If a person is convicted for a first or second offence consisting solely of exceeding the speed limit fixed under the Motor Car Act, 1903, the licence must not be endorsed. (3.) There is no necessity to hand over the licence to the police constable. All that is necessary is to produce it so that he can see the contents of it quite clearly, and so that it is produced sufficiently long for him to copy.

Overheating and Cracked Cylinder.

?

(1.) My machine, a 1906 3½ h.p. Minerva with Minerva Longuemare carburetter overheats terribly (not enough to stop machine except on steep hills, but gets very hot). As I can do 102 miles to a gallon, do you think it can be the fault of carburetter? (2.) I am thinking of fitting the latest B. and B. Do you think this would cure it? (3.) The cylinder also has a very small crack in it. Is acetylene welding satisfactory if done by a good firm?—P. J.

(1.) It is possible the fault may be due to the carburetter giving too rich a mixture. Can you give the engine just sufficient air to make it misfire; if not, you should enlarge the extra air inlet. You must also be careful to use a good brand of oil. (2.) The B. and B. carburetter suggested might possibly effect an improvement. Anyway, there would be no harm in trying one as an experiment. (3.) It depends upon where the crack is. If it is in the valve seating acetylene welding would hardly be a success.

Positions of Air and Throttle Levers.

?

My Triumph has always refused to take quite so much air as petrol (I am referring to the positions of the handle-bar levers), yet there is plenty of power for hill-climbing. To get the best results, the relative positions of air and petrol levers are the same, fast or slow. I find, however, that even after going only two miles dead slow the engine is so hot I am unable to bear my hand on it. Would you mind telling me if these conditions are right, as I am anxious to obtain the best results?—F. D. M.

There is absolutely nothing abnormal in the behaviour of your engine. As long as the engine pulls well, the exact position of the carburetter levers is not

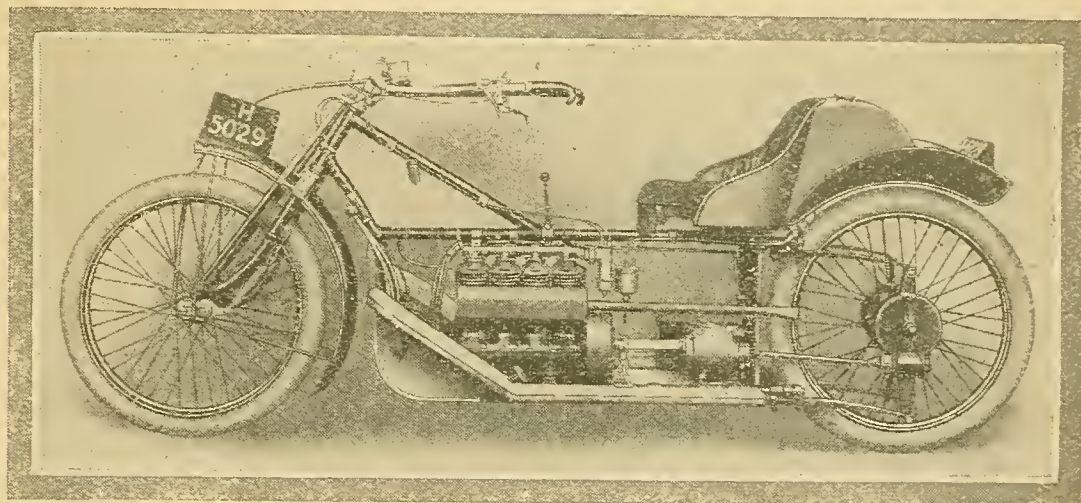
important. You will understand that the size of jets and air openings vary slightly, no matter how great the care taken to standardise them. On that account some machines of the same make require the air lever opening wider than others. The heat of an air-cooled engine is always such that you cannot bear your hand on the cylinder, whether it is run fast or slow.

Pedal Bicycles and Motor Sets.

?

I have to cycle thirteen miles each way to business, and sometimes other running about. I am not strong (my heart won't stand pedalling against head winds and uphill). Could I add a motor to my cycle that would take it along at a moderate rate and yet not make it very heavy. If so, please give me particulars. What is your opinion of the Motosacoche?—F. M.

The fitting of a motor set on to a pedal bicycle is seldom recommended, even by the manufacturers, and there is always the liability of breakage, and it will be most uncomfortable. Even a light motor cycle requires very strong frame tubes and duplex forks



A Mercedes among motor cycles. The four-cylinder, three-speed, worm-driven T.A.C. made by the Wilkinson Sword Co. The very latest model has wheel steering.

on account of the speed at which it travels. The Motosacoche is really a serviceable little mount which should serve your purpose well. You should also try the Auto-Wheel attachment before deciding.

Peculiar Case of Misfiring.

?

My machine, a 2 h.p. Minerva, has taken to chronic misfiring when on the road, but fires beautifully on the stand. I have had the carburetter down, and all is clean and in order, also the ignition is perfect. The machine answers to the throttle on the stand but not on the road, while flooding the carburetter makes no difference. I shall be greatly obliged if you can unravel this puzzle.—J. N.

There are many causes which could account for your trouble—an internal short in the accumulator, a faulty coil, bad insulation causing a temporary short when the machine is running over the road, bad earth return, etc. It is impossible to offer advice in a case of this kind without more particulars. All we can recommend you to do is carefully to examine all the working parts with the aid of "Motor Cycles and How to Manage Them."

READERS' REPLIES.**Novel Magneto Makeshifts.**

In "Current Chat" recently you mentioned the case of a motor cyclist India who used a carbon pencil for his magneto made out of a piece of vegetable charcoal. You ask if any other reader has heard of a similar case. It may interest you and your readers to know that I broke the carbon pencil of my Bosch magneto (3½ h.p. Bradbury motor bicycle) when on a tour last summer. I was replacing it after cleaning. The result was that I had to pedal to the nearest town (two miles), but being unable to buy a replacement I was puzzled to know what to do. Eventually I thought of the carbons used in electric arc lamps, and having obtained one of these I filed a piece down to near the shape and size of the Bosch pencil, and soon my engine was running, but misfiring badly. In the end I had to take down the end plate and remove the broken piece of the original carbon, and after refitting the plate and retiming the magneto the engine ran

merrily again during the tour, although the temporary carbon wore quickly. This tip may be useful to your many readers.—L'ALLEGRO.

Tyres for Sidecar Work.

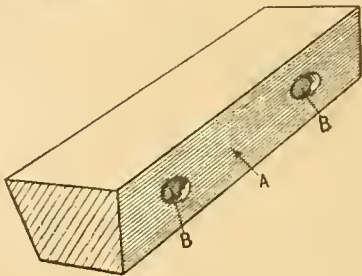
In the issue of November 8th, under the above heading, "T.J.A." writes with regard to his experiences of tyres with a Triumph and sidecar. My own experiences may be of interest to your readers. With the above combination I have now completed 14,000 miles in the last nineteen months. Using Palmer cord 2¼ in. tyres on all three wheels, I find on the front wheel I get 4,000 miles, and on the back wheel 2,000 miles. I then have them retreaded, and they run a similar distance. The sidecar tyre ran nearly 9,000 miles before I had it retreaded, and it looks like going a similar distance. I cannot help thinking that this is entirely due to the castor wheel type of sidecar, which puts little or no side strain on the tyres. I think your correspondent's experience is due to his using a sidecar with fixed wheel. My combination often carries a total load, including luggage, of thirty stones.—E. S. NEW.

RECENT PATENTS.

By ERIC W. WALFORD, F.C.I.P.A.

An Improved Driving Belt.

The gripping surfaces A of the belt are provided with recesses B, of such a shape that when the belt is bent round the pulley the recesses assume a circular shape and the air is squeezed out. The external air pressure thus tends to produce a strong suctional effect, and a good grip is assured.—J. Lycett, No. 25,627, 1908.



A Reflecting Rear Lamp.

As an alternative to carrying a rear light on a motor cycle this "reflecting lamp" may be employed. It consists of a cylindrical casing A secured to a suitable part of the frame by a clip B. The forward end C of the cylinder is closed, and its inner surface forms a concave reflector. At the rear end of the cylinder is inserted a convex reflector D, which may be of red glass.

The arrangement of the reflectors is such that the rays of light from an overtaking vehicle are reflected back as a parallel ray.—R. H. Lea, No. 22,087, 1908.

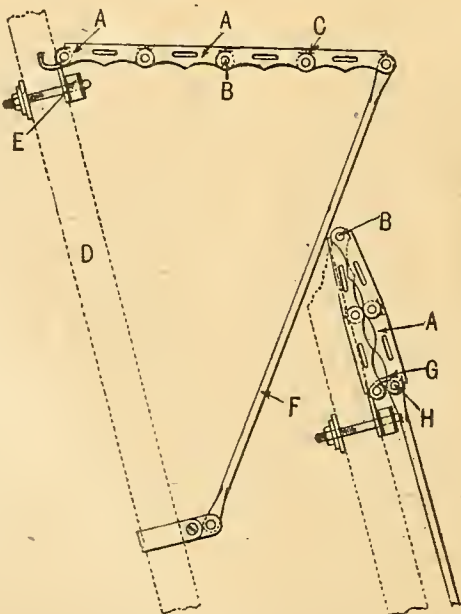
A Gas Lamp Lighting Device.

In order to light the gas in an acetylene lamp without difficulty, a spark is produced within the lamp by friction between an operating rod and a suitable pyrophoric material.

In the body A of the lamp, and at a suitable angle to the burner, is secured a sleeve B, within which is a second sleeve C. Passing through the sleeve C is a rod D normally impelled into the position shown by a spring E. A block of some suitable pyrophoric material is arranged as shown. To ignite the gas, the rod D is drawn downwards, and then released. It is thus impelled upwards by the spring E, the friction between the rod and the material F producing sparks, which are directed towards the burner by the movement of the rod D.—C. Schmidt, No. 5,199, 1909.

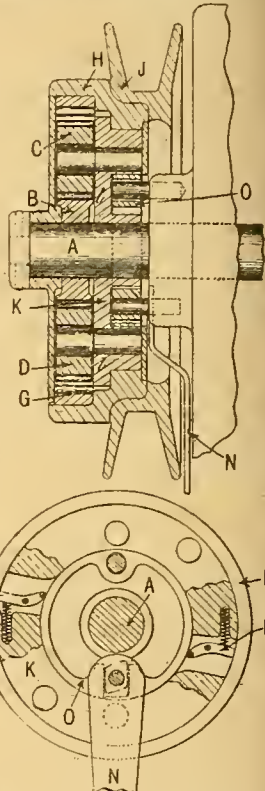
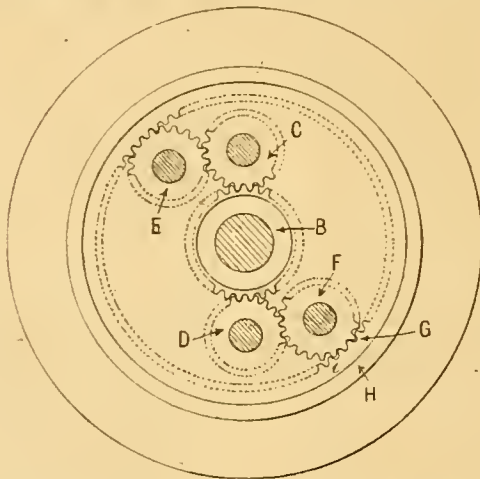
A Collapsible Luggage Carrier.

The platform consists of a number of articulated segments A, pivoted together by means of crossbars B, the joints C being butt joints which permit the platform to fold one way, but retain its rigidity in the opposite direction. The platform is secured to the seat stays D by a clip E, and supported at its rear end by a pair of pivoted rods F. When out of use the carrier may be folded into the position shown and secured by hooking a clip G over the rearmost cross-bar H.—J. Ashby, No. 23,241, 1908.



A Two-speed Free Engine Mechanism.

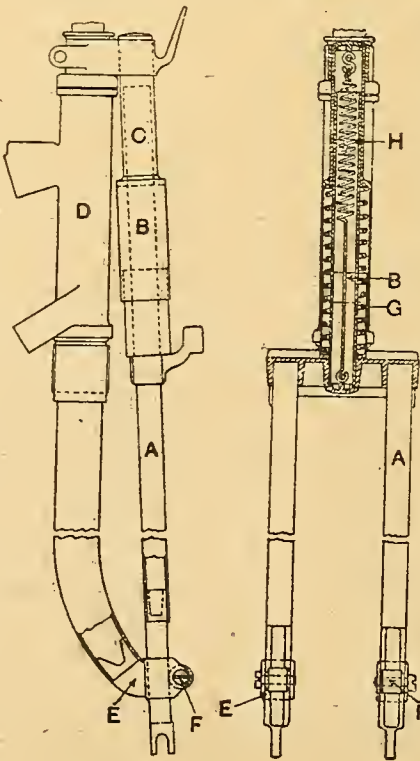
The mechanism is carried by the crankshaft A, and comprises a driving pinion B secured to the crankshaft, and meshing with a pair of planet pinions CD, which in turn mesh with planet pinions EF. The latter pinions intermesh with an internally-toothed ring G carried by an outer casing H, which also carries the concentrically arranged belt pulley J. The outer casing H is supported on a disc K, which is free upon the crankshaft, and this disc also serves to carry the planet pinions CDEF. The operating mechanism is contained within cut away portions of the disc K, and comprises a pair of pivoted levers LM operatable by a lever N through an expanding brake band O. In operation, when the brake band O is fully contracted the levers LM are impelled by the springs shown to act between the disc K and ring H. A "solid" drive is thus obtained, the driving pinion B,



planet pinions CDEF, disc K, casing H, and pulley J rotating as one mass. If now the brake band O is partially expanded by the lever N, the pivoted levers L and M are withdrawn from engagement with the casing H, and a "free engine" is provided. Further expansion of the brake band now forces it into frictional engagement with the walls of its recess in the disc K, holding the latter stationary. The drive will now be at a reduced speed, owing to the reducing effect of the planet pinions and internally-toothed ring.—W. A. Bowen, No. 21,615, 1908.

The Scott Spring Fork.

The steering wheel is carried by a fork A, bridged above the wheel, and continued as a single tube B free to slide in a sleeve C projecting from the steering head D. The lower ends of the fork A project through lugs carried by the usual fork ends E, anti-friction rollers F taking the wear. The shocks are absorbed by a compression spring G, arranged as shown, the recoil of this spring being checked by a tension spring H.—A. A. Scott, No. 7,845, 1909.



The 1d. Edition of "The Autocar."

Readers of "The Motor Cycle" who are interested in motor cars are reminded that a Penny Edition of "The Autocar" is now obtainable of all Newsagents and Booksellers every Friday Morning, in addition to the 3d. issue.

MOTOR BICYCLES FOR SALE.

Sale, 1909 Free Engine Triumph, spare outer over, F.R.S. lamp and generator, good condition; apply, 93, Edgecombe St., Newland Av., Hull.

EST Triumph, in crate; purchaser cannot complete; £45; accept Douglas or 1½h.p. F.N., 1909, yment.—Hardman, 49, Cawdor St., Stockton Heath.

p. Triumph Motor, condition new, just been overhauled, plated, and enamelled, perfect condition; price £23.—Summersgill, 47, Southbank Rd., South-

Twin Antoine, Chater-Lea frame, very fast, powerful, reliable, perfect condition, complete with stand; Smith, Field House, Healey House, near Hudders-

p. Centaur, chain drive, Palmers, Brooks, spring saddle and forks, 20in. frame, excellent order; 2h.p. Minerva, 2½h.p. J.A.P. part.—9, Beeton Rd., d.

p. Magneto Minerva, late 1907, adjustable pulley, 2in. tyres, butt-ended tubes, aluminium, £12; Zedel, low position, £7.—Eden Orphanage, Astley Bolton.

ERVA, 3½h.p., winner of numerous prizes, grand condition, good hill-climber, Continental de Course, lators, Brooks B105, newly plated; £18.—21, St., Hull.

Single-cyl. Chase, Chater-Lea throughout, handlebar control, perfect order, very low and fast, take anywhere; bargain, £29.—Gibbs, Rusholme Motor Manchester.

Bradbury, accumulator ignition, 28in. wheels, splendid condition, £10; and photo enlarging lamp 10s.; sell or exchange; any trial here.—Shearwell, Leeds.

NETO 4½h.p. Twin Minerva, spring forks, Palmer cord tyres, Brooks saddle, new August, 1909, out 1,200 miles, winner of competitions; sacrifice cost new £50.—Ellis, Oakleigh, East Park, Hull.

Bat, spring frame, in perfect order, tuned up by makers, 1909 J.A.P. carburetter, C.A.V. coil, Ad-pulley, Whittle belt, special back wheel, 650 by immediate purchaser £25.—Foster, Meadows, ter.

ERVA and Rex.—We carry the largest stock of spare parts in the province for these machines, deliver new machines from stock at low prices; exchange or gradual payments; charged accumulator hire, 1s. per week.—Cookson Bros., 511, r Rd., Old Trafford.

GAIN, must be sold.—Motor Cycle and Sidecar, 6h.p. twin Antoine engine, magneto ignition, free clutch and two speeds, gear back hub, coach-built tyres and everything good, owner selling for no fast, and will climb anything, goes like small fast price to clear, £17 10s., complete.—Apply, L. care erts, Motor Garage, Leigh, Lancs.

SECTION III.

arvon, Denbigh, Flint, Cheshire, Derby, fford, Shropshire, Montgomery, and rioneth.

9 Minerva, 3½h.p. engine, new, magneto, spring forks, adjustable pulley; £31.—H., 24, Penny Stockport.

Motor Cycle, Longuemare, trembler; can be driven away; £4; exchange path cycle.—S. Minshall, ay, Bridgnorth.

9 5-6h.p. F.N., practically new, £35; also Moto-Reve, £24; any trial; bargains; buying car.—Matlock Bath.

North Wales Motor Exchange, Rhosddu, Wrexham, beg to offer the following second-hand machines; cash, or easy payments; guaranteed running. Sole agents for the noted Rex motor cycles; old machine taken in exchange.

p. Magneto Rex, B.B. carburetter, spring forks, new belt, a sound, reliable machine; £20.

UMPH, 1908, splendid condition, large brass headlight, mirror lens, double twist horn, new belt, spare valve, etc., rubber studded tyres, new; £30.

p. Kerry, torpedo tank, spring forks, B.B. carburetter, handle-bar control, a machine with a reputation; £12.

Raleigh, Fafnir engine, 26 wheels; a bargain, £10.

1908 Magneto Rexes (lightweights), ideal machines; £17 10s. each.

Twin Rex, enamelled cream, footboards, handlebar control, exceptionally fast, perfect running sacrifice £18.

QUIN-LOUDERT, 2h.p., grand little machine; £7.

UMPH, 1909, fine, new, unriden; first cheque for £45 secures.

p. Rex, a good old slave, running order; £7.

p. Humberette, beautiful condition, tyres perfect, sound running order; bargain, £55.

p. Lurquin-Coudert Twin, Brooklands racer, a real fier, R.O.M. contact breaker, Shamrock studded £30.

OUTRAGEOUS

allowances for your present machine in part payment for

1910 MODELS.

HUMBERS, REXES, V.S., ROCS, MOTO-REEVES, etc., etc.

We especially want 1909 HUMBERS, and are in a position to make splendid allowances. We pay carriage on new machines.

COLONIAL BUYERS

please note, we pay carriage to nearest port.

BIGGEST AND BEST STOCK.

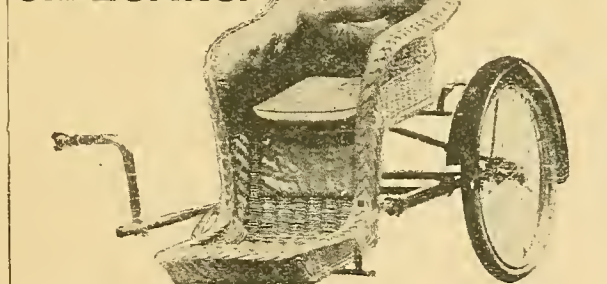
3½ h.p. BAT, magneto, spring frame, two speeds..	£24 10
6 h.p. TWIN J.A.P., magneto, spring forks	£22 10
2 h.p. MOTO-REVE, magneto, 1909	£30 10
2 h.p. MOTO-REVE, magneto, 1908	£24 10
3½ h.p. TRIUMPH, 1909, nearly new	£35 0
3½ h.p. TRIUMPH, 1908, good order	£30 0
3½ h.p. HUMBER, 1909, two speeds, non-skids ..	£37 10
3½ h.p. MINERVA, magneto, 2½ tyres	£18 15
3 h.p. TWIN FAIRY, light and handy	£12 12
6 h.p. J.A.P., Chater Lea frame, spring forks....	£18 10
3 h.p. TRIUMPH, magneto, spring forks, 1906..	£18 10
4 h.p. ANTOINE, 26in. wheels, M.O.V., smart..	£11 10
2½ h.p. LLOYDS, vertical engine, 26in. wheels ..	£8 15
2½ h.p. CLEMENT GARRARD, 26in. wheels, low built	£8 15
3½ h.p. 1909 HUMBER, two speeds	£37 10
3½ h.p. REX, 1908½, ball bearing, h.b. control ..	£29 10
3½ h.p. TRIUMPH, new	£45 0
3½ h.p. N.S.U., magneto, 2½in. tyres, long bars ..	£22 10
3 h.p. N.S.U., magneto, 1908, smart	£17 10
3 h.p. REX, 1908, magneto, h.b. control	£17 10
3½ h.p. REX, 1909, nearly new	£32 0
5½ h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4½ h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£16 10
3½ h.p. REX, spring forks, trembler coil	£10 10
3½ h.p. REX, 26in. wheels, M.O.V., h.b. control..	£8 15

TRICARS AND CARS.

6 h.p. REX LITETTE, 1908, two cylinders, magneto, water-cooled, two speeds; cost £79....	£35 10
4 h.p. STEVENS, fan-cooled, belt drive	£12 12
6 h.p. FAFNIR, open frame, two-speeds, two cylinders	£29 10
12 h.p. LEADER, two-seater car, four cylinders..	£55 10

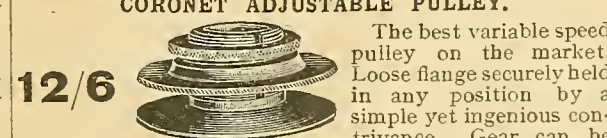
Cash buyers receive special quotations.

£4 17s. 6d. CORONET SIDECARS.



Superior to others in style, adaptability, and comfort. The springing is one of our main features. None better. Write for descriptive circular, showing how these sidecars are better than others. Fully guaranteed. Delivery from stock to suit Minervas, Rexes, N.S.U.'s, Triumphs, Phelon and Moores.

CORONET ADJUSTABLE PULLEY.



The best variable speed pulley on the market. Loose flange securely held in any position by a simple yet ingenious contrivance. Gear can be altered without the aid of spanners, lock ring easily operated by hand. Buy a "Coronet" pulley and gear your machine suitable for hill-climbing. Standard makes, such as Rexes, Triumphs, Minervas, supplied without the necessity of sending old pulley for pattern.

CARBURETTERS.

BROWN AND BARLOW. AMAC.

Let us quote you for converting your machine to handlebar control. We keep a large stock of carburetters. Be up to date. Price reasonable.

BOOTH'S MOTORIES,
CHARLES STREET, off Square Road,
Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

DOUGLAS, 1909, bought July, hardly ridden, spring footboards fitted, studded tyres, spares, and pedalling gear given.—Best offers to Read, 8, Pendennis Rd., Seacombe.

PHENIX, 3½h.p., perfect condition, very little wear, three gears, accessories; £15, cost £39; will exchange for lightweight motor.—Haynes, Liverpool Rd., Stone, Staffs.

AM Sacrificing my 5h.p. twin Norton, new three weeks ago, not done 200 miles, guaranteed perfect; sole reason for selling, forbidden to ride by doctor; cost over £53; many extras; accept nearest £47.—Cecil Rice Oxley, Meole Brace, Shrewsbury.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire and Warwickshire.

1909 Triumph, perfect condition, lamp, horn, spares; £35.—Dignan, Elms, Loughborough.

1909 Moto-Reve, twin-cyl., in new condition, guaranteed faultless; £26, complete.—27, Smithford St., Coventry.

1909 3½h.p. Magneto Rex, B. and B. carburetter, handle-bar control; £26.—75, Leam Terrace East, Leamington.

3½h.p. Bradbury Motor Cycle, magneto, lamp, stand, etc., new this summer; £23.—Nicholson, Caravan Builder, Worksep.

REX Twin, 1907, spring forks, Clincher tyres, very fast, splendid hill-climber; £16.—Louis B. Davis, 3, New St., Birmingham.

MINERVA, 3h.p., single, Clincher tyres, splendid condition, fast, good hill-climber; £11 10s.—Louis B. Davis, 3, New St., Birmingham.

QUADRANT, 2h.p., single, Clincher tyres, fine little runabout, good condition; price £8.—Louis B. Davis, 3, New St., Birmingham.

TRIUMPH, 1908, magneto, little used, guaranteed perfect condition, horn, tools, etc.; £33.—Lockwood, Park Rd., Peterborough.

1909 Triumph, June, standard, Lucas accessories, spares, hardy scratched, guaranteed perfect; £40.—Tunbridge, Rocklands, Edgbaston.

MINERVA, 3½h.p., magneto; cost £37 last year; guaranteed absolutely perfect condition; take £18 10s.—358, Stratford Rd., Birmingham.

PHELON and Moore, 1909, ridden only 1,200, tyres as new, Miller mudshields; bargain at £43.—Stevenson, Edgbaston House, Broad St., Birmingham.

ARIEL, Ariel, Ariel.—To clear, a few 1909 2½h.p. lightweights, magneto, handle-bar control; end of season bargains.—Ariel Wks., Bournbrook, Birmingham.

REX, 3½h.p., 1907, low frame, 26in. wheels, Main-Hilton stand, good tyres, fine running order; £12, sound machine; cheap; approval, deposit.—22, Victoria Terrace, Leamington.

SMITH Bros. for bargains in second-hand motor cycles, any new make supplied; exchange, railway fares paid, covers, replacements, repairs, overhauling; lowest prices.—C.C.R. Motor Works, Ford St., St. Ann's Well Rd., Nottingham.

MINERVA, 3½h.p., spring forks, new F.R.S. and generator, two accumulators, stand-carrier, voltmeter, overalls, mackintosh, horn, two bags, tools, many spares, just overhauled, absolutely reliable; £16, lowest.—Neale, 18, Moor Rd., Rushden.

3h.p. Humber, good running order, 32 by 2½ Dunlop and two tubes, large Lucas horn, sell £8, or exchange; wanted, 26 by 2 non-skid, small horn, foot-rests, headlight, and generator, spring fork attachments, trembler coil.—Jolliffe, Loughborough.

HUMBER, 3½h.p., 1909, two-speed model, handle starting, recently overhauled by makers, and fitted with 1910 improvements, such as Druid spring forks, and new pattern connecting rod bearings, exceptionally good engine; complete for £36, or nearest offer.—Box No. 3,611, The Motor Cycle Offices, Coventry.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

3½h.p. Twin Peugeot, Chater-Lea spring forks; bargain, £25.—25, St. Andrew St., Cambridge.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH, 1909, brand new, just delivered, 3½h.p., Clincher studded non-skid tyres; £42.—Leach, Leominster.

3h.p. Mitchell, Brown and Barlow carburetter, adjustable pulley; bargain, £7.—Wm. Hayes, Pontypridd, Cross Keys, Mon.

5h.p. Twin and Sidecar, with one touring, one luggage body, good order, fast; must sell; Worcestershire—No. 3,635, The Motor Cycle Offices, Coventry.

3h.p. Rover, frame cut down, round tank, French grey 1910 Amac, Rex bars, Whittles, 26 by 2½ Dunlops, Duco lamp; nearest £12.—41, Bargates, Leominster.

MOTOR BICYCLES FOR SALE.

SECTION VII.

oucester Oxford, Buckingham, Berks. Wilts, and Hants, and Channel Islands.

TRIUMPH, late 1908, splendid condition, tyres hardly soiled; £30.—R., 141, High St., Tewkesbury.

MOTOSACOCHE, 1908, perfect, new tyre, spares, belt accumulator; £15 or exchange.—Urry, Alma Rd., Itorne, Southampton.

3h.p. Jesmond; £8; good running order, tyres perfect, new 15 amp. Watawata; trial by appointment.—Murray, Estate Office, Romsey.

1-4h.p. Peugeot, Chater-Lea, magneto, spring forks, 2 1/2 Model de Course tyres, Watawata, lamp, horn, etc.; £14 10s.—White, Bath Rd., Stroud.

h.p. Rex, perfect condition, new coil and carrier, fast, comfortable, and reliable; £14, or nearest.—C. P. King, c/o King's Motor Works, Windsor.

h.p. Lightweight, long, low, perfect condition, Longue-mare, H.B. control, spring forks, foot brake, many spares; £8 10s, or nearest.—Hall, 382, Stapleton Rd., Bristol.

09 Moto-Reve, late, used for demonstrations only, powerful and condition perfect; £30, great bargain; all accessories.—Aberdeen Road Motor Works, Clifton, Bristol.

09 Zenette, J.A.P. engine, Bosch magneto, B. and B. 1910 carburettor, Autoclipse lamp, Cowey speedometer, mileage 500; offers.—Methuen, Naval Motor Club, Wickham St., Portsmouth.

PHELON and Moore, 3 1/2 h.p., August, 1909, two-speed, free engine, and special rigid sidecar, latest rapid, very reliable, hardly used, splendid condition; £50.—Horwood, The Lawn, Henley-on-Thames.

MINERVA, 2 1/2 h.p., 1908, B. and B. carburettor, handle-bar control, new R.O.M. tyre back, rubber studded front spring forks, all butted tubes, one spare, and box, oil, and gas lamp; any trial; £16 10s.—Keeble, Central Hotel, Andover.

SECTION VIII.

ertford, Essex, Middlesex, Surrey, Kent, and Sussex.

09 Rex de Luxe, 5h.p., new; cash or exchange offers.—Below.

09 Rex Tourist, 3 1/2 h.p., new; cash or exchange offers.—Below.

09 Rex de Luxe, 3 1/2 h.p., with sidecar, £40; without, £36.—Below.

09 Tourist Rexes, 3 1/2 h.p., with all accessories; £29 each.—Below.

07 Rex, 3 1/2 h.p., in guaranteed condition; £12.—Below.

09 Triumphs, with all accessories; £36 each.—Below.

08 Triumphs, guaranteed perfect; £29.—Below.

09 Minerva, 3 1/2 h.p., magneto, Brooks padded saddle, several special fittings, finish grey, good as new; £6.—Below.

08 Norton, 3 1/2 h.p. Peugeot, Bosch magneto, Druid spring forks, rubber studded tyres; £19.—Below.

09 J.A.P., 4h.p., M.O.I.V., Bosch magneto, Chater frame and spring forks, Palmer tyres, H.B. control, not done 300 miles, including accessories; £35.—Below.

08 J.A.P., 4h.p., A.O.I.V., Bosch magneto, Chater frame, Druid forks, footboards, studded tyres, complete accessories; £26.—Below.

3h.p. Minerva, perfect in every respect, Bowden H.B. control, guaranteed; £12.—Below.

3h.p. Enfield, enamel and plating splendid condition, 4 engine guaranteed; £11.—Below.

1h.p. Auto Motor, Amac, with H.B. control, footboards, Brooks saddle, splendid machine; £14.—Below.

THE Eastern Garage Co., 418, Romford Rd., Forest Gate, have, in addition to the above, several second-hand machines at prices below £10. Tel.: Stratford 10. N.N., 1 1/2 h.p., as new; £25.—H.S., 99, East Hill, Dartford, Kent.

YE'S!—69, Leather Lane, Holborn, E.C., offer the following first-class machines:

YE'S!—4-cyl. F.N., 1908 improvements, condition as new; £20.

YE'S!—3 1/2 h.p. 1909 Minerva, not run 1,000 miles, magneto; £27.

YE'S!—1908 lightweight Rex, magneto; £16.

YE'S!—1908 Motosacocche, fine condition; £13.

YE'S!—2 1/2 h.p. Kerry, footboards; £11.

ANY Others in stock at bargain prices. 'Phone, 6299 Holborn.—69, Leather Lane, Holborn.

EUGEOT, 2h.p., long handle-bars, splendid order; £8 10s.—Turner, 3, Emma Place, Kensington.

No. 1899. 3 1/2 h.p. 1908 BROWN, magneto ignition, nice condition, guaranteed at Wauchope's.

5 1/2 h.p. REX DE LUXE, condition as new, two-speed gear and free engine, guaranteed at Wauchope's. £35 0

No. 1898. 3 1/2 h.p. 1908 TRIUMPH, condition better than new, guaranteed at Wauchope's. £32 0

No. 1894 & 1895. 9 h.p. BAT, and sidecar. Offers

No. 1896. 9 h.p. RILEY Tricar, nice condition, side doors, three speeds & reverse, guaranteed. £35 0

No. 1881. 3 1/2 h.p. QUADRANT, magneto, low frame, splendid machine, guaranteed. 19 Gns.

No. 1853. 4 1/2 h.p. HUMBER Tricar, water-cooled, coach-built front seat, first cash. 10 Gns.

No. 1799 & 1800. 5-6 h.p. 1909 four-cylinder F.N., two-speed gear, complete with Lowen Sidecar. Offers

No. 1877. 3 1/2 h.p. PHELON AND MOORE, 1908 model, two-speed gear and free engine, in perfect running order; guaranteed cash price. £35 0

No. 1874. 1 1/2 h.p. MOTOSACOCHE, 1907 model, in nice condition; guaranteed. £15 15

No. 1873. 2 h.p. 1908 MOTO-REVE, grey finish, smart machine; guaranteed. 21 Gns.

No. 1868. 3 1/2 h.p. 1908 TRIUMPH, fitted with Albion free-engine clutch, nice condition throughout, easy starter; guaranteed. £33 0

No. 1867. 3 1/2 h.p. ARNO, two-speed gear and free-engine clutch, up-to-date machine, in new condition; guaranteed. £32 10

No. 1862. 2 1/2 h.p. 1910 DOUGLAS Lightweight, immediate delivery from stock; guaranteed. 38 Gns.

No. 1861. 3 1/2 h.p. BAT, sound machine, fit for the road; guaranteed. £12 10

No. 1860. 3 1/2 h.p. T.T. TRIUMPH, 1909 model, splendid machine and perfect as new; guaranteed. £35 0

No. 1855. 1 1/2 h.p. MOTOSACOCHE, perfect order, ready for the road; guaranteed. 15 Gns.

No. 1851. 4 1/2 h.p. Twin-cylinder MINERVA, splendid machine, running perfect; guaranteed. Price. £16 10

No. 1847. 2 h.p. 1908 MOTO-REVE, twin-cylinder engine, spring forks, magneto ignition, splendid condition, direct V belt drive; guaranteed. 19 Gns.

No. 1845. 3 1/2 h.p. brand new PHELON & MOORE, 1909 model, two-speed gear and free engine. Offers.

No. 1842. 3 h.p. TRIUMPH, spring forks, 1906 model, nice condition throughout; guaranteed. £16 10

No. 1837. 3 1/2 h.p. 1907 MINERVA, smart machine; guaranteed. £13 10

No. 1836. 2 1/2 h.p. MINERVA, 1907 machine, nice condition; guaranteed. £12 10

No. 1835. 1 1/2 h.p. MOTOSACOCHE, magneto ignition, 1909 model, spring forks, as new; guaranteed. £23 10

No. 1834. 3 1/2 h.p. TRIUMPH, 1909 model, magnificent machine; guaranteed. £35 0

No. 1829. 3 h.p. SCOTT-JOWETT Two-stroke Motor Cycle. £25 0

No. 1828. 3 1/2 h.p. 1909 TRIUMPH, all accessories, magnificent machine; guaranteed. £35 0

No. 1826. Sidecar, rigid type, second-hand. £4 4

No. 1822. 3 h.p. ARIEL Lightweight, shop-soiled only, never used. Offers. £17 10

No. 1814. 3 1/2 h.p. MATCHLESS, magneto in tank, Druid spring forks, nice machine; guaranteed. 20 Gns.

No. 1813. 3 1/2 h.p. FAFNIR, nice condition, accumulator ignition, sound machine; guaranteed. 9 Gns.

No. 1810. 3 1/2 h.p. PEUGEOT in No. 6 Chater-Lea frame, low frame, torpedo copper tank, good, sound machine; guaranteed. 17 Gns.

No. 1801. 2 1/2 h.p. 1908 Featherweight REX, nice condition, magneto ignition; guaranteed. £17 0

No. 1764. 5-6 h.p. Four-cylinder F.N., 1908 model, good, sound condition; guaranteed. Price. £25 0

Immediate delivery from stock of 1910 models as REX, BRADBURY, EXCELSIOR, DOUGLAS, V.S., BAT, ARIEL, MOTOSACOCHE, etc., at Wauchope's.

Large selection of 1909 new models by various leading manufacturers. No reasonable offer refused at Wauchope's. We invite prospective purchasers of new and second-hand machines to call and inspect our large stock. Remember, that satisfaction is assured to every motor cycle rider dealing with Wauchope's. Machines quoted in this column are offered for sale by Wauchope's. First cheque secures each bargain.

WAUCHOPE'S,

9, Shoe Lane, Fleet Street,

LONDON, E.C.

Telephone, 5777 Holborn. Telegrams, "Opificer, London."

MOTOR BICYCLES FOR SALE

2 1/2 h.p. Minerva, and Montgomery sidecar; £14; 2 separate.—Edwards, 28, Deodar Rd., Putney.

2 1/2 h.p. Noble, vertical, just overhauled, good climber; £9 10s.—68, Ancona Rd., Plumstead.

ANTOINE, 4h.p., good condition, new tyres; too fast for owner.—2, Ullswater Rd., Putney Green.

GOLDFREY, Applebee, and Micklewood, agents; makes of motor cycles. Write for exchange terms.

G.A.M.—Immediate delivery of 1910 Rex and Triumphs; cash, exchanges, and gradual payments.

G.A.M.—1909 5-6h.p. 4-cyl. F.N., complete with Montgomery sidecar, rigid or flexible, excellent condition throughout; £38 10s.

G.A.M.—3h.p. Quadrant, spring forks, spray cutter, good running order; £5 10s.

G.A.M.—5h.p. twin Rex, spring forks, in good condition throughout; £11, or complete with sidecar £14 10s.

G.A.M.—5h.p. Rex de Luxe, 1908, magneto, can seat, low position, spring forks, perfect order; £10s.

G.A.M.—Write for our lists. We have any amount of bargains which will interest you.—Note the address: Broadway, Muswell Hill. Phone, 933 Hornsey.

TRIUMPH, 2 1/2 h.p., footrests, new belt, rim brake, accessories; £11.—Lochel, Foyle Rd., Blackheath, London.

3 1/2 h.p. Rex, M.O.V., good order, fine low machine; £9, offers; cash wanted.—15, Dockley Rd., Wandsworth.

3 1/2 h.p. Fafnir, Chater-Lea, spring forks, new P.D. cord, low, perfect condition; £14.—192, Peebles, S.E.

F.N., 5-6h.p., excellent condition, R.O.M. tyres; also sidecar.—Write, Walker, 1, Overstrand, S.W.

4 h.p. magneto, H.B. control, spring forks, latest model, 15 guineas.—Corporal Ferris, 20, Brunswick, Camberwell.

£8.—Singer, 3 1/2 h.p., magneto, chain drive, powerful, wants little seeing to; bargain.—Motor, 1, Mer St., W.

3 1/2 h.p. Rex, warranted sound, perfect, low; bargain; £9; cash needed; must sell.—T. Ford, Essex, Green, Essex.

TRIUMPH, 1908, perfect condition, Clincher tyres, all accessories; £31 10s.—Eagles, and High St., Acton.

1909 Triumph, complete, horn, lamp, and spring forks, nearest cash offer £40.—Spring, Latchmere, Kingston, Surrey.

1908 Triumph (late), lamp, horn, both rubber studded, tyres, nearly new; £30.—Bateman, Barracks, Chatham.

REX, 3h.p., accumulator, thorough good condition, nearly new tyres, spring forks; £12.—St. Spencer Rd., Horsham.

PHOENIX Cob, 4h.p., magneto, two-speed, pan grand touring machine; 20 guineas.—Dr. S. 11, Strathville Rd., S.W.

LIGHTWEIGHT F.N., 1908, good condition, M.O.V. less silencer, handle-bar control; £20.—R., 73, Beck Rd., Enfield, Middlesex.

5 h.p. Twin Norton, as new, splendid outfit, right machine for sidecar; price £33.—A. G. Penn and 27, Mortimer Market, W.C.

WHITTLE'S.—1909 F.N. lightweight, magneto, footrests, absolutely like new, perfect, and scratched; sacrifice 20 guineas.

WHITTLE'S.—Rex 5-6h.p. twin De Luxe, late model, magneto, spring forks, Roc clutch, beautiful order; offers.

WHITTLE'S.—N.S.U., 5-6h.p., twin, latest type, magneto, suitable for sidecar, very powerful, new; £26, offers.

WHITTLE'S.—Kerry, 2 1/2 h.p., Model de Luxe, perfect order; £8 15s.—Whittle's Motor Exchange, field. 'Phone, 711, Post, Wimbledon.

2 1/2 h.p. Douglas, late 1907 model, little used, perfect condition, many spares; what offers?—Ealan, Marlborough Rd., Chelmsford.

2 1/2 h.p. Noble, girder frame, 26in. wheels, B. and B. carburettor, Clincher tyres, Brooks saddle; £26.—6d.—73, Church St., Camberwell.

3 1/2 h.p. Bradbury Motor Cycles, 1910 models; 2 exchanges arranged.—Agents, Bright and H. Church St., Camberwell, London.

5 h.p. T.T. Rex, 1908 model, beautiful order, all ball bearing engine; any examination; £23.—Cumming, 89, Cromwell Rd., S.W.

VINDEC Special, 3 1/2 h.p., magneto, spring forks, model, good condition throughout; £22.—W. Fernleigh, King Edward Rd., Romford.

OFFERS.—Brand new Royal Wolf lightweight, model, unpacked; owner unable to use.—Box 3,657, The Motor Cycle Offices, Coventry.

IF You Want Bargains in second-hand motor cycle can get them at Wauchope's, 9, Shoe Lane, St., London, E.C., just off Ludgate Circus.

MOTOR BICYCLES FOR SALE.

3 Minerva, 3½h.p., magneto, spring forks, adjustable pulley, studded tyres, not done 800 miles, as new; £21 to clear.—Stanton, below.

3 N.S.U., 3h.p., magneto, splendid condition, powerful, thoroughly reliable; £17 to clear; room.—Stanton, below.

L. F.N., 4½h.p., and nearly new sidecar, powerful, reliable combination; £32, great sacrifice.—Stanton.

P-SOILED 1909 Moto-Reve, otherwise absolutely brand new; £31; exceptional opportunity; don't—Stanton, below.

and Sidecar, 6h.p. twin J.A.P. engine, magneto, two speeds, handle starting, thoroughly overhauled; quick sale; smart, reliable combination.—Stanton.

NTON is clearing above machines (and many others in stock from £7) to make room for 1910 Bradbury, 619, Lea Bridge Rd., Leyton, London.

0 Bradbury.—Orders executed in strict order of notation, beginning early in New Year (booked up only Show till then). Your order will receive my attention.—Stanton, 619, Lea Bridge Rd., Leyton (the London Bradbury specialist).

NTON.—Bradbury, 1909, winner numerous gold medals, practically equal to new from engine to finish, specially tuned up, spares and accessories; quick sale. — 619, Lea Bridge Rd., Leyton, n.

EW 1909 Bradburys to clear at exceptionally low prices, absolutely brand new.—Stanton, above.

p. Kerry, in good order, long handle-bars, switch, horn, Brooks saddle; cheap. £9.—Ward, The Nuts, Stanwell Rd., Ashford, Middlesex.

K. 3½h.p., accumulator, powerful, not ridden 1,000 miles; £20; exchange, jewellery preferred.—B., 13, View Terrace, Wickham Lane, Plumstead.

p. Douglas Lightweight, 1909, model B., perfect condition, tools, lamp, horn, and spares; £27.—Brichton, Baldwyn's Park, Bexley, Kent.

TOSACOCHE, 1909, magneto, delivered last August, not done 500 miles; £17, near offer.—Ap-652, The Motor Cycle Offices, Coventry.

p. Triumph, new Stanley Show, 1908, in practically new condition, R.O.M. tyre, Autoclipse lamp, res and accessories; £35; any expert examination.

p. Triumph, May, 1907, in best of order, tyres, enamel, plating, and bearings all perfect; £26.

p. Vindec Special, spring forks, in good running order; £9 10s.—Batchelor and Co., Clarence St., n.

p. Motor Cycle, vertical, low built, Longuemare, trembler, good tyres, footrests, fast and reliable; £9.—Sadgrove, 12, Durham Rd., South Ealing.

UMPH, 1909, perfect condition, very fast, Palmer ord and rubber studded tyres, large carrier bag, tools, numbers, etc.; £36.—94, Gloucester Rd., S.W.

p. Bradbury, 1909 model, magneto, new September last, never used; owner compelled to sell, accept £33 10s.—21, Wood Vale, Forest Hill, S.E.

AND New 6h.p. Twin Antoine, never ridden, Chater 6 frame, handle-bar control, 2½ Palmers, Whittle accept £26 10s.—59, Barking Rd., Canning Town.

p. Twin Rex, cantilever seat, and spring forks, good appearance, engine perfect, fast; photo; £16.—W., 71, Fox Lane, Palmers Green, London.

p. Chase, except for back tyre, in thoroughly sound condition, recently overhauled; £18, or near must sell.—3,656, The Motor Cycle Offices, Cov-

Twin Peugeot, genuine throughout, fast, powerful, low built, very smart, new condition, guaranteed; very cheap, 20 guineas.—Rush, Tunbridge

Motor Cycle, in splendid condition. Quadrant engine, 26in. wheels, spring forks; £10, lowest, or approved 6ft. sideboard.—9, Wellesley Gardens.

Ball Engine Premier, Roc, 1909, two speeds, free engine, spring forks, magneto, butted tube, every- new; 30 guineas, or offer.—Groves, plumber, Lower iton.

p. Griffin, Zedel engine, Longuemare carburetter, new Dunlop covers, new self-sealing back tube; offer.—Trial at 2, Limes Terrace, Weybridge-£9.

L. F.N., 4½h.p., magneto, spring forks, just thoroughly overhauled, most reliable, starts walking sacrifice £22.—17, Kenmore Rd., Mare St., ey.

p. N.S.U., 1908, magneto, spring forks, 26 by 2½ Continental tyres, 1in. Shamrock belt, excellent ion; £21 10s.; approval.—Eagles and Co., High eton.

p. Minerva, B. and B. carburetter, footboards, tyres uncut, Duplex horn, Price's stand, girders, low powerful, fast, reliable; £10.—229, Burdett Rd., n. E.

UMPH, 3½h.p., 1908, perfect order, not ridden 000 miles; £29 10s., or nearest; seen by appoint- Roberts, Strathmore, Washington Rd., Worcester Surrey.

For 1910.

F.N.
BAT
L.M.C.
BROWN
NORTON
HUMBER
DOUGLAS
PREMIER
BRADBURY
WILKINSON
MOTOSACOCHE
PHELON-MOORE
MATCHLESS
MOTO-REVE
QUADRANT
TRIUMPH
INDIAN
KERRY
N. S. U.
ROC
V.S.

ASK US TO QUOTE YOU.
CASH, EXCHANGE, OR DEFERRED PAYMENTS.

1909 TWO ONLY 1909 NEW MOTO-REVES

Absolutely brand new and perfect. Fully guaranteed. Spring forks, variable pulley, stand, and carriers; 39 guinea models.

£31 — Our Price — £31

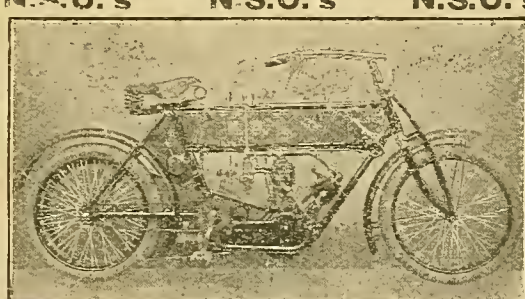
1909 THREE 1909 3½ h.p. BRADBURY

Absolutely brand new and perfect. Standard £46 models.

£36 — Our Price — £36

Send for our lists of second-hand motor cycles and accessories. We save you pounds, and IT ONLY COSTS A HALF-PENNY FOR A POSTCARD.

N.S.U.'s N.S.U.'s N.S.U.'s



SPECIFICATION:

ENGINE—Genuine N.S.U. throughout.
IGNITION—Eisemann for singles; Bosch for twins.
FRAMES—Standard, and very low built.

WHEELS—24in. and 26in.
TYRES—Peter Union 2½in. section to singles, and 2½in. to twins.

CARBURETTER—N.S.U. float feed type.
BRAKES—Two—Bowden band brake rear wheel, and back-pedalling brake.

EXTRAS—Combined stand & carrier, belt punch, two oilcans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.

GENERAL—We guarantee fully every machine sold.
PRICES:

	Maker's price.	Our price.	Deferred payments.
3 h.p. ..	£37 ..	£25 ..	—
3½ h.p. ..	£40 ..	£31 ..	£33
3¾ h.p. ..	£42 ..	£32 ..	£34
5½ h.p. ..	£52 ..	£37 ..	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

1909 HUMBERS.

All practically new models. Fully guaranteed.
508.—3½ h.p., two-speed magneto, Druid spring forks, large belt rim and pulley, Brooks' Bros ¼ saddle, Dunlop studded tyres, practically new £37 0
509.—3½ h.p., two-speed gear, Dunlop studded tyres, and perfect, magneto .. £35 0

MAUDES' MOTOR MART,
136, GREAT PORTLAND ST. (off Oxford Circus),
LONDON, W. Also at POWELL ST., HALIFAX.
Telephone: 552 Mayfair. (See our other advt.)

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for great bargains, new and second-hand, gradual payments taken on any machine, exchanges.—Only address, 5, Heath St., Hampstead. Tel.: 2678 P.O.

HAMPSTEAD (£15).—F.N., 1½h.p., lightweight, with spring forks and magneto, cost £35 last year.

HAMPSTEAD.—Humber, 1909, two-speed, almost new, Druid spring forks, all accessories and spares; great bargain, £32.

HAMPSTEAD.—2½h.p. Douglas, magneto, and spring forks, splendid condition; £28, with accessories; 3½h.p. N.S.U., £13.

HAMPSTEAD.—Minerva, 2h.p., good order, £4 15s.; Humber, 2h.p., £4 10s.; Humber, 2½h.p., splendid condition, £5 10s. Tel.: 2678, P.O.

HAMPSTEAD (£12).—Riley, 3½h.p., M.O.V., all accessories, splendid condition; Humber, £4; great bargain.

HAMPSTEAD (£23).—4-cyl. F.N., 4½h.p., 1908 model, magneto, spring forks, with all accessories.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½h.p., splendid condition, with all accessories, late model.

HAMPSTEAD (£27).—F.N., new condition, 4-cyl. 1908 model, 4½h.p., magneto, spring forks, all accessories.

HAMPSTEAD.—1910 new Triumphs in stock, Moto-Reves and F.N.'s at special reduction, latest models.

HAMPSTEAD.—Sole London and district agents for Lincoln Elks, all models in stock; special prices, trade.

HAMPSTEAD (£12).—Singer, 3h.p., magneto, new non-skid on back, in splendid order, with accessories.

HAMPSTEAD (£17).—F.N. 1½h.p. Lightweight, magneto and spring forks, with all new accessories, bargain.

HAMPSTEAD (£26).—Genuine 1908 V.S., latest model, 5h.p., magneto, and spring forks, all accessories.

HAMPSTEAD.—Are now showing all the leading 1910 machines; exchanges entertained; delivery from stock, no waiting.

HAMPSTEAD (£12).—Lincoln Elk, 3h.p., 1909 model, new condition, with accessories, all bargains, guaranteed.

HAMPSTEAD.—Triumphs, 1910, in stock; Rexes Douglas, Moto-Reves, F.N.'s, no waiting; gradual payments taken, five per cent. extra.

HAMPSTEAD (£4 10s.) — 2½h.p. Minerva, Chater frame, special bargain, guaranteed. Tel.: 2678 P.O. 5, Heath St.

1½h.p. 1909 F.N., in splendid condition and good going order, handle-bar control, and several new spares; £16, or nearest offer.—E. Geall, jun., 27, North St., Hailsham, Sussex.

1907 Twin Rex, excellent condition, 2½in. tyres, new, Rich's tubes, horn, lamp, toolbag, M. and B. switch, Dermatine belt; £14.—225, White Horse Lane, South Norwood.

3½h.p. Antoine, 26 Clinchers, low, powerful hill-climber, spray, vertical, enamel, plating, tyres everything splendid condition, all accessories; trial £8 10s.—17, Ford Sq., E.

1909 Peugeot Lightweight, 2½-3h.p., Bosch gear driven magneto, B. and B. carburetter, h.b.c., Watawata, B100, little used, smart; £14 10s., bargain.—57, Strathblaine Rd., Clapham Junction.

NEW Chater Frame, 2½h.p. Lurquin and Coudert engine, new R.O.M. tyres, handle-bar control, belt, lamp, and all spares, new, not ridden 50 miles; photo; £13.—Brags, 272, Brixton Rd., S.W.

VINT Special, 5h.p., and Millford 1907 sidecar, in good condition, new rubber studded tyre, and Peter-Union, Autoclipse lamp, and tools, guaranteed; seen any time; £25.—Pike, Barossa Terrace, Church St., Chelsea.

TRIUMPH, 3h.p., splendid condition, magneto, B.B. handle-bar carburetter, Continental and Michelin tyres, new tubes, 1in. Dermatine new, spare cylinder, piston, valves; £21.—3,607, The Motor Cycle Offices, Coventry.

4½h.p. F.N., 4-cyl., with sidecar, not run 900 miles, guaranteed perfect condition, 2½ R.O.M. back, Dunlop front, both new, £8 worth of spares and accessories; £40, or offer.—Apply after 5, F. Lambert, 87, Beaufort Mansions, Chelsea, S.W.

TRIUMPH, 1909, new June, guaranteed perfect, and not run more than 500 miles, unpunctured, Cowey speedometer, new spare tube, belt, plug, lamp, watch, has been looked after properly; £46, complete.—3,653, The Motor Cycle Offices, Coventry.

A GENUINE Bargain.—3½h.p. 1909 Triumph, Palmer cords, Lucas projector and generator, Cowey speedometer, spare belt and tube in leather cases, splendid condition, plating, etc., equal to new; £45, or near offer; any examination.—Knight, 4, Creighton Rd., Kilburn.

SINGER (1907), 3h.p., single, Roc two-speed and free engine, new Dunlop non-skid cover and tube to back, new H.B. B. and B. carburetter, magneto, many spares, latest improvements, accessories, excellent condition; £30.—For full particulars and trial apply, Outram solicitor, Haslemere.

MOTOR BICYCLES FOR SALE.

BARGAIN.—2½-h.p. Quadrant, torpedo tank, Longue-mare carburetter, new handle-bars, Dermatine belt, Clincher tyres, requires a little repairing; sacrifice £4.—12, Market Sq., Horsham, Sussex.

6-h.p. Peugeot, twin Roc, tyres new, scarcely used; bargain, £30.—59, Crescent Rd., Plumstead, S.E.

909 3½-h.p. Lincoln Elk, magneto, good as new; £18.—J.H., 42, Park Ridings, Hornsey, N.

TRIUMPH, 1909, with Triumph hub clutch, Palmer cord tyres, guaranteed in perfect order, will run from 6 to 48 miles per hour; price £45; on view by appointment, Church End, Finchley.—Write, Box L662, The Motor Cycle Offices, 20, Tudor St., E.C.

909 Phelon-Moore, with 1910 piston and handle-bar control, practically new, guaranteed perfect. R.O.M. non-skid, detachable tyres; cost complete £55, price with tools, spares, and accessories, £40, or £48 with 12 linea Millford sidecar; thorough test given.—Write, M., 59, Bexley Rd., Erith, Kent.

SECTION X.

Scotland.

909 3½-h.p. Minerva, accumulator, new last July, absolutely perfect. run 400 miles; £26, offers.—Whitell, Annan.

TRIUMPH, late 1908, as new, not done 60 miles, latest Mabon clutch fitted, complete tools and spares; £40, or nearest offer.—Murray, 64, Castlehill Rd., yr.

THE Largest Stock and largest variety.—Rex, V.S., Moto-Reve, Excelsior, Douglas, Roc, Minerva, Griffin, Zenith, Indian, Norton. We can supply any other make.—Alexander's Motor Exchange, Lotman Rd., Edinburgh.

REX, 1907, 5½-h.p. twin, accumulator ignition, Longue-mare, Palmer cord tyres, in good condition, spring forks, and cantilever seat, speedy and comfortable, in good condition and running order, spares; £18.—Unwin, engarnock.

4-h.p. 4-cyl. F.N., handle-bar control, 2½-in. Palmer cord tyres, with spare tubes and spare Shamrock Excel cover, spare valves, etc.; seen and tried by appointment; £33.—Matthew, Hillside House, Corstorphine, Edinburgh. Tel.: 44 Corstorphine.

END of Season Bargains.—1909 3½-h.p. Bradbury, new condition, not run 200 miles, £38; 1908 3½-h.p. Minerva, magneto, B. and B. carburetter, perfect condition, £20; 2½-h.p. F.N., splendid running order, good tyres, etc., £9; 2½-h.p. Ormonde, good order, £7 10s.; 4-h.p. Brown, good order, but wants new covers, special price £4.—Central Cycle Works, Peterhead, N.B.

SECTION XI.

Ireland and Isle of Man.

2½-h.p. Minerva Motor Cycle, splendid condition; £10, 4 or offers; approval.—Devine, Feeny, Derry.

TRICARS FOR SALE.

6-h.p. F.N. and 3½-h.p. Triumph, 1908, perfect machines; £25 each; no offers.—Percy Malby, Ilkeston.

18.—5½-h.p. Humber, two speeds, free, will climb anything; bargain; trial.—Write, C.S., 19, Cheriton, Balham.

1½-h.p. 4-cyl. F.N., just been overhauled, footboards, 2 nearly new tyres; bargain, £26.—Henshaw, wheelright, Stockport.

h.p. White and Poppe, three speeds and reverse, single bucket seat, car bonnet and radiator; offers wanted. Lock, Iver Heath, near Uxbridge.

1½-h.p. Twin Improved Rex Engine Tricar, very fast, 2 powerful, tyres as new; bargain, £25, or nearest offer.—172, Firta Park Rd., Sheffield.

PHENIX Trimo, coach-built, 3½-4½-h.p., new belt, good tyres, non-skid back, splendid condition; bought for £15.—94, St. Alban's Rd., Watford.

REAT Bargain.—6½-h.p. Aster Tricar, wheel steering, non-skids all wheels, two-speed, fast and reliable; 0, or exchange.—Thorne, Ashted, Surrey.

1½-h.p. Raleighette, water-cooled, car control, coach 2 seat, two speeds, car tyre rear, splendid condition; £26.—68, Wellington Rd. N., Stockport.

EXETTE, 6h.p., open frame, wheel steering, water-cooled, two speeds, in perfect condition; offers; uted, 8 to 10h.p. tricar.—34, Avenue Rd., Grantham.

SHFORD Tricar, 6h.p., 2-cyl. Stevens engine, water-cooled, Chater-Lea fittings throughout; £35.—Particulars, Brine, Carisbrooke, Chelmsford Rd., Woodford, Essex.

ITETTE, 1908, 6h.p., water-cooled, magneto, two speeds, handle starting, coach-built, spares, tools; 0.—Cushing, 59, Wellington Rd., Bush Hill Park, field.

UST be Sold immediately.—5½-h.p. twin Rex forecar, £10; two speeds, free engine, chain drive, wicker car, enamelling as new.—Pilkington, Marble Place, Louthport.

h.p. Singer Tricar, latest model, water-cooled, wheel steering, three speeds forward and reverse, heavy tyres, Panhard red finish, very fast, in splendid condition; cash offers wanted; appointment.—W.S., 15, Sha Rd., New Cross, S.E.

The Halifax Motor Exchange

Largest Rex Dealers,
16, Westgate, HALIFAX.
'Phone, 766. Telegrams: "Perfection."

1910 REXES; deliveries from Stock.
Liberal Exchanges.

"POPULARS."

1909 3½ h.p. Magneto REX, shop-soiled	£38 0
1909 3½ h.p. TRIUMPH, two-speed, new	£42 10
1908 3½ h.p. Magneto REX, spring forks	£24 10
3½ h.p. competition magneto REX, used by Mr. Jacobs, London	£29 10
3½ h.p. competition magneto REX, used by Mr. O. C. Godfrey	£29 10
4 h.p. ROC, magneto, clutch	£24 0
1908 REX, 3.6 h.p., R.A.C. rating	£17 10
1907 3½ h.p. TRIUMPH, 1909 fittings	£27 10
3½ h.p. Magneto N.S.U., spring forks	£18 10
4 h.p. ANTOINE, high tension magneto	£18 18
3 h.p. Magneto SIMMS, 2½ in. Palmers	£17 10
1907 3½ h.p. QUADRANT, spring forks	£17 10

SPECIAL BARGAIN.

Twin-cyl. CLEMENT - GARRARD, spring forks, fine Palmers, light weight	£9 9
3 h.p. HUMBER, spray, free engine	£10 10
3 h.p. BRADBURY, long and low	£10 0
3 h.p. RALEIGH, spray, vertical	£12 0
1906 3½ h.p. REX, spring forks, M.O.V.	£15 10
3 h.p. SINGER, belt drive, H.T. mag.	£16 10
4 h.p. STEVENS, H.B. control, band b.	£13 10
4 h.p. ATELIER, spray, spring forks	£13 0
3 h.p. CLYDE, magneto ignition	£15 0
2½ h.p. KERRY, light and low, spray	£9 10
3½ h.p. REX, handle-bar control, Amac	£7 10
3 h.p. BEESTON HUMBER, spray	£9 10
3½ h.p. WERNER, used with passenger	£13 10
2½ h.p. Light ARIEL, low build	£8 15
2½ h.p. LLOYDS, vertical, spray	£6 0
3½ h.p. REX, spray, wants repair	£4 15

Monster list on application.
Cash offers considered.

DE LUXE SIDECARS, 2½ in. tyres, everything of the best, built by experts, three-bolt attachment, 26 x 2½ in. Clincher A Won tyres. See our £4 17s. 6d. Sidecar, with art cane body, before purchasing cheap sidecars.

BRAND NEW 1909 REXES. 1909

1909 3½ h.p. Tourist REX	£38
1909 3½ h.p. REX DE LUXE, 2-speed	£48
1909 5 h.p. REX DE LUXE, 2-speed	£50

Compare these with 1910 prices.

SIDECAR MACHINES.

1909 5 h.p. REX DE LUXE, brand new, cash or exchange	Offers
1908 Twin Tourist REX, magneto	£26 10
1907 Twin Magneto REX	£20 0
1907 5½ h.p. Twin REX, spring forks	£16 16
7-8 h.p. Twin MINERVA and N.S.U. Sidecar, very smart lot	£29 0
Twin WERNER Lightweight, spg. forks	£12 10
5½ h.p. REX DE LUXE, Roc clutch	£25 10
6 h.p. Twin ANTOINE and Sidecar	£18 10

EASY PAYMENTS.
£3 DOWN secures any of these. Balance 5/- per week.

2½ Ariel	£9 5	2 Sarolea	£6 0
2½ Bradbury	£6 10	2½ Kerry	£9 10
4 Antoine	£16 10	4 Coronet	£15 0
3 Humber	£10 0	3 Ariel	£9 10
3½ Rex	£10 10	3½ Werner	£13 10
2½ Lloyd's	£7 10	2 Humber	£8 10
4 Atelier	£13 10	3 Bradbury	
4 Stevens	£13 10	2½ Whitley	£6 15

Push cycles taken in exchange.

5½ h.p. REX, spring forks, fitted with new Sidecar, art cane body, 2½ in. Clincher A Won tyre, special detachable fittings. **£19 19**

WE HAVE IN STOCK OVER TWO TONS of Brand New Perfect Motor Cycle Covers. Best makes. All sizes, 17/6 each. New Clincher A Won Covers 17/6. Tubes 4/11. Accessory List on application. Pounds saved. Approval against cash.

NEW CARBURETTERS.
Handle-Bar Control Amac, 19/6. Brown and Barlow, 25/- 1910 Carburetters, 30/- and 32/- Cash discounts.

1.000 1908-9 Magneto Machines wanted for spot cash. Full trade value given.

TRICARS FOR SALE.

6 h.p. Zenette, J.A.P. water-cooled tricar for sale, built body, car tyres, wheel steering, condition new, all spares; trial by appointment; price £40.—Foord Rd., Folkestone.

BEAUTIFUL Bat Tricar, 4½-h.p., spring frame, perfect condition; first reasonable offer; see photo and particulars.—W. Boot, 8, Beverstone Thornton Heath, Surrey.

REXETTE, 10h.p., twin-cyl., 1907 model, water-cooled, two speeds and reverse, twin tyres on back, top tyres throughout; open any trial; price £35.—B. Davis, 3, New St., Birmingham.

6 h.p. Riley Tricar, water-cooled, three speeds and reverse, light blue body, red leather lined, car fine climber, too fast for owner; £45; photo on application; inspection invited.—Benzie, Cowes.

3½ h.p. Kerry Tricar, chain drive, two speeds and 32 in perfect order, new tyres, 4-note horn, lamp and electric tail lamp; £20; photo or trial Hooper, 3, College Terrace, Southampton.

OFFERS wanted.—5½-h.p. Quadrant tricar, wheeling, handle starting, two speeds, chain drive, as new, splendid condition; sacrifice £22 10s., or no offer; bought larger tricar.—Motorist, 8, Mos Paisley.

STRIKING Rex Tricar, 4½-h.p., first-rate condition, R.O.M. tyre, engine just re-bushed, body re-upholstered, motor grey, re-upholstered dark blue, fittings p. £38.—Write for particulars, Richards, 9, Fairview Cheltenham.

REXETTE 5½-h.p. Tricar, spring frame, water-cooled, green upholstered, Bowden controlled on steering wheel, Brooks non-skid back tyre, two speeds, good condition; particulars; £30, or near offers.—A. Beasley, Chessher St., Hinchley.

TRIUMPH Throughout (not bicycle and forecar) h.p., water-cooled, splendid condition, guaranteed running order, quantity spares and new spare tyre; reasonable offer; any trial.—Henry, Blackboy V West Green, Tottenham.

SIDECARS AND FORECARS

NEW 1909 Rigid Spring Wheel Sidecar (Crompton patent), suit low framed makes; £6.—Dr. I Epsom.

MONTGOMERY Latest Sidecar, used twice, smart; price £5 15s.—P. Riddelsdell, B. Suffolk.

FARRAR'S Halifax Sidecars are sent on approval, guaranteed 12 months; immediate delivery; any motor cycle.

HALIFAX Sidecars are superb value; £4 17s. each; equalling others costing double.—Farrar's Motories, Square Rd., Halifax.

WHOLESALE and Retail manufacturers.—Barnes, springs, fittings.—Middleton and Co., Watlington Green, London, N.

LATEST Chater-Lea Sidecar, quite new, fit Triumph and Moore; £7; appointment.—L. Steyer, 91, Tantalion Rd., Balham, S.W.

SIDECAR, rigid, 24 by 2½ tyre, wicker, upholstered either side, apron, £4; 8ft. Whittle inch belt, twice, 22s.—Lewis, 23, Arden Rd., Handsworth.

12 Guinea Sidecar, brand new, and built throughout with genuine Chater-Lea fittings, fit any machine; £6 8s.—H. Bert, 9, Gaskell St., Clapham, London, S.

THIS year's sidecar, 6h.p. twin Antoine motor, two-speed gear, and Chater-Lea upholstered car, perfect; £24.—Rose Villa, Leigh Sinton, Malvern.

HALIFAX.—Forecar, to fit twin Minerva, with less front seat, 39s. 6d.; art cane sidecar, used ten miles, £4 15s.; new Mills-Pulford, £5 17s. Motor Exchange, Westgate, Halifax.

J. DAVIS, Automobile Engineer, Barnsbury (C.N.), begs to inform readers that he is the inventor and sole builder of the protected double-seated sidecar illustrated recently in *The Motor Cycle*. This sidecar, with tiller steering, is the last word in comfort and motor cycling. Particulars and prices on application.

MOTOR TRICYCLES.

24 h.p. De Dion-Eadie Trike, two speeds, free engine, good condition; £11.—Reynolds Bros., Loughborough, Leicester.

ROYAL Enfield Tricycle, 2½-h.p. genuine De Dion wipec, trembler, perfect, large trailer, all tyres p. £15; want De Dion car, type Q.—Kemp, Hewson Lincoln.

SINGER Motor Tricycle, for two, tandem position (lady or gent), magneto, all in splendid condition; £10, or exchange to £12 value.—Fairweather, Mill Kirkcudbright.

TRAILERS.

TRAILER, Millford, Clinchers, sound condition; if sold this week.—Grime, Heyes Lane, Timperley.

COVENTRY Eagle, seats adult and child, well upholstered, 2in. Clipper tyres, one brand new; with Lucas acetylene side lamps, and leather apron; bought car; accept £3.—Scott, Streety Wood, S. Coldfield.

QUADCARS.

ENIX Quadcar, 8h.p., twin, almost new tyres, just overhauled and thoroughly equipped throughout; £30 cash, for immediate sale.—Moldgreen Engineering Works, Huddersfield.

CARS FOR SALE.

MER.—15h.p. Darracq, 5-seater, hood, screen, dual ignition, many extras, including Stepney; £95.
MER.—24h.p. Mass, 2-seater, racer, low, light, complete, hood, screen, electric lamps; £155.
MER.—8h.p. Regal, tonneau, single-cyl., three speeds, reverse, cardan drive; very cheap, £35.
MER.—12-16h.p. Corre, 5-seater, hood, screen, head lamp, light car, cheap to run; £75.
MER.—16-20h.p. De Dietrich landaulet, open or closed body, beautifully upholstered; bargain, £125.
MER.—10-15h.p. Panhard chassis, 4-cyl., four speeds, reverse, Krebs, wheel control; £55.
MER.—7-9h.p. Jackson, racy type, 2-seater, like new, pressed steel frame; great bargain, £85.
MER.—24-40h.p. F.I.A.T., Roi des Belges, complete with hood, screen, splendid car; £175.
MER.—12-14h.p. Humber, tonneau, 4-cyl., cardan drive, raked steering, economical car to run; £85.
MER.—16-20h.p. De Dietrich lorry, 4-cyl., magneto ignition, 4 speeds, very powerful; £75.
MER.—15-20h.p. Mors, side entrance, brougham, honeycomb radiator, steel frame; £150.
MER.—5h.p. motor boat, seat about 20 persons, 15ft. long, magneto ignition; £45.
MER.—All above seen any time at L. N. Palmer's, 90, Mellison Rd., Tooting. Garage one minute from Rd. tram terminus, Tooting. Phone, 208, Ham. Photos, details per return. Easy terms: cash or hire.

Rex Car, cardan drive, excellent condition, good tyres; trial; £25, bargain.—20, Potternewton Lane, Leeds.

Rex, tonneau, seats four, three speeds and reverse, in good condition; £25.—14, Clapham Rd., London.

For Sale, 4h.p. De Dion Car, good running order, tyres as new; accept £20.—Apply, Spurgeon, Siblegham.

Smart Gladiator, light car, detachable tonneau, lamps, new tyres; £44.—14, Zermatt St., Chapel-Leeds.

DION, 8h.p., L. and B. chassis, detachable tonneau, two new Kempshalls; £65; exchange.—6, Chalsey Brockley.

Darracq, detachable tonneau, tyres and mechanism in fine condition, a non-stop car; £27 10s.—Sully, Old Town, Clapham.

Aster-Regal, 2-seater, usual speeds, in good running order; photo; £30, or nearest offers.—Fear, St. Wells, Somerset.

h.p. Touring Car, with hood, lamps, screen, etc.; must sell; £55, worth £150.—Laundry, 4, Middle-td., Kingsland Rd., N.E.

Swift, in excellent order, two speeds and reverse, 2-seater, smart car; must clear; £25, or good hike —Davis, Barnsbury Grove, N.

HALIFAX.—5h.p. O.T.A.V. voiturette, lamps, hood, spares, etc., brand new; £60, usual price 95 cash.—Motor Exchange, Westgate, Halifax.

HALIFAX.—10-12h.p. 2-cyl. Brush, £39 10s.; 8-10 h.p. 2-cyl. Ford, £32 10s.; any reasonable exchange offered.—Motor Exchange, Westgate, Halifax.

h.p. O.T.A.V. Voiturette, Bosch magneto, Cape hood, good order; cost 95 guineas, £40; good motor and cash.—P. Riddelsdell, Boxford, Suffolk.

12h.p. Toney-Huber, 2 cys., cardan drive, Stepney, hood, lamps, splendid condition; only £60; take car part payment.—4, Frances St., Woolwich.

h.p. Vauxhall, two speeds and reverse, Dunlop tyres, artillery wheels, in good running order; £20, or range Triumph motor cycle.—Batchelor, Clarence St., London.

h.p. Decauville Car, 4-seater, Samson non-skids; £25, a bargain, or £15 and modern motor cycle and magneto.—Box L694, The Motor Cycle Offices, Tudor St., E.C.

DION, genuine, 6h.p., type Q., two speeds and reverse, screen, Stepney, three new tyres, in daily bought larger; must clear; £49; London.—Box 9, The Motor Cycle Offices, 20, Tudor St., E.C.

12h.p. Twin-cyl. 4-seater Clyde Car, with new folding, lamps, tools, etc., condition and appearance equal new; £55; Triumph motor cycle part payment; any trial given.—W. Else, Leawood, Matlock.

T.A.V. 5h.p. Voiturette, just re-upholstered and painted, Cape hood, lamps, extra tyre and accessories, perfect condition, ready for the road; £50, or offer.—Salway Motor Works, Salway Hill, Woodford.

ANHARD Car, 6h.p., 2-seater, water-cooled, three speeds, reverse, electric ignition, artillery wheels, automatic tyres, wheel steering, good running order; trial n.—Shackleton, Livingstone House, Bolton Woods, Bradford, Yorks.

1910 MODELS.

Any make supplied. Let me quote you Cash or Exchange.

In Stock at Square Road.

1910 3½ h.p. Twin PREMIER	50 Gns.
1909 6 h.p. Twin REX, quite new	£36 0
1909 6 h.p. Twin REX, splendid condition	£32 0
3½ h.p. 1908 TRIUMPH, magneto ignition ..	£29 0
One ditto, fitted Roc two-speed gear	£35 0
1908 6 h.p. R.C.C., two-speed and clutch ..	£30 0
6 h.p. Twin N.S.U., magneto, very low....	£23 0
3 h.p. Twin N.S.U., magneto, very low....	£21 0
1908 REA DE LUAE, clutch, etc.	£28 0
1908 Twin REX, magneto, very low	£25 0
3½ h.p. N.S.U., magneto, spring forks	£17 0
3½ VINDEC, magneto, Nala two speeds ..	£19 0
1907 Twin REX, magneto	£20 0
4-5 h.p. Twin N.S.U., mag., spring forks ..	£21 0
1908 F.N. Lightweight, Bosch magneto....	£17 0
3½ h.p. GRITZNER, 1908, magneto ignition ..	£17 0
1908 Magneto REX, fine condition	£18 0
3½ h.p. 1906 REA, M.O.V., spring forks ..	£13 10
REA DE LUAE, magneto, clutch	£22 0
5½ h.p. TWIN REX a beauty	£16 10
7½ h.p. REX, M.O.V., spray	£10 10
3½ h.p. 1907 REX, lovely goor	£15 15
3½ h.p. low REX, H.B. control	£11 0
6 h.p. Twin REX, and sidecar	£20 0
6 h.p. N.S.U., magneto, and sidecar	£27 0

TRICARS.

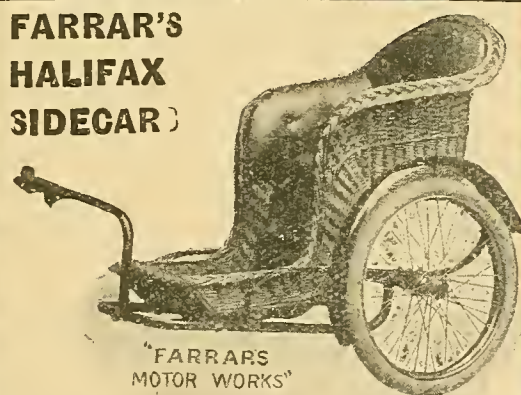
5½ h.p. REXETTE, fine machine	£24 0
5-6 h.p. ROVER, newly enamelled	£17 0

£3 DOWN secures any of these. Balance 5/- per week.

3½ h.p. Excelsior ..	£9	2½ h.p. Minerva ..	£7
2½ h.p. Humber....	£5	2 h.p. Stevens ..	£5
3½ h.p. Rex	£9	2½ h.p. R. and P. ..	£7
3½ h.p. Dux	£9	2½ h.p. King.....	£8
3½ h.p. HUMBER, 26in. wheels	£9		
3 h.p. MINERVA, low, 26in. wheels	£11		

1909 "PREMIER" Magnetos.
Absolutely the finest magneto. £3 15s. each.
DELIVERY FROM STOCK.

FARRAR'S HALIFAX SIDECAR



£4 17s. 6d. complete with best tyres. Guaranteed 12 months. An ideal winter attachment, quite rigid. Good, stylish, and comfortable. No sideslip. Beautifully sprung on double C spring. Approval anywhere. Don't buy till you have seen ours.

SPECIAL BARGAINS.

Brown and Barlow 1910 Carburettors, H.B. control	28/-
Amac Carburettors, H.B. control	19/6
Old carburettor accepted in part payment.	
Hutchinson Tyres, extra heavy, 26 x 2 and 2½, 17/6; 26 x 2½, 18/6.	
Dunlop Tyres, 28x2, 28x2½, wired edge, new, unused	12/6 each
Montgomery Flexible Sidecar	£4 4
3½ h.p. Rex engine, M.O.V.	£3 10
Mills and Fulford Sidecar	£4 0
Tricar frame, for wheel-steering, clutch, etc.	50/-
Low motor cycle frame, vertical.....	30/-
Long Handle-bars, plated	5/6
Rex Pattern Handle-bars, drop ends	6/6

Send for Price List of Accessories—Pounds Saved.

Clincher Rubber Studded Covers, 29/- each.
Tubes with valve, all sizes. 4/11.

High-class Machines Wanted. Cash Waiting.

E. FARRAR,
Albion Works, Square Rd., HALIFAX.
Telephone 919.

CARS FOR SALE.

ECLIPSE.—20-30h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.

ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

ECLIPSE.—12h.p. Aster, 2-cyl., side entrance, pressed steel, Stepney, hood; absolute bargain, £65.

ECLIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £42 10s.

ECLIPSE.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.

ECLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £57 10s.

ECLIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

ECLIPSE.—10-12h.p. Sorex Cab, 4 seats, in splendid order; £87 10s.

ECLIPSE.—6h.p. Swift-De Dion, 2-seater, hood, perfect order; £38.

ECLIPSE.—5h.p. Beeston Humberette, two speeds, climbs anything; £28 10s.—Eclipse Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth, Phone, 1135 Putney.

WOLSELEY, 9h.p., seats four; £50, or part exchange.—86, Farleigh Rd., Stoke Newington, London, N.

10-12h.p. Beauchet, twin-cyl., Panhard gears, three speeds and reverse, painted and upholstered green, smart appearance, tyres good condition, splendid running order, brass head and side lights, tools, etc.; £45; would exchange high power bike and sidecar.—Fairfield, Newark St., Leicester.

10-12h.p. Minerva, 2-cyl., smart 2-seater, bucket seats, three speeds and reverse, wind screen, in splendid condition throughout, gears and engine perfect, powerful fast, and silent, all spares, including lamps, spare cover etc.; £70; accept motor cycle part payment.—Stanley, 43, Southbrook Rd., Lee, S.E.

INSURANCE.

PLEASE send for reduced rates for 1910 policy; personal 5s., inclusive 18s. 6d. per annum.—Bass, insurance broker, Ongar.

INSURE Your Motor Cycle with Hugh J. Boswell, insurance broker, Norwich, at greatly reduced premiums; fire 2s. 6d.; accidents to cycle 14s. 6d.; third party 7s., theft 9s. 6d., inclusive policy 18s.—Please write for particulars.

MOTOR EXPERTS.

GODFREY, Applebee, and Micklewood.—We specialise in overhauling and tuning up all kinds of motor cycles; Rex and Triumphs a speciality. If you cannot spare the time to bring your machine to our premises we will willingly send for it.—Broadway, Muswell Hill, Phone, 933 Hornsey.

SITUATIONS WANTED.

CYCLE and Motor Mechanic, good address, seeks situation, any capacity, travelling or aeroplane construction; remuneration not the first consideration.—98 Seventh Av., Manor Park.

ENGINES.

5-6h.p. Twin Peugeot Engine, with Amac carburettor fitted, as new; £11.—2, Kingsley Rd., Palmers, Green, N.

24h.p. Humber Engine, carburettor, silencer, good condition; £2 10s.—R. Clarke, Manor Cottage, Mildenhall, Suffolk.

SINGLE-CYL. Water-cooled Engine (3½ by 4½), carburettor, coil, and silencer; £8.—Slater, Grafton Place, Huddersfield.

CYLINDER, J.A.P., 3½h.p., complete with overhead valves and gear, nearly new; offers.—Taylor, 1 Smith St., Watford.

30S.—Osborne four-speed, free engine pulley, and starting handle, complete, perfect order.—Read Four Forks, Bridgwater.

3h.p. Lincoln Elk Engine and carburettor. 50s.; also 1½h.p. lightweight Minerva engine, 20s.—205 Broomfield Rd., Coventry.

THE Osborne 4-speed and Free Engine, direct drive on all four speeds; starts on hills; no end thrust.—Osborne, Princess Works, Lincoln.

FAFNIR Engine, 3½h.p., 80 by 80, complete with Fafnir two-speed gear, in splendid condition; £10 10s.—Peel, 22, Bournemouth Terrace, Newcastle-on-Tyne.

ARIEL Motors.—Motors, Motors, Motors. Good workable model ½h.p. air and water-cooled petrol motors for experimenting, neat, compact machined set from 9s. 9d.; list 4d.—Littleover, Dynamo Wks., Derby.

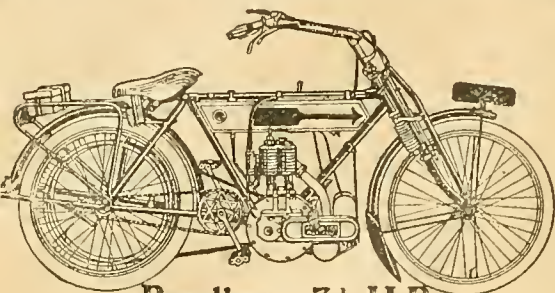
DE DION, M.M.C., Excelsior engines and parts, new or second-hand, cash or instalments; 1½ to 8h.p. power increased 2½ to 3½h.p.; repairs to all types moderate charges; 12 years' Coventry experience.—TL Record Motor Co., Wembley, Middlesex.

IGNITION APPLIANCES.

IT is a fact.—Platinum is best for contact tips.—Meredit, G.O.M., Summer Lane, Birmingham.

TREMBLERS for all makes of engines, with solid pure platinum tips, 1s. 3d. each.—Meredit, G.O.M., Birmingham.

1910 BRADBURY'S



Bradbury 3 1/2 H.P.

£46 COMPLETE £46

We give dates for deliveries under penalty.

Deferred Payment Terms.

£16 down and ten monthly payments of £3.

Few Standard 1909 £46 Models to clear at £36.

1910 NORTONS.

We are Sole London Agents for these. The cheapest standard model on the market.

H.P. 43 gns. 3 1/2 H.P.

Book your orders now for early delivery.

1910 PHELOM MOORES.

1 h.p. model £55 0 2 1/2 h.p. model £47 10
Deferred payments. Earliest deliveries under penalty.N.S.U.'s — IN STOCK AT BOTH
HALIFAX & LONDON.

1 h.p.	£37 0	£25 0
2 h.p.	£40 0	£31 0
3 h.p.	£42 0	£32 0
4 h.p.	£52 0	£37 0

All brand new and perfect, and fully guaranteed by us. We have your enquiries. Best allowances given. 3 1/2 h.p. 1909 two-speed model, finished French grey, Druid forks, Dunlop or studded tyres; a bargain £37 0
3 1/2 h.p. 1909 two-speed, Bros saddle, padded, standard specification, almost new £36 0
In fact, all these machines are like new, and guaranteed by us. They have been used for trials and demonstration purposes only. Exchanges entertained. Let us save your enquiries.

Second-hand Bargains in Halifax Stock.

1908 model	£28 0
MINERVA, 2 1/2 h.p., cream finish, practically new tyres to both wheels	£12 0
MILTON, 4 h.p., vertical engine, just overhauled and plated	£14 0
U.S., 3 1/2 h.p., magneto, Roc two-speed gear, handle starting	£23 0
U.S., 3 1/2 h.p., 1908 model, 24in. wheels, low built, very good condition	£20 0
TO-REVE, magneto, spring forks, perfect order	£19 0
TRUMPH, 3 h.p., Palmer tyres, magneto ignition	£19 0
VER, 2 1/2 h.p., vertical engine, spray, handle-bar control	£14 0
RY Lightweight, aluminium finish, two-cylinder. An orphan	£14 0
RKOPP, 2 1/2 h.p., low built, grand condition. First cheque secures	£10 0
MINERVA, 4 1/2 h.p., low built, handle-bar control, perfect order	£20 0
MINERVA, 2 h.p.	£8 1
HUMBER, 2 h.p.	£8 1
HUMBER, 2 1/2 h.p.	£10 1
ADRANT, 3 h.p.	£10 1
SINGER, 2 h.p.	£6 1
BROWNE, 2 h.p.	£7 1

Have you our Lists by you?

Not, you should have. We save you money. Send a and prove our statements.

AUDES' MOTOR MART,

Powell Street,
HALIFAX.

Telephone—433. Telegram—"Petrol, Halifax."

136, Great Portland Street, LONDON, W.

Telephone—552 Mayfair.

IGNITION APPLIANCES.

50 Magnetos, high tension, best make; your coil and accumulator taken in exchange.—Booth's Motories, Halifax.

PREMIER Magnetos, brand new, 1909 model, single-cyl. £3 15s.; twin-cyl., £4 10s.—Farrar, Square Rd., Halifax.

JEBRON, Registered 291-289, vastly superior to platinum, cures misfiring; best contacts for blades, screws, rockers, magnetos, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmers, 9d.; Jebron screws fit Bosch magnetos DA2, DAV, contact breakers 5a, 5b, 5c, 5s, 6d. pair; old screws Jebronised, 2s. 6d. each. Over 10,000 fitted. Try it.

JEBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent. Liberal trade terms.

JEBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Harry Martin, when making their recent world's records.

IRIDIUM Champion Contacts. — Any parts fitted returned same day, 1s. 3d. each, warranted pure; special iridium trimmers, 9d.; magneto screws refitted, 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.

500 Fullers Midget Plain Coils, 10s. 6d.; 200 Fuller Midget trembler coils, 17s. 6d.; liberal allowance for old coil in part payment.—Booth's Motories, Halifax.

FULLERS Accumulators, large stock, all sizes; old accumulators taken in exchange; magnetos, 59s. 6d.—Booth's Motories, Halifax.

MAGNETO Repairs.—Bosch magnetos repaired in two days at half makers' prices; work guaranteed; accumulator and coil repairs a speciality; Mayfair accumulators, 15 amp., 10s. 6d.; guaranteed.—Fellows, 49, Hertford St., Mayfair.

MOTORISTS, we are experts on ignition; send your coils, accumulators, and magnetos to us for overhauling and repairs; all work guaranteed; promptness and dispatch.—The Victoria Garage and Electrical Co., Ltd., Coventry.

TYRES.

MAGNETO Covers, made of special high-class rubber, warranted not to tear; wet, mud, and oil resisting; 2s. 6d. each; post 1d.—Below.

SURREIDGE'S Special Heavy Inner Tubes, made of best red rubber, will stand speed and the roughest of handling.—Below.

SURREIDGE'S Tubes are made for the motor cyclist who wants no trouble.—Below.

SURREIDGE'S Tubes are the result of a practical hard rider of all weathers; the absolutely best obtainable.

SURREIDGE'S Tubes, 26in. by 2 1/2in., 13s.; 26in. by 2 1/2in., 13s. 6d.; money returned with pleasure if not approved; best quality.—58, George St., Camberwell, London.

RETREADING with rubber studs, 12s. 6d.; new studded covers, 21s.; why pay more?—Fox, Suffolk St., Birmingham.

LIMITED Quantity Dunlop and Clincher tyres, 17s. 6d. each; Clincher tubes, 4s. 11d.; all new.—Booth's Motories, Halifax.

5,000 Old Covers and Tubes wanted in part payment for new Continentals. R.O.M., Palmers, Shamrocks; gratifying allowances; right place for tyres.—Booth's Motories, Halifax.

BASTONE.—New rubber studded motor cycle covers, 26 by 2, wired edge, 17s. 6d.; beaded edge, 26 by 2, 19s. 6d.; 26 by 2 1/2, 20s.; 26 by 2 1/2, 21s.; 28 by 2, 20s. 6d.

BASTONE.—New motor cycle covers, ribbed pattern, wired edge, 26 by 2, 2 1/2, 11s. 6d.; 26 by 2 1/2, 28 by 2, 12s. 6d.; beaded edge, 2s. extra.

BASTONE.—New genuine Peter-Union steel-studded non-skid covers, with name on, 24 by 2 1/2, list price 54s., my price 30s.

BASTONE.—Genuine Clincher A Won motor cycle covers, 28 by 2 1/2, B.E. only; 15s. each.

BASTONE.—Tubes, with valves, best quality, and guaranteed, 26 by 2, 6s. 9d.; 26 by 2 1/2, 7s.; 26 by 2 1/2, 7s. 6d.; 28 by 2, 7s.; approval against cash; subject to being unsold.—Bastone, 215 and 217, Pentonville Rd., King's Cross, London, N.

LUCKY Farrar.—Bought two tons tyres before rubber advanced; Clincher covers, 17s. 6d.; tubes, 4s. 11d.; all sizes; Continentals and other makes equally cheap.—Square Rd., Halifax.

REPAIRERS.

PREMIER Motor Company, Limited, for all repairs.

PREMIER Motor Company, Limited, for Antoine parts.—Aston Rd., Birmingham.

ANTOINE Cylinders, pistons, etc.; prompt delivery.—Premier Motor Company, Limited, Aston Rd., Birmingham.

COMPRESSION.—Cylinders ground and new pistons fitted; 24s.: oldest engines restored to highest vitality.—Premier Motor Company, Limited, Birmingham.

OBSOLETE Parts accurately duplicated; irreproachable work; quotation free for all repairs.—Premier Motor Company, Limited, Aston Rd., Birmingham.

=TEMPTATION!

YES, we're open to temptation by offers for a machine in Stock.

FIRST COME, FIRST SERVED

Send your Offers. All Snap Bargains.

Brand New 1900 V.S.: good stuff.... from £48

Brand New 1909 N.S.U.'s.....from £27

1909 TRIUMPH, brand new £45

1909 REX DE LUXE, NEW..... OFFER

1909 Twin REX DE LUXE, SOILED .. £49

4 h.p. ROC, 1907, magneto, H.B. control .. £23

MOTO-REVE, Druid forks, magneto, V belt £25

MOTOSACOCHE, 1908 £22

TRIUMPH, spring forks, magneto £22

3 1/2 h.p. N.S.U., magneto, low, long bars ... £18

3 1/2 h.p. ARIEL, M.O.V., 26in. wheels £15

F.N., 2 1/2, vertical, 26in. wheels, magneto... £15

REX, 3 1/2, 1906, spring forks, M.O.V. £12

4 h.p. CORONET, Roc type frame, 26in. wheels £14

4 h.p. ANTOINE, M.O.V., spray, vertical .. £15

1907 3 1/2 QUADRANT, spring forks £16

SINGER, 3 h.p., H.T. magneto, belt drive, tip-top £18

1907 3 1/2 REX, spring forks, low £16

ALLDAYS, 2 1/2, 26in. wheels, spring forks £11

REX, 3 1/2, John-o'-Groat's model, 22in. frame £9

KERRY, 2 1/2, spray, 26in. wheels £10

3 h.p. HUMBER, spray, clutch £7

2 h.p. HUMBER, good value £6

TRIUMPH, 2 h.p. Minerva engine, spray .. £9

MINERVA, 2 h.p., mechanical £8

QUADRANT, 2 h.p., low, 26in. wheels £8

REX, 3 h.p., long bars, dropped seat £7

RALEIGH, 2 h.p., vertical £7

REX, 3 h.p., good value, vertical engine £5

1 1/2 h.p. MINERVA, splendid value £5

TRIUMPH-MINERVA, good order £5

SIDECARS.

On APPRO. on receipt of Cash.

£6

COMPLETE, with 2 1/2in. tyre well made and elegant art cane body, wide mudguard, 3-bolt fastening (MY SPECIALITY).

THEY'RE WORTH DOUBLE.

Most easily detached sidecar on the market.

A MARVEL OF VALUE.

"BIRDLIP" BEATERS.

EXCHANGES.

1909 Twin REX DE LUXE, NEW £51

6 h.p. Twin ANTOINE, spring forks £15

5 1/2 h.p. Magneto REX DE LUXE..... £26

1908 Twin REX DE LUXE £32

6 h.p. Twin ANTOINE, ROM, a fier £15

5 1/2 h.p. Twin REX, spring forks £17

7-8 h.p. MINERVA, 1908 £27

5 1/2 h.p. Twin REX and new Sidecar £18

— MISCELLANEOUS. —

The "COLYTE" Head, ght. large separate

generator, MIRROR LENS 19/6

Largest size THREE-NOTE HORN 8/6

1909 B. & B. carb., handle-bar control.... 25/-

1909 AMAC " 19/6

New and Second-hand "Accessory" List on receipt of postcard. GET THIS—IT'LL PAY YOU.

BROWN AND BARLOW and AMAC Carburettors,

with handle-bar control. B. and B., 25/-; Amac,

19/6; 1909 models. Exchanges.

B. & B. 1910 MODELS In STOCK. AMAC.

£3 DEPOSIT, and balance 5/- weekly for any machine up to £11 list. OTHERS, terms on application.

New Design Mirror Lens Headlight, Rushmore

pattern, complete with clip and generator.

19/6 ANOTHER MARVEL OF VALUE. 19/6

BEST TYRES. VALUE.

ALL NEW, PERFECT, AND BEST MAKES.

24 x 2 1/2 13/6; 26 x 2 1/2 18/6; other sizes 13/6 each.

Send for Lists (free). Exchanges made.

Competition Defied.

Collier's Motories,

37, Park Cross St., LEEDS.

(FACING TOWN HALL.)



THE MOTOR CYCLE SUPPLEMENT





MEDICAL MOTOR CYCLISTS and the PETROL TAX.



E have been asked on several occasions by our medical readers as to whether they are entitled to a rebate on the petrol used in their motor cycles. As is already known, an amendment to the Finance Act provides that a medical practitioner shall be entitled to a rebate equal to half

the amount of duty paid in respect of petrol consumed by a motor car while it is used by him for the purposes of his profession. Some medico readers appear doubtful whether a motor cycle is covered by the term "motor car," but we have ascertained from the Inland Revenue authorities that such is the case, as will be seen from the following letter to *The Motor Cycle* from the Controller:

"In reply to your letter, I am directed by the Board of Customs and Excise to inform you that the allow-

ance in respect of motor cars under Sub-clause 4 of Clause 66 of the Finance Bill applies to any motor car kept by a duly qualified medical practitioner for the purpose of his profession, and that by Sub-clause 5 of the clause the expression 'motor car' in Sub-clause 4 includes a motor bicycle and a motor tricycle.

"The rebate of half the duty is therefore applicable to a motor bicycle, and would extend to two motor cycles."

It may be recalled that the promise of the above mentioned concession was obtained from the Chancellor of the Exchequer by the joint deputation representing the medical motorists of the Motor Union and the British Medical Association. It is particularly to be hoped that medical motor cyclists have kept all vouchers for petrol since the duty was first imposed, as in respect of petrol used during the current year a rebate of the full amount of duty paid will be obtainable.

THE SUGGESTED CONDITIONS FOR THE 1910 T.T.

If the 650 c.c. limit for multi-cylinders in the T.T. Race as recommended by the Stanley Show meeting be adopted, only four of the machines which competed in the 1909 race would be eligible, viz., the Premier (548 c.c.), Scott (585.3 c.c.), F.N. (540 c.c.), and N.S.U. (498 c.c.)

Twin-cylinder engines of the appended dimensions come within the recommended cylinder capacity limit of 650 cubic centimetres:

Bore and stroke.	No. of cyls.	Cylinder capacity.
69 × 87 mm.	... 2 ...	650 c.c.
71 × 82 mm.	... 2 ...	650 c.c.
73 × 77 mm.	... 2 ...	644 c.c.
74 × 75 mm.	... 2 ...	644 c.c.
75 × 73 mm.	... 2 ...	644 c.c.
76 × 71 mm.	... 2 ...	644 c.c.
78 × 68 mm.	... 2 ...	650 c.c.
80 × 64 mm.	... 2 ...	640 c.c.



A group of members who took part in the Motor Cycling Club's Annual "Show Run" to the Sallsbury Hotel, Barnet, on the 21st ult.



Danger Signs in Staffordshire.

The Staffordshire County Council has resolved to proceed at once with the work of danger-posting the county. No official warning signs have been erected up to the present.

World's Records.

At the meeting of the international conference of recognised automobile clubs, to be held in Paris to-morrow (Tuesday), the R.A.C. will again bring forward the question of speed records with the object of having all such records recognised as world's records if automatically and electrically timed.

A Commendable Example.

The Stockton Rural Council have energetically taken up the question of widening dangerous corners in their district, and at their last meeting the highway surveyor reported that he had commenced work on three corners at Redmarshall, Carlton, and Thorpe Thewles. The fences had been re-erected farther back, and the earth was being removed.

A Good Move.

Chicago is the first city to require all horse-drawn vehicles to carry tail lights as well as headlights. This is a byelaw British cyclists and motorists have exhorted county councils to adopt for years past, but so far with little success. It is the more strange, as slow-moving vehicles are those which are overtaken. A speedy motor car, which is seldom overtaken, is required to carry a rear light.

A Three Inch Car Race.

In referring to the possibilities of a car race in the Isle of Man next year, *The Autocar* says: "The Manx people want it; not merely, as some have suggested, the hotel and lodging house keepers of Douglas and Ramsey, but the farmers themselves would like a race, provided it be held in May. September is inconvenient for them on account of the harvesting operations." The same journal goes on to suggest a Three Inch Race for standard pattern cars. Now should this suggested race be ultimately decided upon and held so early in the year, it will most probably mean that the motor cycle T.T. Race will be held during the same week, so that motor cycle manufacturers who intend competing would be well advised to lose no time in preparing their 1910 T.T. racers.

Driving Cattle at Night.

An application from the Kent Automobile Club to the Kent County Council to make a byelaw causing persons when driving sheep, cattle, or horses along the road at night to carry a lighted lantern, has been refused on the grounds that "the protection asked for has not been hitherto required for traffic proceeding at a prudent rate of speed," and the Council is not disposed "to impose on agriculturists a new liability for the benefit of high speed vehicles." It is a very short-sighted policy for councils to refuse these applications, and to imagine that they are made simply in order to render fast driving at night perfectly safe. It is the general desire of pedal cyclists, motor cyclists, and car owners to have a distinctive coloured light displayed by cattle drovers merely for public safety, and immediately a motorist noticed one of these lights he would slow down to a crawl and proceed with the utmost caution.

Lamp-lighting Times.

The times to light lamps for this week are:

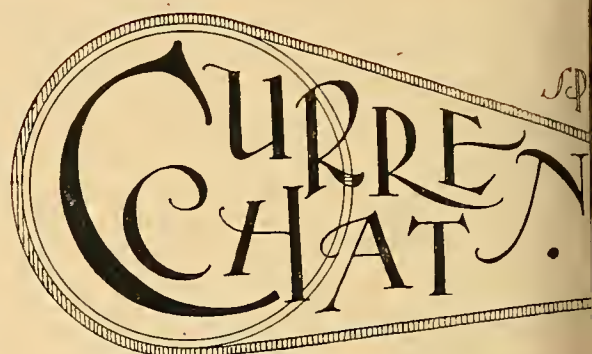
Dec. 6th	...	4.50 p.m.
" 8th	...	4.50 p.m.
" 10th	...	4.49 p.m.
" 13th	...	4.49 p.m.

French Grand Prix Abandoned.

Those motor cyclists who usually arrange a cross-Channel tour about the time of the big French motor car races will be disappointed to learn that the Grand Prix for 1910 will probably be abandoned. The French Automobile Club had only received twelve entries last week, including three Roland Pilains, three De Dion-Boutons, three Benz, and three Hispano Suizas, but thirty-six was the minimum number of entries stipulated on which the race would be organised.

To Prevent Overheating of Exhaust Valves.

F. B. Wells, of Royston, has protected a device for cooling the exhaust valve. Mr. Wells was the owner of an engine which persistently overheated, so to cure it he made a pulsating air valve fitted directly over the exhaust valve which directed air, on the suction stroke, straight on to the head of the valve. This had the effect of helping considerably to keep the latter cool, and he was so pleased with the results that he protected the idea. The valve will screw into the valve cap of any engine fitted with mechanically operated valves arranged side by side, and in addition to the usual spring it has an additional outside spring, the tension of which may be varied to suit various atmospheric conditions. If this valve is fitted it is advisable to adjust the carburetter to give off a slightly stronger mixture.

**75,000 MOTOR CYCLES**

THE NUMBER OF MOTOR CYCLES REGISTERED IN THE UNITED KINGDOM.

Improvements in Lighting.**Brooklands Programme for 1910.**

The Brooklands Automobile Club has fixed the dates for its meetings in 1910. The fixture list follows:

Bank Holiday meeting, Easter Monday, March 28th.

Mid-week meeting, Wednesday, Thursday, April 27th and 28th.

Whitsun meeting, Monday, May 30th.

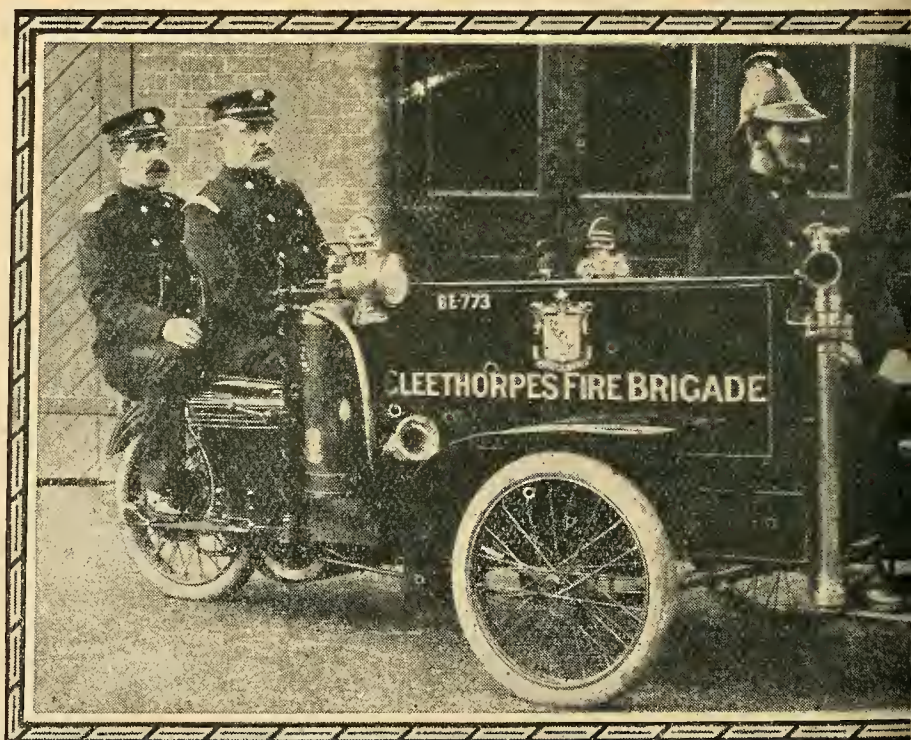
Week-end meeting, Saturday and Sunday, June 18th.

Mid-week meeting, Wednesday, Thursday, July 13th and 14th.

Bank Holiday meeting, August 1st.

Mid-week meeting, Wednesday, Thursday, October 5th and 6th.

The executive has left September blank month, owing to the fact that many of the club members are on their holidays during that period. In addition to the above meetings, events will be decided on the spot. The British Motor Cycle Race, Aeroplane contests are also being arranged.



The A.C. First Aid Tricar, which was recently pressed into the service of the Cleethorpes Fire Brigade with hose, scaling ladders, life line, and two fire extinguishers. Note the fireman's cap.

PICTURES



STANLEY SHOW STATISTICS.

AN ANALYTICAL ABSTRACT OF MOTOR CYCLES
AT THE SHOW.

The Best Magneto Position ?

Motor Cycles at the Stanley Show.

On this occasion only has the number of motor cycles exhibited at the Stanley Show exceeded the 1909 figures. That was the 1903 show, when 376 cycles were on view. This year's was 276, the estimated value being £276. Some further instructive details will be found on pages 962-3.

Encouraging Motor Cyclists to Visit U.S.A.

It is extremely likely that a trio of the best known racing motor cyclists in the States are long. C. R. ... has already received a communication from the interested parties, and he has decided that he is willing to go. We learn from the other side of the Atlantic that they particularly want C. R. and ... Collier and Harry Martin to try their speed against the fastest American cyclists.

Incidentally, we may mention that we have an interesting article in the press "American Records and their ..." by Arthur G. Chapple, captain of the New York Motor Cycle Club. We are able to find space for it.

75,000 Motor Cyclists.

The very rapid increase in the number of motor cycles registered is apparent from the particulars published on page 969. In five years, 53,479 motor cycles have been registered in the United Kingdom. In 1904 the number of motor cycles was 21,521; 1905, 34,706; 1906, 45,735; 1907, 53,877; 1908, 65,026; 1909, 75,000. The last-mentioned figures are made up as follows: England and Wales, 66,341 motor cycles registered; Scotland, 5,296; Ireland, 3,363; total, 75,000. The first four sets of figures were obtained by *The Motor Cycle* through the kindness of registration authorities. The statistics for the last two years have been compiled by the R.A.C. Associates Department.

Turbine Engines.

We have in course of preparation a description and sectional drawings of an internal combustion petrol turbine designed expressly for use on motor cycles. An engine in the form of a turbine is considered by many readers of a mechanical turn of mind as the motive power of the future.

The Motor Cycle in Warfare.

In a paper read last Wednesday evening before the members of the R.A.C. by Captain Cecil Battine, the lecturer said: "Motor cycles have so many virtues of their own that I did not mean to include them in a talk about motor vehicles, but I should say that for this particular purpose—the rapid conveyance of small detachments—they will be invaluable, and, of course, for despatch riding. Few men realise how critical may be the work of a small party hanging on to some important locality."

New Speed Limits.

A limit of speed to ten miles per hour has been imposed by the Local Government Board over a part of Waldegrave Road, Teddington, Middlesex, as also portions of London Road, Mitcham, Surrey.

The Most Popular Type of Motor Cycle.

By referring to the analytical abstract of all motor cycles at the recent Stanley Show, it is possible to ascertain the specification of the most popular type of motor bicycle on the market, as determined by the predominating features of 1910 patterns. The statistics prove that the most popular type of motor bicycle has a single-cylinder engine, mechanically operated valves, belt drive, fixed gear, magneto ignition, rigid frame, spring forks, and pedalling gear.

New Developments of the Motor Union.

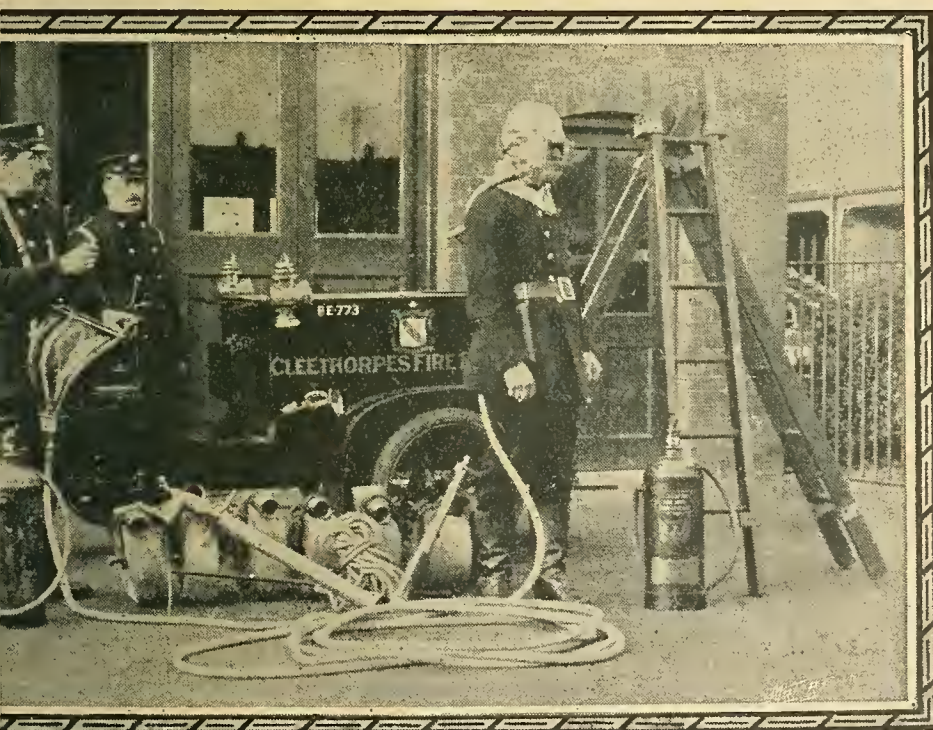
By adding free legal defence to the benefits already given to motor cyclists the Motor Union is certainly offering unique advantages in return for the small annual subscription of half a guinea. The motor cycle section of the M.U. includes a larger number of individual and private motor cyclists than any other organisation, and this new departure is already largely increasing the membership. Under the new scheme free legal defence is offered to every member of the motor cycle section of the Union, that is in addition to the legal and other benefits already offered, but is without further subscription. On and after January 1st next every motor cyclist member of the M.U. will be entitled to the professional services of one of its appointed solicitors free once during every twelve months, if such services should be required for the purpose of defending any charge brought against him under Section 1 (Common Danger) or Sec. 9 (Speed Limit) of the Motor Car Act, 1903.

Speed Gears gaining Favour in the States.

Two of the leading American motor cycle manufacturers have adopted a two-speed gear and free engine on their 1910 models. The four-cylinder Pierce motor bicycle, which is a workmanlike-looking machine much on the lines of the F.N., is now fitted with a gear of the sliding type mounted on the bottom bracket, and immediately in front of the gear, but connected to it, is a multiple disc clutch. The operation of the change gear and clutch is combined in one controlling lever, so that the possibility of any mistake in changing that could injure the gear is precluded.

The S.M.M.T. and Motor Cyclists.

Among those present at the meeting of the newly formed Association of Motor Cycle Manufacturers and Traders at the Agricultural Hall was Mr. S. F. Edge, who, as all the world knows, is a prominent member of the Society of Motor Manufacturers and Traders, and as such represented that body at the meeting. It has now been announced that the Society has offered to form a motor cycle section on the same lines as the other trades sections, if it is so desired by the motor cycle trade. This clearly indicates that the motor cycling industry is growing in importance, and that the show question is one which is at last gaining the serious attention it deserves.



Captain, Lieutenant, and Engineer are shown in the photographs. The tricar is equipped with the smoke helmet. Three firemen can be carried on the level and two up any hill.

M

CLUB NEWS.

Daimler M.C.C.

A whist drive and dance was held at the new Corn Exchange, Coventry, on Saturday evening last, a large number of members and friends attending.

Coventry and Warwickshire M.C.

The smoking social, at which Mr. Van Hooydonk gave a lantern lecture "On the Road" last Saturday evening, was much enjoyed. During the evening the Harlequin Concert Party rendered selections.

Birmingham M.C.C.

Next Saturday, the 11th inst., the second smoking concert of the winter session will be held at headquarters, the Imperial Hotel. Eight well-known artistes have been engaged. Mr. J. L. Norton will read a paper on "Bore and Stroke in Relation to Speed." It is hoped that as many members as possible will attend accompanied by their friends.

Northamptonshire M.C.C.

The officials of the Northamptonshire club have arranged a really "live" winter programme, comprising six main engagements. Mr. Hart-Davies, holder of the End-to-end record, is giving a lecture on his exciting experiences in the record run, illustrated by lantern slides. Mr. J. Van Hooydonk has promised a similar talk on some of his road experiences with a Phoenix car. A representative of a magneto firm is coming down to give members an insight into the operations of the modern high tension device. The annual dinner will be held, at which the prizes won by members during last summer will be presented, and the chairman of the club, Mr. B. H. Davies, is giving a couple of talks, one upon the exhibits at the recent Stanley Show, and the other upon some rudiments in the design of aeroplanes, illustrated by models of famous flying machines.

Dundee and District M.C.C.

Members and friends are reminded that the annual smoking concert and presentation of prizes will be held in the Royal Hotel on Wednesday next. Mr. Shaw will preside. A splendid programme of music has been arranged.

Surrey M.C.C.

The first of a series of winter social evenings was held at the Anchor Hotel, Ripley, on Wednesday last. Mr. Dibble, the proprietor, served an excellent supper quite worthy of the fame of this old cycling day house.

Shropshire M.C.C.

The above club held a hill-climb to decide the holder of the silver cup presented by competitors and officials in this year's six days' trials. The hill chosen was one of easy gradient, at Longville, near Shrewsbury, so as to give low-powered machines a chance on formula. The horse-power was decided on the formula of the Coventry and Warwickshire Club. The surface of the hill was greasy, being of limestone and overshadowed by trees. The following are the results:

Order on formula.	Rider and machine.	Order on time
1.	Rupert May ($3\frac{1}{2}$ h.p. Triumph), 85 x 88 ...	5
2.	H. G. Potts ($3\frac{1}{2}$ h.p. Triumph), 84 x 86 ...	1
3.	R. Shaw ($3\frac{1}{2}$ h.p. J.A.P.), 85 x 76 ...	4
4.	A. L. Ommauney ($3\frac{1}{2}$ h.p. Speed King-Rex), 82 x 89 ...	2
5.	Capt. Blockley ($3\frac{1}{2}$ h.p. Triumph), 84 x 86 ...	6
6.	S. W. Moss ($3\frac{1}{2}$ h.p. Triumph), 84 x 86 ...	7
7.	J. A. Payne ($3\frac{1}{2}$ h.p. Triumph), 84 x 86 ...	8
8.	J. Bailey ($3\frac{1}{2}$ h.p. Triumph), 84 x 86 ...	9
9.	G. Morgan ($3\frac{1}{2}$ h.p. Rex), 82 x 89 ...	10
10.	G. G. Ommauney (5 h.p. Rex), 76 x 80 ...	3
11.	A. G. Benham ($3\frac{1}{2}$ h.p. N.S.U.), 80 x 80 ...	11

Leith M.C.

This newly formed club held its first annual supper and smoking concert in the Commercial Hotel, Leith, on Wednesday evening last, about sixty members and friends being present. A very enjoyable evening was spent.

Motor Cycling Club.

Members are reminded that the eighth annual dinner will take place at the Trocadero on Saturday next, the 11th inst., at 6.30 p.m. Tickets, 7s. 6d. each, must be purchased beforehand, and members who have not already communicated with the hon. secretary should do so immediately.

Hartlepool and District M.C.C.

Members and friends to the number of 120 held a most enjoyable whist drive and dance at their headquarters, the Grand Hotel, on Wednesday last. Afterwards the prizes won by club members in competition during 1909 were presented to the respective winners.

Sheffield and Hallamshire M.C.C.

At a general meeting of the above club held on Thursday, November 25th, it was decided not to affiliate to either the M.U. or the A.C.U. for the coming year. The club recognises, however, that both these bodies do good work, but at the same time considers the amount paid in affiliation fees too much for the benefits received. The club is of the opinion that could either of these bodies see clear to fix a capitation fee per club of, say, £3 3s., or £4 4s., the scheme would prove a thorough success. Will members and friends please note that the sixth annual dinner has been postponed until Thursday next, the 9th inst.?

York County M.C.C.

The general meeting will be held at headquarters, Grand Central Hotel, Leeds, on Friday next, at 8 p.m. It is hoped that all members will make an effort to be present. The committee will be only too pleased to receive and consider suggestions as to new competitions and runs.

Walthamstow M.C.

The annual dinner was held on Saturday last at 6.30 p.m. at the City Arms Restaurant, St. Mary Axe, E.C. The toasts of "The King," "The Queen," and "The Royal Family," were proposed by the chairman, Mr. L. Stanley Johnson. "The Club" was proposed by the Chairman, and responded to by the honorary secretary, Mr. J. W. Percival. The toast of "The A.C.U. and the R.A.C." was proposed by Mr. G. West and responded to by Mr. F. Straight. A very full programme of music was provided.

Middlesbrough and District M.C.C.

At the Corporation Hotel, Middlesbrough, on Wednesday evening last, a most instructive lecture was listened to by an audience numbering between sixty and seventy. The subject was "Magneto Ignition," and the lecturer was Mr. A. E. Bennett, of the Bosch Magneto Co., London. Mr. Bennett handled the subject in his usual masterly manner, answering the many intelligent and interesting questions put to him at the close of his lecture with great regard for details. The chair was occupied by Mr. Trusson, who is himself an authority on magnetos. Mr. Blincoe manipulated the lantern and slides in a satisfactory manner, and the pictures shown on the screen were a great feature of the lecture.

The next lecture of the series is to be given on Wednesday next, the 8th inst., by Mr. W. A. Duchars; subject, "The Isle of Man, Tourist Trophy Week, 1909," illustrated with two hundred lantern views of the island.



THE MOTOR CYCLE



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FOUR-PAGE COLOURED SUPPLEMENT.

The Motor Cycling Club: Its History and Eighth Annual Dinner.
Novelties at the Stanley Show. Summary of a paper read by Mr. H. G. Cove.
Club News.

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The A.C.U. and Provincial Clubs.

THE old question of adequate representation on the governing committee of the Auto Cycle Union has cropped up again in the form of a communication from a Midland motor cyclist, which we publish elsewhere in this issue. As we have repeatedly pointed out, provincial clubs are apt to think that the London representatives have matters very much their own way at council meetings—an impression that is not confined solely to the governing body of the pastime of motor cycling, but to all other governing bodies of sports. If the matter be carefully considered, it will be obvious to anyone that London, owing to its immense population and the large number of motor cyclists who reside within twenty-five miles radius of Charing Cross, must possess a majority at most of the meetings. There are only two districts in England which approach to any degree the population of London, viz., Lancashire and Yorkshire. It was at our suggestion that the Auto Cycle Union some time ago decided to hold one or two council meetings in the provinces, and one most successful meeting was held at Leamington. It was largely attended, and, as far as we could gather from personal observation, the representatives of London-clubs and private members of the A.C.U. did not predominate, and we do not think that the provincial members were in any way out-voted.

At the same time, there is a good deal to be said for our correspondent's arguments, and it is a very great question whether a large percentage of the provincial clubs which are entitled to be represented at the meetings do actually send delegates. Unless a delegate happens to be visiting London for other purposes

it is a tedious journey from the North Midlands or Manchester to attend a meeting which lasts perhaps only a couple of hours. The Auto Cycle Union would perhaps do well to consider whether it would not be advisable and materially strengthen its hands if it were to hold one or two more council meetings in the provinces between now and the opening of next year's competitions.

We hear that a good many clubs affiliated to the A.C.U. are inclined to think that they do not receive sufficient return for their affiliation fees. Just what they expect we have not yet been able to ascertain precisely, but one of the complaints seems to be that nearly all the competitions are held in London and commence and finish in town. Now those who complain on this score either never heard or have forgotten that the Auto Cycle Union attempted some time ago to organise some provincial competitions, which failed very flat. The country was divided into sections and the clubs in each were asked to organise a reliability trial. Those who proved successful in the centre competition were to meet afterwards in a combined trial to prove the winners. We think the organisation of these events was left too much to the provincial club secretaries, and the A.C.U. did not render sufficient assistance to make the competitions an assured success. Anyway, from the state they were very poorly supported, and we failed to secure the names of many of those who had previously complained that there were no events held in the district, and had urged the A.C.U. to hold provincial competitions. Of course, wherever it is decided to hold a big competition it is not sufficient to circularise the local clubs and ask them to organise a trial or other event—in other words, to take the credit and

bers do most of the work. It seems to us that, in order to produce an unqualified success, it would be almost necessary for the members of the organising body, whichever body that might be, to temporarily take up their residence in the district in order to work up the event properly. This would be a costly proceeding, and one which we do not think the A.C.U. in the present state of its finances could undertake.

We have been particularly requested to publish our correspondent's grumble, because he assures us that there is a considerable amount of dissatisfaction in

this club and other clubs with respect to this matter, and he has not yet seen any expression of opinion regarding it. He thinks that if club officials in various parts of the country would state their views in our pages the position of the A.C.U. would be considerably strengthened, because the state of feeling that he says exists would be considerably emphasised, and such alterations would take place in the conduct of the Auto Cycle Union that by next year its membership, particularly that which it gains from affiliated clubs, would be considerably increased.

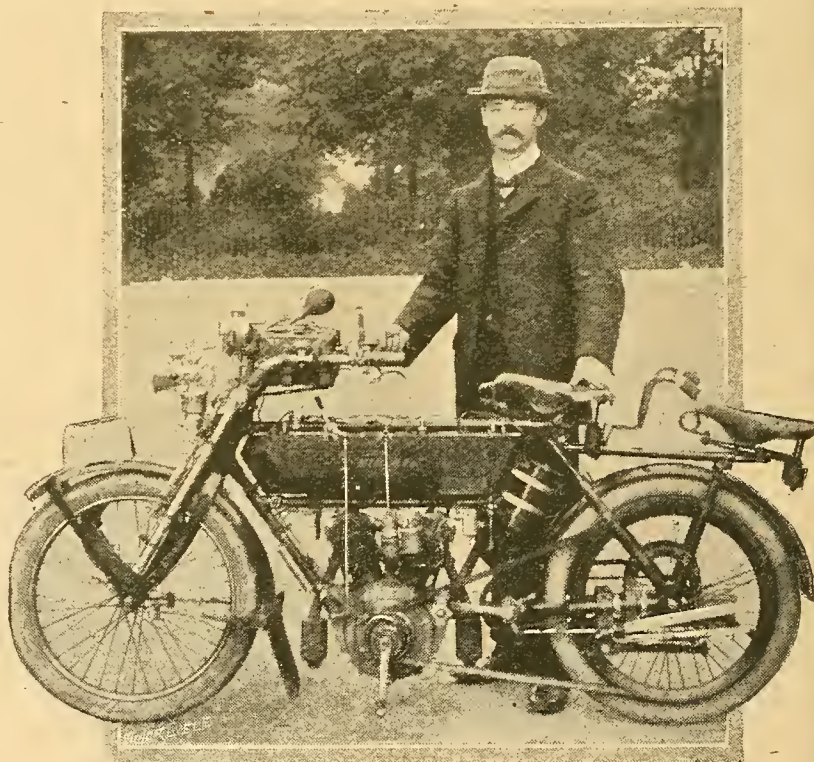
PASSENGER TANDEM ATTACHMENTS.

A PROPOS of a leaderette which was published some weeks ago on "The Use of the Carrier," and various enquiries in *The Motor Cycle* regarding passenger attachments and the best mode of carrying a passenger, Mr. W. Williams gives the following account of his experience during the past two years with a tandem attachment:

"During the whole of 1908 I used a twin-cylinder motor bicycle and a sidecar. On the various merits and demerits of such a combination I do not propose to touch, but merely to place before your many identically interested readers an idea which, although not new, has not been accepted as within the range of commercial practicability.

All this year I have carried a passenger on an extension of the original frame. My passenger is a lady, who wears a divided skirt, which gives no suggestion of boomers, and attracts no attention when walking or riding. Our combined weight is about twenty-one stones, although the machine has carried much heavier weights. It has been ridden on wet and dusty roads, on wet tramlines, and wood and granite sets, and has never shown any more tendency to side-slip with the passenger than without; it has not been ridden on easy asphalt. The passenger finds she suffers somewhat more jolting on the bicycle when travelling on a bad road than she does when seated in the sidecar; but it is no worse for her than the driver. With regard to wind and wet, the bicycle is preferred to the sidecar. It requires a little more care to negotiate corners with the motor bicycle and passenger than without, but certainly less than with a sidecar, and it can take any main-road hill at twenty and an ordinary rise at thirty miles an hour. Tyres and belts last longer; and, most important of all, it can be simply wheeled out of the house and ridden away without any tinkering in the road with couplings. On the straight the steering is improved, and there is less bounce in the back wheel. I have a Mabon free-engine clutch, which enables us to start easily from a standstill. The attachment may be removed in a few minutes by undoing five nuts—one on the front seat lug, one each side of the rear seat lug, and one each end of the back wheel spindle. On some machines this last can be done without altering the rear wheel adjustments, and on all if one nut at a time is removed. The spring footboards can be removed by unscrewing four nuts and bolts to each. I find it is an advantage for solo riding to retain them; they are home-made, being deal boards 3¼ in. thick, hinged at one end and supported on half an old valve spring. The legs of the S.N.P. stand are placed in the chain stays under the footboards. The registration number plate is fixed to the mudguard by small

bolts and nuts, and the box of tools and spares is placed on a front handle-bar carrier; also waterproofs, etc. Attached to the carrier—in fact, built into it—is an extra lamp-bracket, so that two lamps can be carried, and the rear seat-pillar telescopes into the horizontal top tube. In order to show the frame, I have removed the covering which encloses the upper half of the driving wheel; this is made of oilcloth enamelled black, and prevents the passenger's skirt from blowing into the wheel, belt, etc. In actual practice none of these



A rear tandem attachment favoured by a reader, who describes his experiences with it in the accompanying article.

apparent obstructions really hinder the repair of punctures in the back wheel tyre, or the fitting or removal of the driving belt.

One other point makes my machine interesting—the front wheel stand. It is designed solely with the object of facilitating the repair of the tyre. *Modus operandi*: Place the machine on the rear stand as usual, then remove one nut and bolt from the forward end of the front mudguard, loosen the nuts on the front wheel spindle, raise the front wheel by grasping the rim and tyre, and the stand will fall into position. The base of the stand is 6 in. wide, so there is plenty of room to manipulate a 2½ in. tyre.

The total cost of these alterations and additions to my machine was only 47s., and I can only say that the money as far as I am concerned has been well spent."

MORGAN'S INTERNAL COMBUSTION TURBINE.

It is generally admitted among engineers that the ideal form of engine, particularly for the propulsion of motor vehicles, is the turbine.

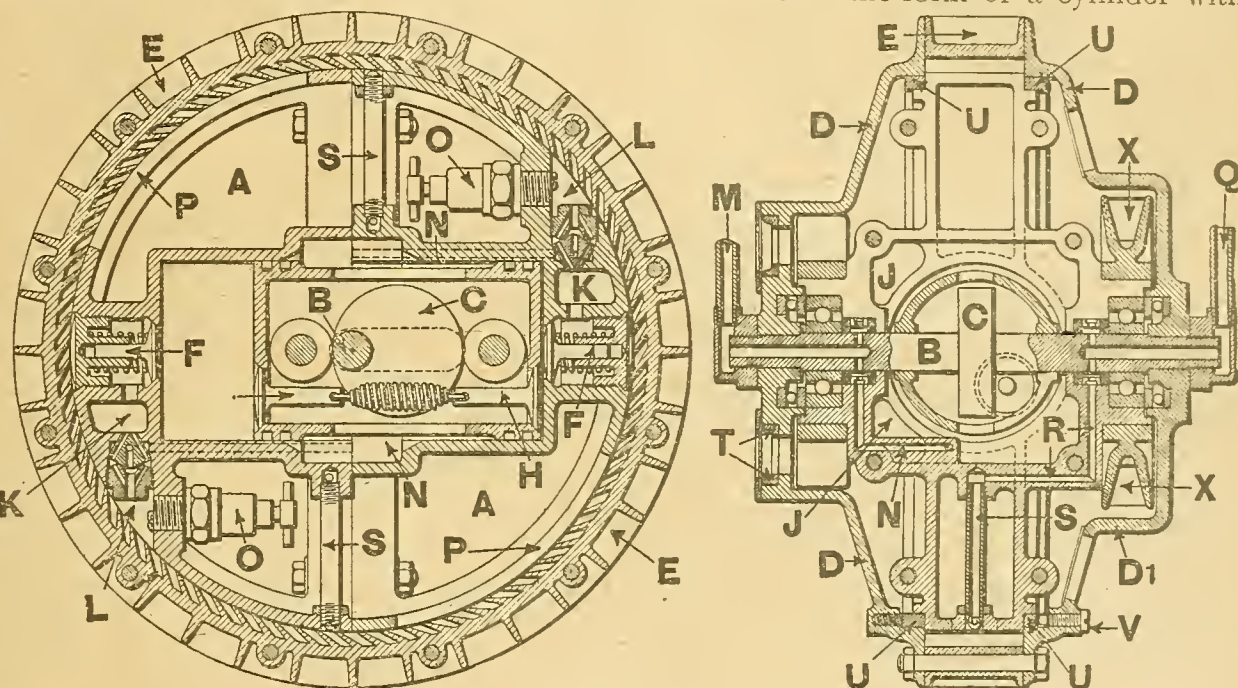
All the most up-to-date and powerful sea-going vessels, many electric and other power stations, etc., are now equipped with steam turbine engines in preference to those of the reciprocating type, and we recently read in an engineering paper that experiments were being made with the turbine type of engine on railway locomotives. As far as petrol turbine engines are concerned, none of them have as yet given satisfaction, but motor engineers agree that when the internal combustion turbine becomes possible it will be the ideal form of motor, particularly on account of its even turning movement, which enables the parts of the transmission and other mechanical details to be made lighter, thereby reducing the total weight of the vehicle. A particularly clever design, drawings of which are reproduced herewith, has been submitted to

us by the inventor, Mr. R. E. Morgan, 60, St. Oswald's Road, Small Heath, Birmingham, who informs us that the small internal combustion turbine has been his special study for some time, and he has now evolved a design which he is confident could be made to give good results. We should like to point out that this engine has not yet been constructed, and therefore a good many points which appear correct on paper may not result in perfection in the actual working of the engine, but Mr. Morgan tells us that his idea is to adapt this turbine to a motor cycle; and drive the machine either by belt or chain, for which provision has been made by attaching a pulley to the end

of the rotor portion of the mechanism. It will be noticed that the outer case remains stationary, and the internal portion, consisting of the air pump, etc., revolves. If there is any point which would be likely to give trouble we think it is the great heat generated by the combustion of the gas. This has also struck the inventor as a probable source of derangement; it is for this reason that he has introduced a water-cooling system, which is explained in the following text. Wherever a water-cooling system is employed it means added bulk and weight, and it is therefore a disadvantage; but the inventor thinks a small quantity of water in a separate tank would serve to cool the engine for a long time. No condensation of the water is suggested, as after mingling with the exhaust gases it would probably be muddy and unsuitable for further use. Despite this objection, we are of the opinion that the internal-combustion turbine is a subject of such an interesting nature that no apology is needed for the reproduction of the drawings in these columns.

An engine on similar lines, but with two pumping cylinders, and so arranged that both petrol and water are fed into one end of the spindle, has been designed for motor cars. By introducing petrol and water on one side, instead of on opposite sides as in the case of the motor cycle engine, the designer is enabled to allow a shaft to protrude from the other side, to which could be coupled the usual form of propeller-shaft and gear employed on cars. We understand that a drawing and description of this latter will be published very shortly in *The Autocar*.

The turbine consists of a drum A which revolves on a spindle B. The spindle is provided with an eccentric C in the middle, and is rigidly mounted between two side plates D and D₁. These side plates are bolted to a casing E, which has on its periphery external cooling fins and internal inclined vanes. The drum A, which is in halves and bolted together, has the interior constructed in the form of a cylinder with



Sectional Elevation and End View of Morgan's Internal Combustion Turbine.

- | | | | |
|----------------------------------|-------------------|----------------------------------|-------------------|
| A. Drum. | H. Piston valves. | O. Sparking plugs. | U. Split rings. |
| B. Spindle. | J. Air openings. | P. Exhaust outlets. | V. Screws. |
| C. Eccentric. | K. Air chambers. | Q. Water tube. | X. Engine pulley. |
| D, D ₁ . Side plates. | L. Burners. | R. Water leads. | |
| E. Casing. | M. Petrol tube. | S. " " lever and throttle plate. | |
| F. Cylinder valves | N. Petrol leads. | | |

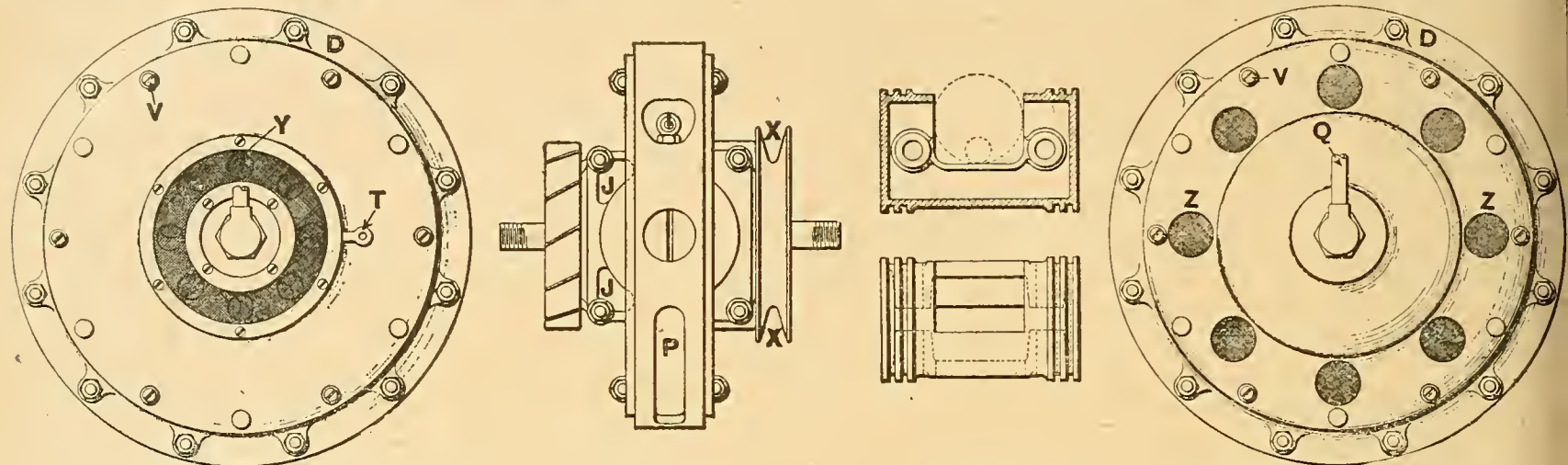
valves F F at each end. A double ended piston with valves H at each end reciprocates in the cylinder and when the drum is rotated, the eccentric C acting alternately on rollers placed in the piston, moves the piston from one end of the cylinder to the other. Thus the interior of the drum is in the form of a double air pump, air being compressed at one end while it is induced at the other. The air is drawn in through several holes in the side plate D, and openings J in the side of the drum, and is pumped into chambers K, whence it escapes through burners L by means of fine inclined holes meeting over the central holes of the burners. These jets of air induce petrol to flow from an external tank into the burners through a tube M, hollow spindle B, and holes N drilled in the framework of the drum. The junction at the burners of air under pressure and petrol immediately produces a fine spray, as in a scent spraying apparatus, which, ignited by means of sparking plugs O, produces a large quantity of gas at high temperature and pressure, and

Morgan's Internal Combustion Turbine.—

it is this pressure, reacting from the vanes, which causes the drum to revolve. The exhaust gases escape through slots P in the rim of the drum into the interior and out through holes Z in the side plate D₁ on the opposite side to that from which the non-carburetted air is drawn. Thus the exhaust gases cannot be used over again. As soon as the pressure of the first charge is reduced other succeeding charges are pumped through the burners, and at a certain minimum speed the heat of the first charge ignites the subsequent charges, so that there is a continuous explosion in the

T, which can be adjusted to give the exact quantity of air to suit varying conditions. Leakage of gases between the side plates and the drum is prevented by the split rings U, which expand outwards on to the side plates and are pressed gently inwards by small springs. The rings U are prevented from revolving with the drum by the screws V, which are placed alternately with the springs round the side plates. The transmission can, of course, be by chain, gear, or belt, a pulley X for V belt being shown in the drawings.

The turbine is designed to be as large as the cycle frame permits (say about 12 in. diameter), so that the



Elevation of Complete Turbine,
Inlet Side.

End View,
with Outer Casing removed.

Double-ended
Piston.

Elevation of Complete Turbine,
Exhaust Side.

D. Side plates. J. Air openings. P. Exhaust outlets. Q. Water tube. T. Lever and throttle plate. V. Screws. X. Pulley. Y. Air inlets. Z. Final exhaust outlets.

form of a Bunsen flame at each burner. It is, therefore, possible after the initial start to dispense with the use of the sparking plugs. The heat developed at each burner is very great, and as an aid to the cooling effect water is fed into the hollow spindle by means of a tube K, and sprayed on to the vanes of the outer casing through the rim of the drum by holes R and tubes S. The action of the water sprays is by centrifugal force. The steam generated escapes with the exhaust through the side plate D₁. The air inlet in the side plate D is controlled by a lever and throttle plate

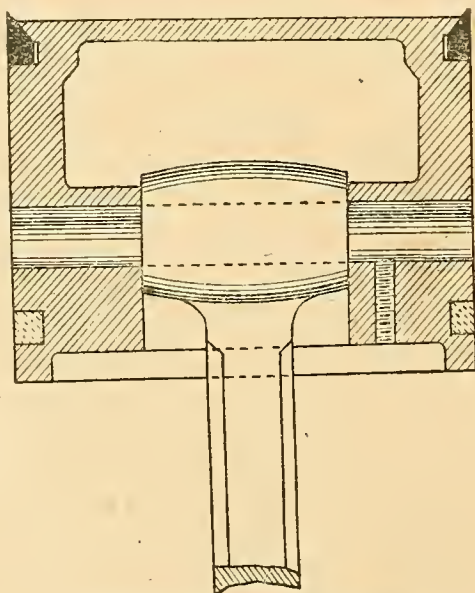
moment of the explosive forces about the shaft would be fairly big. The pumping cylinder would then have a bore of $3\frac{1}{4}$ in.

The advantages claimed by the inventor are: 1. Continuous impulses to the revolving drum. 2. Valves not subjected to the direct heat of combustion. 3. The only reciprocating movement that of a light piston. 4. Comparative silence, due to large exhaust outlets. 5. Neat appearance. 6. Electric ignition only used for starting. 7. Not affected by carbon deposits. 8. Fewer accessories needed.

A NOVEL PISTON RING.

FROM J. T. Bradford, 11, Rugby Street, Colne, Lancs., comes a sketch and particulars of a patent piston-ring which, he informs us, gives most excellent results. It will be

noticed that it is different in shape from the usual piston ring, being the same thickness all the way round, and tapered in the form shown in the sketch. The piston groove is correspondingly turned to suit the taper on the ring, so that when the latter is inserted in the groove it stands above the top of the piston to some small extent. The



Bradford's Patent Piston Ring.

idea of making the ring in this way is that when the force of the explosion strikes the top of the piston it expands the ring against the cylinder walls and improves the compression. The patentee informs us that a machine was fitted with a piston and ring of this design, and its hill-climbing powers were much improved by the tendency which the ring has to keep the compression perfect. In the case of an ordinary shaped ring, when wear takes place the gas escapes between the back of the ring and the groove of the piston, and there is nothing to prevent a worn ring from floating in the groove, and so allowing the gas to escape. If the sectional drawing of Mr. Bradford's patent ring be carefully examined it will be noticed that when explosion and expansion take place the ring is not only forced against the cylinder walls, but is also jammed against the bottom of the groove in the piston, thereby, it is claimed, forming a gastight joint $\frac{3}{16}$ in. wide.

The patentee is anxious to get some firm to exploit this ring, which, judging by an examination of the sketch and particulars, certainly seems to have some claim to both novelty and improvement.



AMONG THE HEAVY BRIGADE.

By B. H. DAVIES.

HUNDREDS of country riders who went to Islington examined the Indian twins to discover if they could why our standard twins are usually heavier than the Indian roadsters. I dare say most of them solved the question, as Wells had provided a cut open engine for our edification. I noticed several points which solve the question of its comparative light weight and succession of victories. Whatever objections faddists may bring against the chain drive in prolonged knockabout use, it is no doubt fractionally more efficient than the belt, when both are new. Then the Indian is so lightly built throughout that most, if not all, our standard roadsters are giving away a lot of weight when they take it on without stripping; as far as weight goes, matters are only evened up when, for instance, a specially light hill-climbing model, with small tank, cramped frame, and light fittings takes it on. This difference may not count for much on the track, but it is expressible in seconds at every hill-climb. The Indian is abnormally powerful (I mean in point of durability just now) in proportion to its weight, *e.g.*, if you saw one of its frame tubes in half, you everywhere find a cross web stiffening the circular section; but I think our makers are quite right in retaining slightly more weight as standard for powerful roadster twins; the benefit is not apparent when the machine is new, and is a handicap in racing work, but it will work out well in the long run, as the various metal portions get "tired." Chain drive and low weight are already all to the good.

Some Good Points in Design.

Then the compound leverage of the valve gear is a good point. I contrast it with a big heavy twin I owned a year or two back, and the contrast is that between an Arab barb and a brewery drayhorse; you can generally differentiate the best engines at any show by a critical examination of their valve gear, and here the Indian is at least as good as the best. It does its work with an irreducible minimum of friction, and yet the timing can be correct to a hair. That is a third point—one of the biggest. The moving parts of the engine are also exceptionally light—the most casual observer must note the compact neatness and ethereal proportions of the power unit, yet its prolonged speed in long distance records shows that the material is right. If the Indian had not performed wonders in short and long distance racing work, I should have doubted its lasting powers; but the racing test is the test *par excellence*; and it is here that it has shone most brilliantly. As a complete specification, it must give technicians and metallurgists furiously to think.

One thing strikes one as strange, and that is the 28in. wheels. English makers abandoned 28in. wheels a few years ago, sacrificing some small amount of comfort and tyre longevity for a low saddle position.

The Indian reminds us that it is possible to combine all three desiderata. I have only a single fault to find with it, and that is the rather narrow clearance between guards and wheels, which suggests mud chocking in heavy weather. I guess the Yankee roads are so bad when it rains that riders stop indoors; we don't over here. Seen and heard on the road, the almost silent exhaust and chain swish add to the impression of graceful motion. Wells, as usual, has got a good thing.

The Hero of the T.T. Race.

The Matchless twin, as one of the Indian's most dangerous enemies, must come next. I saluted the T.T. hero with renewed respect, and noticed that the wily Collier had so swathed the vulnerable portions of his magneto in insulating tape and some sort of cement (apparently) that it would spark in a bucket of water. A casual eye may see no external sign of brains in the Matchless—may fancy its power and cunning are all beneath the skin. But if a detailed examination be made, it stands out as a smooth, compact class mount, as far ahead of the average bulgy, lumpish, bristling, assembled twin as the magneto is ahead of the battery and coil. I should like the twin Bat, splendid machine as it is, even better if its engine-shafts and pulleys permitted of those really small adjustments of the engine pulley which are essential under certain emergencies, and I must say I prefer belt rim brakes in lieu of external bands. But class was written in capital letters over every machine on the stand. Ruthless of hills, disdainful of rough roads, greedy of speed, paragons of reliability, these machines are among the few absolute bests. No machine owning a J.A.P. engine could ever be inferior, and the Bat frame and fittings are fully worthy of the engine. Their fore and aft springing and the magneto drive and position are amongst their best specialities.

An End-to-end Record Holder.

The V.S. twins, under their former name, are old favourites of mine, but I must admit I am somewhat prejudiced against the a.o.i.v., and unless I am mightily mistaken m.o.i.v. will be as universal on twins as it is on singles, ere long. Generally speaking, V.S. machines are splendid; the T.T. model is as light and elegant as anything on the road, and much handsomer in my eyes than most. The Truffault spring fork is second to none, and the two-speed hub has a long and honourable record. If it is not too trivial to applaud mere detail, I should say the V.S. has one of the, if not the, best exhaust valve-lifters on the market. On a long ride it is excessively fatiguing to the fingers to operate the usual 4in. lever against a couple of stiff valve springs, and the V.S. has a sound mechanical leverage obtained by a 15in. steel arm. Personally,

Among the Heavy Brigade.—

like a pedal valve-lifter on twins, as one seldom needs save when descending long grades. I have used such a device with great satisfaction, adjusted to cut out the rear cylinder separately so long as the toe pressure is light, and this renders a racing twin capable of quite slow speeds in traffic. I think makers of twins might profitably employ this tip.

Fire-eating Twins.

Amongst fire-eaters, the Rex twins with sporting lubmen up have nearly always provided the ascent of the day at every big hill-climb. The sight of these speedy machines hurtling their riders up our most terrifying hills at over fifty miles an hour is a spectacle never to be forgotten. The Rex improvements have mostly been described in previous issues, but its lubrication system deserves fresh mention. The grey Speed King twins will be amongst the most popular speed mounts of the year, and there is scarcely a detail on any of the models which has not received ingenious attention. In particular the spring fork fitted to the heavier standard touring models is a long way better than former patterns, and I was pleased to see the comfortable rear springing had been retained. The practical sidecar attachment bolts will be greatly appreciated by those who intend to use a Rex twin for passenger work, and the makers are to be congratulated on their enterprise in making a sidecar to suit their own machine. Judging by my examination of the Rex twins, I predict that a far larger number of these machines will be seen on the roads than ever before.

The new Brown looks a mover, and we may expect to see Brice showing us its climbing and other qualities in the big events next year. The Clyno is notable for three good points—an excellent first appearance for a new make—viz., smart telescopic two-legged stand, wire brake connection to belt-rim shoe, and an excellent magneto position.

Suburban Sportsmen with a Thirst for Speed.

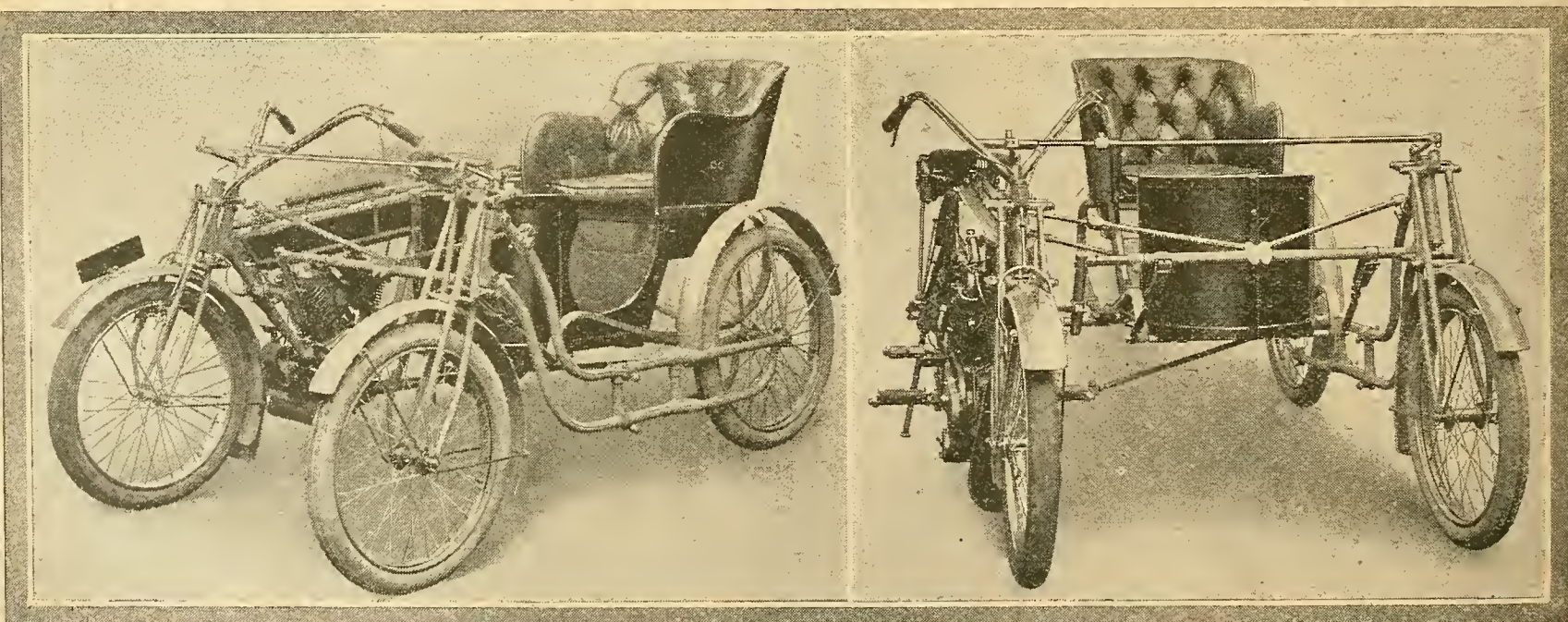
The N.L.G. twins are imposing semi-racing mounts—just the firm to satisfy a suburban sportsman with a thirst for speed: this firm ranks amongst the half-dozen who really know how to tune an

engine. The Premier twin may prove to be the sole prophet of future practice; it has already, perhaps, been belauded more than is good for the young, but not as much as it deserves to be. The N.S.U. twins retain their old design, with an almost horizontal front cylinder, admitting the maximum of cooling draught to the rear cylinder. In particular they cater efficiently for all types of passenger work, and they staged one of the few medium-powered twin-cylinder tourists in the Show. The Norton is supposed to be a twin with engine secrets, and I should like to see it out in next year's T.T. Race; it is a genuine goer. One or two other twins figure on the smaller stands, among which the A.S.L. with its spring frame is a notable and original type.

The Four-cylinder Models.

The F.N. has managed to exorcise the few remaining sources of trouble; the lubrication is further improved, and the plugs are now set in the side of the cylinder heads, out of oil's way. The carburetter is probably the best attempt at a truly variable choke tube which was to be found at either show.

This brings me to a class of machine which is intrinsically novel, comprising such carlike exhibits as the Touring Auto Cycle and the Roc four-cylinder (the latter, I regret, was not complete). I have no real right to speak of types like these, as I consider they make a distinct appeal to sidecar enthusiasts, but that for solo work they can never enjoy such a future as their makers seem to expect. If a man wants a sidecar machine *de luxe*, he will certainly consider such mounts as these very seriously. They will haul a sidecar absolutely anywhere, quietly and smoothly and quickly and, if my judgment of their design and construction be accurate, without *pannes*. The rigid transmission is certainly ideal for a passenger combination, and in this sphere they are formidable rivals of such machines as the powerful gear-boxed Chater Lea twins, and twins with belt drive and epicyclic hubs. A sidecar enthusiast may also be well content to employ them for occasional solo work. Outside the sidecar class of rider, I have certainly met here and there an occasional enthusiast or two who will be satisfied with nothing less than a complete two-wheeled automobile.



One of the most attractive passenger combinations at the recent Show was the above 7 h.p. two-speed Matchless-J.A.P., with Lowen two-wheeled sidecar. In addition to the body being suspended on long C springs, it will be noticed that spring forks are fitted to each steering wheel. We are told that the steering has now been rendered quite easy.

among the Heavy Brigade.—

But I think no one will quarrel with me when I write that the average solo rider prefers less weight and less complication. These machines display a certain ideal very cleverly and conscientiously carried out, and the sidecar men's orders will suffice to keep their makers busy for at least the next twelve months. They cannot be turned out quickly and in large numbers, and therefore appeal to the maker with a limited output.

M.O.I.V. versus A.O.I.V.

NOTICE that old bone of contention m.o.i.v. versus a.o.i.v. was trotted out a few weeks ago. Several entered the discussion, but it seems to have been carefully put by, as usual, ready for another wordy wrangle. Very few convincing arguments have been set forth. One correspondent compared the performances of the different valves in competition. This is a very uncertain argument. There are quite twenty a.o.i.v. twins to every m.o.i.v. on the road, and, assuming that the chances and efficiencies are equal, one might expect the victory of twenty a.o.i.v. to every victory of the m.o.i.v. Whether this is so I am not prepared to say. In the discussions I have not noticed anyone point out what seems to me a vital defect of the a.o.i.v.—that is, it causes a reducing or stretching effect of the entering charge on the induction stroke. As far as my theoretical reasoning will allow me, I come to the conclusion that if it takes a vacuum in the cylinder to open the inlet valves it will mean a loss on the induction stroke proportionate to the strength of the spring and the area of the valve. To illustrate what I mean, if it takes 1 lb. (below atmospheric conditions) of vacuum or suction to open the valve, it will close when the cylinder has only fourteen parts of a possible fifteen of its full charge. The amount of loss may be considerable on an engine making 1,000 aspirations a minute. Now the above contention may or may not be correct, but I have thought that possibly the inertia of the moving gases in the induction pipe causes a pressure each time the valve closes, more particularly with twins when long induction pipes are used. This pressure helps to hold open the valve a fraction of a second longer, whereby the charge has a better chance to recover from the stretching effect of the valve spring.

Pressures in the Induction Pipe.

If anyone should doubt the fact that pressure is caused in the induction pipe let him drill a small hole near to the valve, and a distinct blow can be felt each time the valve closes. This pressure could also be caused by the piston effect of the valve as it closes forcing the gas back on the gas already set in motion and moving towards the valve. If this is so, there would still be the effect of retarding the valve and reduction of the charge by stretching.

Now to the m.o.i.v. To the sceptic who advances the theory that the exhaust may blow back through the inlet valve I may say that, given an engine with correct timing and design of valve, this is impossible. One great advantage the m.o.i.v. has over the a.o.i.v.

In conclusion, let us rejoice that a very complete range of models is offered to suit every multi-cylinder enthusiast—lots of lightweights, two or three good mediums, such as the Premier and N.S.U., lots of clean run fast-work roadsters, and two or three machines designed throughout on car lines—the whole fleet displaying more ingenuity of design, variety of specification, and honesty of workmanship than at any previous Stanley. A great advance, my masters!

is that any timing effect produced by the a.o.i.v. can be copied, if required, by the m.o.i.v. The late opening and early closing of the a.o.i.v. giving that short, sharp pull on the carburetter could be readily produced if required, but makers know that the best combination is to open and close the inlet valves late.

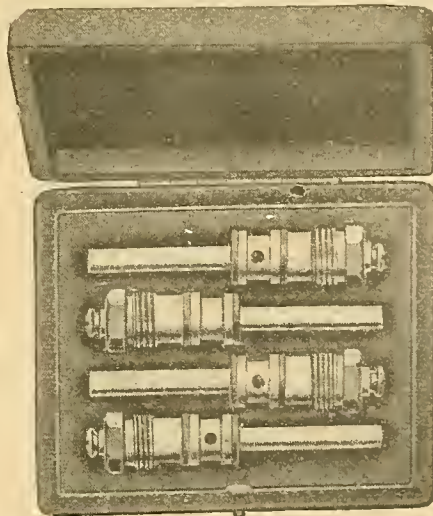
Timing of the Inlet Valve.

The opening of the inlet valve is not of such importance as the closing. The valve may be opened 15° late, which will only mean that the charge has to be taken in in less time; but to make sure that the full charge enters it is usual to allow the valve to close 10° (about) late on the compression stroke, which, due to the angle of the crank, does not permit of the escape of any of the charge. Then, again, opening the valve 15° late allows the exhaust valve to be left open 10° on the induction stroke, so that any residue gases under pressure left in the cylinder can escape. One may see that m.o.i.v. wins "all along the line" where timing is concerned, which seems to be the largest stone the a.o.i.v. partisans can throw at it. The m.o.i.v. works at a disadvantage of having to use a carburetter designed for an automatic valve, and I am sure that, given a carburetter designed to suit the m.o.i.v., it will show where the power goes which is lost in the a.o.i.v.

I will not touch the various other advantages all claimed and allowed for the m.o.i.v., such as easy starting, economy, and regularity. But the real reason why we have so many a.o.i.v. is solely a matter of £ s. d. While the motor cyclist accepts the a.o.i.v. he will get it, being cheaper and requiring less experience to make.

BILL O' JACK'S.

Brown and Barlow, -Ltd., Loveday Street, Birmingham, have shown their enterprise by accepting



“Ixion's” suggestion in a recent issue of *The Motor Cycle* in putting up a case of four jets of different sizes for their carburetters. The fitting of the jets in a case naturally protects them from injury, and the stopping of the small orifices by dust and grit. Each jet is fitted with a nut and washer, so that it can

be fitted or detached in a few seconds. The case of jets is sold at a moderate price, and is obtainable from the makers as above.

American Records and their Making

By A. G. Chapple

Cap! New York M.C.C.

LET me explain first of all that I have not written this article to detract in any way from the credit that is due to the British racing cracks for the various magnificent performances put up as records, but rather as an answer to the severe criticisms of American records contained in a recent issue of *The Motor Cycle*. Up to and including the year 1907, practically all the various world's motor cycle track records were held by Continental riders and created on large saucer tracks, which were unknown in the States, except the small bicycle saucer, the largest ever built being eight laps to the mile. While we possessed machines we had no track on which it was safe to exceed a mile a minute.

A Special Track for Motor Cycle Racing.

In the summer of 1908 Mr. John Prince, an old bicycle champion himself, designed and built one of the first large saucer tracks intended for motor cycle racing. While not a success, it served its purpose, inasmuch as to enable Jake De Rosier, the American professional champion, to establish a mile record of 56s. for a six lap track. Several bad falls by amateurs served to partially kill the enthusiasm then existing for saucer tracks. Although six laps in circumference and banked to 47° on the turns, it was rather too narrow, and the terrific jolts that came with each attempt to hold the banking at speed only served to weaken the rider in the arms. The amateurs up to then had never attempted board tracks, all their experience being derived from the flat dirt tracks similar to the horse racing tracks on the Continent.

The Dangers of Racing on a Flat Dirt Track.

Few of you English riders realise the danger encountered in this sort of racing. With two or three



riders coming down the stretches faster than a mile a minute and taking the turns in a cloud of dust without slackening speed, skidding and sliding, many a spectator went home thanking his stars that he was no part of the performance. And many

rider paid the penalty for his recklessness. The inner rail was always there, and the solid wooden posts also; to skid and hit one of these head on meant death. I remember one instance where the rider's goggles were embedded in a four inch post by the terrific impact. Despite these drawbacks the sport was continued, and to this day we have our dirt track race meets.

After building the six lap Clifton saucer, Mr. Prince learned its faults, and planned a larger track on which a speed of 40s. to the mile would be possible. This he built in Los Angeles, California, $3\frac{1}{2}$ laps to the

mile, and banked 45° on the turns. Meanwhile the F. A. M. has stepped in and placed a limit on the capacity of the engines, holding the records would not be recognised created by a motor cycle the engine which had a cubic capacity of more than sixty-one cubic inches. This was rated as 7 h.p. To-day every American motor cycle manufacturer builds his racing machine accordingly, incidentally always a trifle under the limit to allow for the



A quartette of America's best known racing motor cyclists assembled on Daytona Beach. From left to right: Walter Goerke, Oscar Hedstrom (the designer of the Indian), Robert Stubbs, and A. G. Chapple. Many records were beaten on the occasion of this gathering.

wearing of the cylinders. At the very first meeting of the new Los Angeles saucer, the speed possibilities of this kind of track were recognised. De Rosier established an American record of $47\frac{2}{5}$ s. for the flying mile. Thereafter various records were shattered; hardly had one record been made, when the riders, becoming used to the new form of speedway, and gaining courage with confidence, improved at each performance. It was thought that the limit had been reached when an amateur hung up a record of $46\frac{1}{5}$ s. for the mile.

American Records and Their Making.—

Those were the figures at the close of the racing season on the Pacific Coast. The following spring found Prince in Springfield, Mass., planning a new track on new principles. Instead of curves and long straights, the new track was built a perfect circle, with a 45° bank all the way round. This practically eliminated the "straightening up" that was the one drawback on the Los Angeles track. The opening meet of the Springfield Stadium marked the smashing of the mile record and placing of the figures at 42 $\frac{2}{5}$ s. The various other records, including the hour and twenty-four hour records, have all been established on this track. There is too much jealousy on this side of the Atlantic to attempt to fake any of the records. Every American audience has its spectators with stop watches, and any attempt to fool them would mean the failure of the sport, in the States at least. We are hoping the time may soon come when the Auto Cycle Union and the Federation of American Motor Cyclists will come to some sort of an understanding by which records created either in England or America will be recognised by both bodies. I may also add that we are all anxious to come over to England and show John Bull our paces, and we hope that British riders will return the compliment. I had occasion recently to read a letter from Mr. C. R. Collier, in which he states that he would be perfectly willing to come over if the track

managers would participate in the expense. "Well done, Charlie"; we are figuring on having you over here, but we want your brother and Harry Martin to come with you.



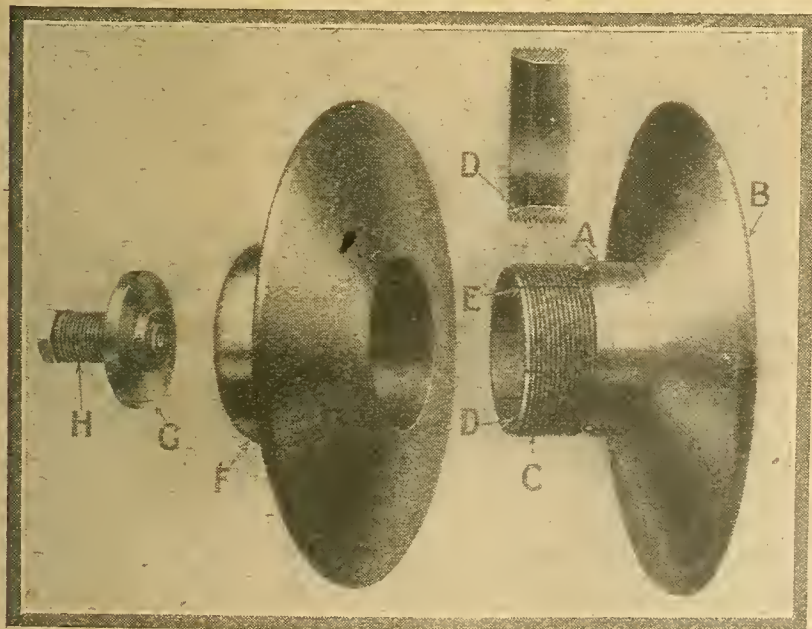
On Daytona Beach, Florida. Arthur G. Chapple, the writer of the accompanying article. He is the holder of several records.

[As all our readers know, Indian motor cycles are now fitted with mechanically-operated overhead inlet valves. It was therefore unfortunate that they were stated to be of the automatic variety in the analytical abstract of the Stanley Show published last week.—Ed.]

A NEW ADJUSTABLE PULLEY.

AMONG other items, the adjustable pulleys now on the market show what an amount of thought, energy, and skill are being expended in the design and manufacture of motor cycles and their accessories.

The latest pulley with adjustable flange which we have had the opportunity of inspecting is the J.A.P.,



The J.A.P. Adjustable Pulley.

- | | |
|---|----------------------------|
| A. Hollow boss of fixed flange. | E. Sawcuts in boss. |
| B. Fixed flange. | F. Boss of loose flange. |
| C. External threads on boss. | G. Steel expander disc. |
| D. Internally coned end of hollow boss. | H. External locking screw. |

made by the famous engine manufacturers, J. A. Prestwich and Co., 1, Lansdowne Road, Tottenham, N. To adjust this pulley any small shifting spanner may be employed so long as it will go on the hexagon end of the locking screw H. The hollow boss A of the fixed flange B is threaded externally at C and coned internally at D, being also provided with six saw cuts E. The loose flange F is threaded internally to screw on to the hollow boss A, and when the position to give the required gear ratio has been found the steel disc G, which is tapered on its edge, is inserted inside the hollow boss A. This steel disc being tapered and coming in contact with the cone D, and its locking screw H taking a purchase against the boss of the loose flange, the cone D is expanded when the locking screw H is screwed in and contracted when it is screwed out. By this means, and by screwing the loose flange in or out on the boss, the gear ratio can be raised or lowered.

Brown Bros., Ltd., Great Eastern Street, E.C., have taken over the sole agency for the Challenge reinforced inner tubes for motor cycles. These tubes are reinforced by bedding in the rubber a layer of woven fabric which extends all the way round the tube except for a narrow stretch of pure rubber of double thickness next to the rim. As soon as a cut or burst occurs in the outer cover an ordinary inner tube blows out and bursts, but the Challenge tube does not do this, and will withstand an air pressure twenty times greater than that of an ordinary tube. At present it is only made in one size, viz., 26in. by 2 $\frac{1}{4}$ in.

OCCASIONAL COMMENTS.

BY IxION.

Variable Gears at the Stanley.

Putting on one side the makeshift gear supplied by an adjustable pulley, there was a fine show of variable gears at the Stanley Show. The Phelon and Moore, N.S.U., Zenith-Gradua, Rex, Roc, Humber, F.N., T.A.C., Chater-Lea, Lake and Elliot (two patterns, both designed by Powell, of Leicester), the L.M.C., V.S., Scott and Ariel, and so forth. If the rigid transmissions ever oust the belt, I fancy B. H. Davies's idea of a two-speed sliding gear box carried in the position usually occupied by the bottom bracket, will yet come into vogue. If the belt holds its own, the infinitely variable gear, such as the Gradua, will have a better chance.

Frame Design.

Two details discernible in many Stanley Show frames are distinctly retrograde. One is the increasing use of bent tubes. I am not saying that bent tubes are not safe, but wherever a bent tube is employed there is either extra danger or extra weight incurred by using struts or heavier gauge tubing to atone for the bend. The best frames of the day have not a single bend in them anywhere. The other danger lies in bringing the two main tubes close together at the steering head above the fork crown, without making the steering head of normal length and running a strengthening tube from the top rail to the top of steering head. Some frames are not fitted with this precautionary strut. It is obvious that enormous strains are concentrated at this point even on the standard frame, and if it is shortened and shortened, without the above-mentioned safeguards, a few nasty smashes may result.

Tyre Inflators.

I should like to see a pronounced reform in motor cycle inflators. Many tyre firms continue to provide the buyer of a pair of tyres with an inflator, barely efficient for use on the pneumatic saddle of an octogenarian's tricycle. If the purchaser be a manufacturer of motor cycles, according to his lights he either fits a proper motor pump and pays for it or slings the inefficient inflator on his motor cycle without thinking twice about his customer. In the latter case, after one or two punctures the irate customer purchases a new inflator with a decently long barrel and handle, only to find it impossible to store it neatly on his machine. Every motor cycle ought to be sold with a substantial motor tyre pump, neatly attached by sturdy clips to the machine.

A Year's Use of a Speed Indicator.

I shall long remember 1909 as the first year in which I regularly rode with a speed indicator fitted (a Cowey). It was a perfect education to read it when I first bought it, and my eyes were seldom off it. I found that twenty-five miles an hour was about the only speed I could judge accurately. I always imagined my slow speeds were slower than they were in fact, and that my high speeds were not so fast as they appeared. When I was actually doing twenty miles an hour I thought I was only travelling at sixteen or so; when I was doing forty, I usually imagined

I was humming at forty-five or fifty. The device has probably saved me several fines, for when loitering as I thought at eighteen or so, a glance at the dial showed me I was doing twenty-three; and once in Stratford-on-Avon, where there is an alleged eight mile limit, I found it was simply impossible to keep my twin down to the speed limit at all. The instrument has given me no trouble at all, except that the shaft came unscrewed from the dial on two occasions, in each case being replaced by the fingers, and as far as I have been able to test it with a stopwatch, and against measured distances, it is strictly accurate, though I admit I have once or twice thought it exaggerated my pace a trifle at high speeds; if it didn't I ought to give my untuned twin a show on Brooklands against Collier and Co.

A Clever Petrol Tap.

There are more advantages than appear at first sight in a clever petrol tap which was described in the Show report. This tap has a tube which projects upwards, say, an inch into the petrol tank. The tap has three positions—in the first, it is shut; in the second, it is open to the top of the inch stub tube, so that when the engine stops for want of petrol, there will be a reserve supply one inch in depth covering the whole of the bottom of the tank; in the third position, the reserve inch is drawn upon. Also the stub tube contains filtering gauzes. This is a cute idea. The tap is screwed into a strong boss, sweated to the floor of the tank.

A Patent Carburetter Jet.

I was taking particular note of carburetters at Olympia, and I happened to notice one device designed to deliver petrol at the jet in the form of vapour, instead of liquid. This set me wondering how far our motor spirit is really vaporised, especially with the engine running slowly, and ere long my peregrinations around the gallery deepened my cogitations. At a certain stand I discovered an inverted glass jar, under which were mounted an ordinary straight-drilled jet and a special patent nozzle. On request the attendant worked a small hand pump vigorously, and water spirted from both jets. From the ordinary standard jet it emerged in an apparently solid vertical column of liquid, exactly like the jet of a fire engine in miniature. But from the patent jet it frothed out in a whirling column of impalpable vapour. The ostensible inference was that if we used a standard jet we obtained a wet and lumpy mixture, but with the patent jet better vaporisation would result in increased h.p., more flexibility, and improved economy of fuel. I am not yet convinced that this demonstration was a conclusive proof that the patent jet was superior to the ordinary one, because obviously the velocity of the spirit is much greater under engine suction than that of water slowly pumped by hand; but I should like to try the patent jet on the road. It consists of two parts, a hollow cylinder with a spiral thread chased in its wall, and a piston, rising and falling under engine suction within the cylinder. Has any reader tested this De Beers jet on a motor cycle?

WORLD'S RECORDS—



THIS IS A TRUE STATEMENT OF RECORD PERFORMANCES MADE BY
AND DULY CERTIFIED TO THE INDIAN MOTOCYCLE.

1,000 C.C. CLASS.

ONE KILOMETRE, STANDING START, 39 seconds, by Chas. Gustafson, Springfield, October 23rd, 1909.

ONE KILOMETRE, FLYING START, 28 $\frac{2}{3}$ seconds, by Chas. Spencer, Springfield, October 23rd, 1909.

STANDING MILE, 55 $\frac{4}{5}$ seconds, by Chas. Spencer, Springfield, October 23rd, 1909.

FLYING MILE, 42 $\frac{3}{5}$ seconds, by Fred. Huyck, Springfield, July 31st, 1909.

50 MILES, 41 $\frac{49}{100}$ seconds, by Fred. Huyck, Springfield, September 6th, 1909.

ONE HOUR, 71 miles 620 yards, by Fred. Huyck, Springfield, September 6th, 1909.

TWO HOURS, 134 miles 880 yards, by M. J. Graves, Los Angeles, California, April 18th, 1909.

RECORDS MADE ON 638 C.C. INDIAN AT SPRINGFIELD, OCT. 23rd, 1909

6 HOURS, 300 miles 1,174 yards, by Chas. Gustafson.

12 HOURS, 559 miles 587 yards, by Chas. Spencer.

24 HOURS, 1,093 miles 199 yards, by Chas. Spencer.

All of the above records were regularly sanctioned by the Federation of American Motor Cyclists (equivalent to the A.C.U.), and the records have been duly filed and accepted.

Booklet on request. HENDEE MANFG. CO., 184, GT. PORTLAND ST., LONDON, W.

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INDIAN

S. & H.

WRITE FOR PARTICULARS OF

THE SCOTT

PATENT NON-SKID
MOTOR CYCLE TREAD.

"The alternate steel and rubber studded Tyre."

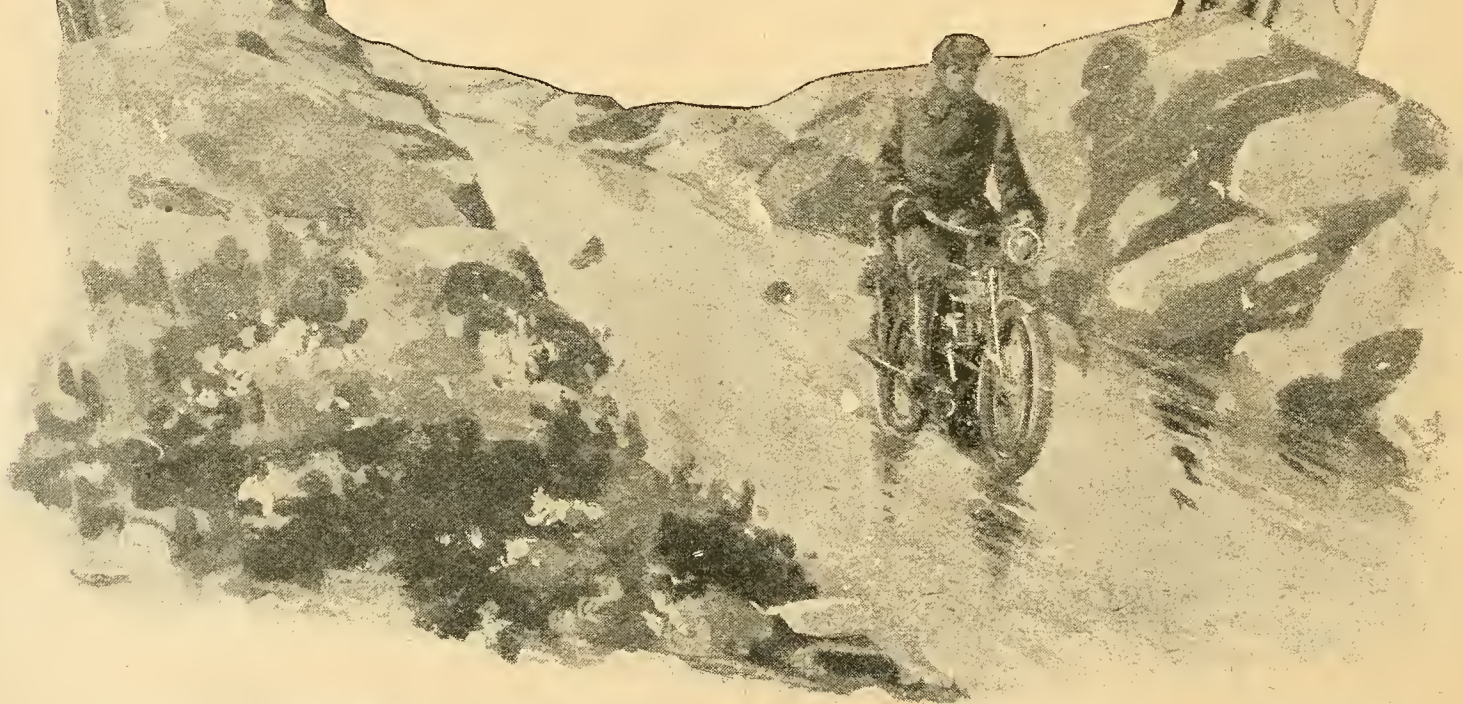
Will not skid on wet or dry roads.

J. LIVERSIDGE & SON, LTD. Chief Office: 196, OLD STREET.

ESTABLISHED OVER
FIFTY YEARS.

. The .
Rubber Studded
DUNLOP

is essentially the
 motor cycle tyre
 for winter riding.
 Declared "perfect"
 by all who have
 ridden it.



THE DUNLOP PNEUMATIC TYRE CO., LTD., ASTON, BIRMINGHAM; ALMA STREET, COVENTRY.

Branches—London, Nottingham, Manchester, Newcastle, Norwich, Bristol, Leeds, Glasgow, Dublin, Belfast.
 NOTE—Tyres from which the Dunlop Co.'s private marks have been removed are not guaranteed.

In answering this advertisement it is desirable to mention "The Motor Cycle."

THE BENN TWO-SPEED GEAR.

On a recent occasion we had the opportunity of trying the above gear, fitted to a 3 h.p. Triumph motor bicycle. The machine was brought to town by Mr. C. H. Benn, and he took it to *The Motor Cycle* offices in Tudor Street, London, owing to the building of the subway under New Bridge Street, is more than ever thronged with traffic. To one unacquainted with the gear, it was found particularly easy to control. Its construction is as follows:

It is the fixed spindle of the rear hub, on one end of which is a cone-shaped clutch F. On this clutch is formed a coarse multiple thread of quick pitch. Clutch F is prevented from turning by a short torque rod J secured to the frame of the motor cycle. Clutch F and the fibre cone ring I carried by the internal gear wheel and clutch D can be brought into longitudinal contact. Moving the pinion and clutch D to the left brings the fibre cone I and clutch F into contact, and the reverse movement engages D with the cone H. A nut E, which can be rocked by a lever attached to it, is fitted on the quick pitch screw of clutch F, and a disc P is mounted on the nut E, on a set of ball races rotatable about the nut. The outer rim of the disc is secured to the clutch D, so as to act as a support to the coned rim of the latter. It is evident that the disc P and the clutch D, both rotatable, will partake of the longitudinal motion of the nut E. The internal gear wheel C, revolving on ball races R R¹ and S S¹ on the hub A, is directly connected to the belt rim U by means of a set of spokes T, and is driven by belt from the engine. The lever E₁ rocking the nut E is connected to a pedal on the footrest, having a movement about equal to that of the belt rim brake pedal on most machines. When the nut E is rocked in the forward position, the clutch I is brought into contact with the clutch ring F, which is fixed. The gear wheel D is held stationary, so that the three planet pinions (not shown) and the hub A revolve at the slower rate. When the nut E is rocked backward to the intermediate position, both clutches are free, so that the engine is free to run without moving the road wheel. The high gear is obtained by rocking the nut still further backward and engaging the larger clutch D H. The whole gear then revolves as in the case of an ordinary driving wheel. The drive being a planetary one, slipping may be allowed at starting and changing speeds.

Lubrication and Operation of the Gear.

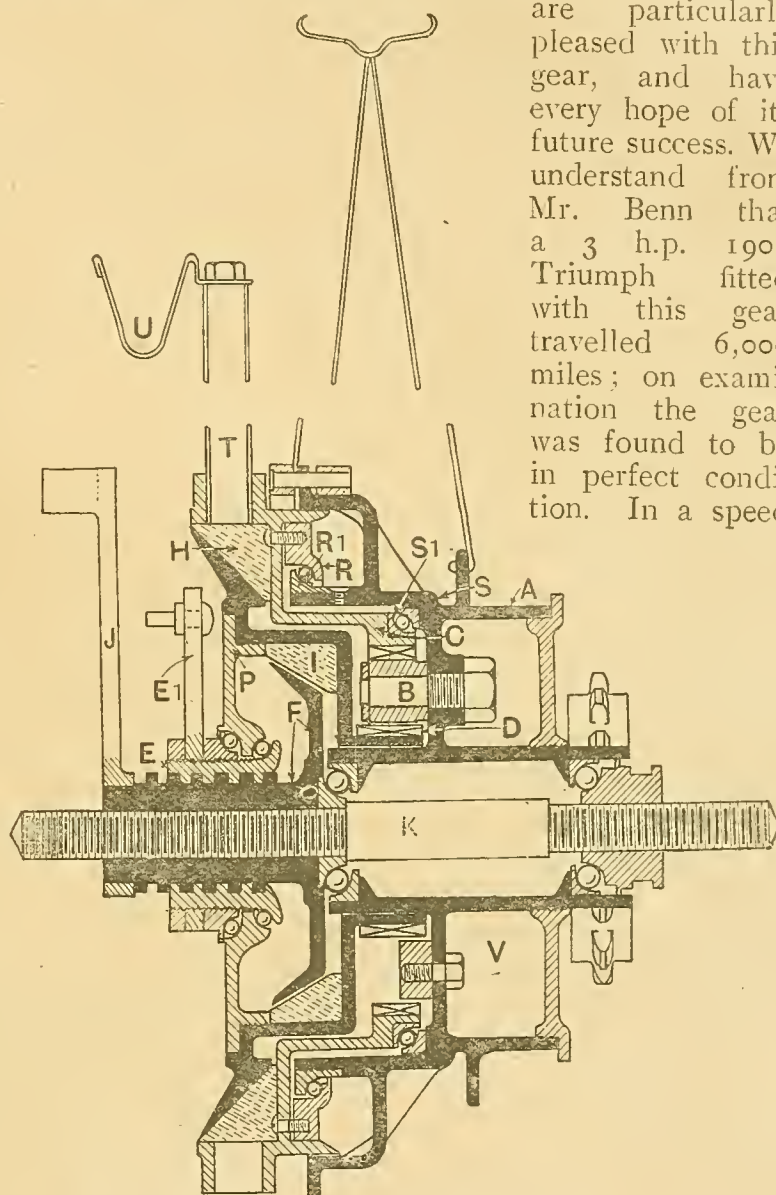
One very important feature in this gear is the lubricating facilities. An annular space V is provided, and when filled with suitable grease will supply the needs of the gear for a distance of 2,000 miles.

What is the usual belt rim brake pedal on a motor cycle has been adapted to operate the clutches of the two-speed gear. When pushed forward it allows the low gear to be engaged, and when allowed to return to the normal position occupied by the pedal when the engine is off the top gear is in position. The locking of the clutches in any required position is controlled by a Bowden-loc lever on the handle-bar.

To effect an easy start with engine running, it is necessary to depress the pedal, and this engages the low speed clutch, which must then be locked in engagement by the lever. The drive is taken up

exceedingly sweetly, and even with the engine running quite slowly the low gear absorbs so little power that it will comfortably take up the drive. When in thick traffic there is no need to lock the gear, as the slightest pressure of the foot keeps it in engagement, and it can be instantly released should there be any necessity to stop suddenly. From a practical point of view we

are particularly pleased with this gear, and have every hope of its future success. We understand from Mr. Benn that a 3 h.p. 1906 Triumph fitted with this gear travelled 6,000 miles; on examination the gear was found to be in perfect condition. In a speed

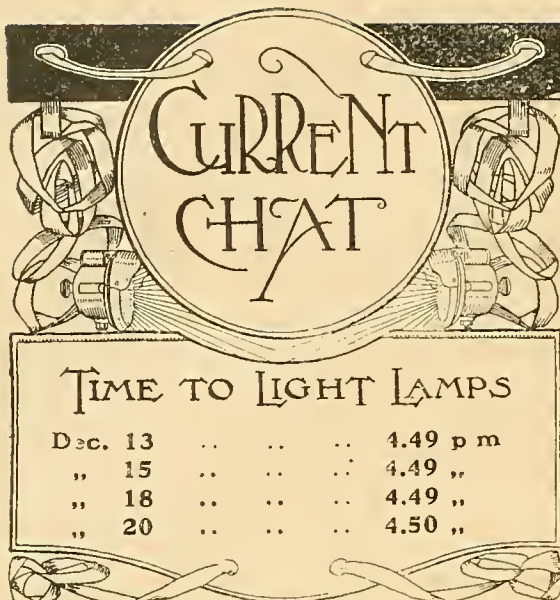


The Benn Two-speed Geared Hub.

- | | |
|---|--|
| A. Hub shell. | F. Quick thread screw and h.l.f low speed clutch member. |
| B. Planet pinions (two not shown). | H. I. Fibres on high and l.w speed clutch members. |
| C. Internally cut gear wheel and half high speed clutch member. | J. Torque rod attached to frame. |
| D. Externally cut gear wheel and half low speed clutch member. | K. Wheel spindle. |
| E. Nut. | R, R ¹ . Ball bearings. |
| E ₁ . Nut lever. | S, S ¹ . Ball bearings. |
| | T. Belt rim tubular spokes. |
| | U. Belt rim. |
| | V. Space for oil or grease. |

contest the same machine attained 43½ m.p.h., and went through a twelve hours' reliability trial without loss of marks for mechanical stops. We understand that a motor cycle of 6 h.p. has been fitted with the gear, and its owner declares he cannot break it. Other points in its favour are that it weighs only 25 lbs., is no wider than an ordinary hub, and can be fitted to most well-necessary than expanding or contracting the rear forks.

A fact worthy of notice is that eighty-three medals and ten cups have been won on Palmer motor cycle tyres. A special 2¼ in. ribbed tyre is now made to fit the 2 in. rim; the ordinary 2¼ in. tyre fitting the 2½ in. rim. The rubber-studded cover is in great demand.



CURRENT CHAT

TIME TO LIGHT LAMPS

Dec. 13	..	..	..	4.49 p m
" 15	..	..	..	4.49 "
" 18	..	..	..	4.49 "
" 20	..	..	..	4.50 "

Another View of Valveless Engines.

Criticising the motor cycles at the Stanley Show in the *Bristol Bicycle and Motor Club Gazette*, "C. A. F." says of the two-stroke machines: "Here is a chance for someone who has valve troubles. I do not know what motor cycling is coming to: just fancy a machine that will not go wrong. No chance of staying out all night at a country inn now."

A Long Day's Run.

In sending a query, a Chester reader describes at the same time a long day's run to Devonshire on his 3 h.p. motor bicycle, which is now five years old. This is an exceptionally good performance for a five-year-old, and our correspondent assures us that he experienced no trouble with the engine, carburetter, or magneto (which he recently fitted), despite the fact that rain was falling all the way from Wellington to Dartmouth.

The Result of a Challenge.

H. C. Tromp Van Digglen, who, it will be remembered, challenged any rider of a 3½ h.p. machine and 50% of 5 h.p. twins to race against his 2½ h.p. Wanderer, pluckily attempted to hold up his challenge one morning last week, but two 3½ h.p. Triumph machines ridden by F. H. Mullett and H. E. Vowler respectively proved too fast for the little Wanderer. The losing machine is known to be a little flier, but it was generally expected that it would not be the equal of a good 3½ h.p. in regard to speed on the level.

Wanted, a Private Park in the Midlands.

As already announced in these columns, the Midland Centre of the A.C.U. wish to promote a speed contest early next year in a private park, provided a willing owner can be found within their territory. Unfortunately, they are handicapped by not being able to find a suitable track and the necessary permission to use same, and we have been requested to insert this paragraph asking Midland readers if they can assist in obtaining the use of a suitable straight of not less than half a mile on private ground. One thing is assured: If a suitable course can be found the event is sure to prove a most popular one.

SPECIAL FEATURE

AN INTERNAL COMBUSTION TURBINE.

AMERICAN RECORDS AND THEIR MAKING.

AMONG THE HEAVY BRIGADE.

BY B. H. DAVIES.

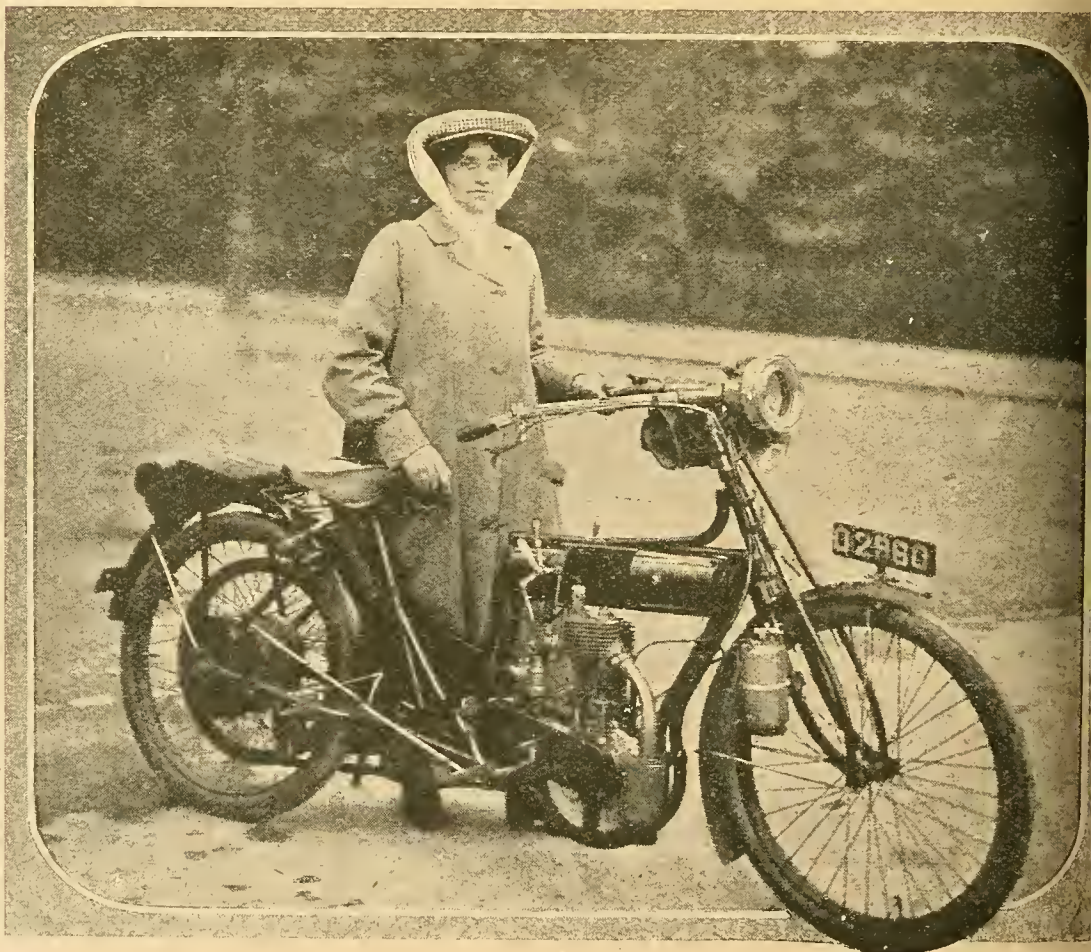
Premier Cycle Co., Ltd., v. Premier Motor Co., Ltd

In the High Court of Justice, Chancery Division, before Mr. Justice Eve, on the 25th ult., the Premier Cycle Co., Ltd., of Coventry, obtained a perpetual injunction against the Premier Motor Co., Ltd., of Birmingham (who have no connection with the plaintiff company), to restrain the defendant company, their servants and agents, from printing or displaying any advertisement containing their name or part of their name, the word "Premier," or any part thereof, and from selling, advertising, or offering for sale, either directly or indirectly, any cycles, motor cycles, parts thereof, or accessories thereto, under, or in connection with the name "Premier" or "Premo," or any colorable imitation of the word "Premier." The use of the word "Proto" in connection with the goods of the defendants shall not by itself be deemed to constitute a breach of this injunction. The Premier Cycle Co., Ltd., commenced these proceedings in consequence of the defendant company having used the name "Premo" in connection with motor bicycles and accessories, which

name, in conjunction with the Premier Motor Co., Ltd., was said to cause an impression that the goods were those of the Premier Cycle Co., Ltd., of Coventry.

An Enthusiastic Lady Motor Cyclist.

The 3½ h.p. Roc motor bicycle depicted in the illustration below converted into a lady's mount from a gentleman's, and is owned by Mrs. G. Luck of Birmingham. Her friends consider it an ideal lady's machine on account of its two-speed gear and free engine. Mrs. Luck wishes more ladies would take up motor cycling. She says she simply loves to get out on the country roads and let the machine out. Her first ride was on Whit-Monday last, and after Mr. Luck had started the engine she rode for four miles alone. Fifty miles non-stop is the record so far. This was on August Bank Holiday. Mrs. Luck thinks she has been rather fortunate in experiencing only one skid. On that occasion she adds, "I got up laughing. It rather amused me!" Mr. Luck usually accompanies his wife on her rides. Her mount is a 7.9 h.p. twin Peugeot.



Mrs. Luck, of Birmingham, and her Roc motor bicycle which was converted from a gentleman's machine. (See paragraph above.)

The Petrol Tax.

During the interregnum between the dissolution of the present Parliament and the election of the next, the petrol importers have decided to continue paying the tax, as it is practically certain that the latter will be enforced whatever Government may be in power.

Two Motor Union Announcements.

Another new development of the Motor Union will interest those motor cyclists who are inclined to take an interest in aviation. An aviation section has been formed, and the M.U. has incorporated the Aeroplane Club. The advantages of this department are now placed at the disposal of motor cyclists, and those who are anxious to experiment with model aeroplanes or full-sized machines will receive the advice and assistance of the Aviation Committee. In order to include free legal defence in the privileges of membership it will be necessary to increase the annual subscription, which will accordingly be raised on March 1st, 1910, to 12s. 6d. To readers joining previous to that date and existing members, however, the annual subscription, to include free legal defence and the benefits of the Aviation Department, will remain at 10s. 6d. Those joining now will, therefore, effect an annual saving of 2s.

More Halfpenny Paper Twaddle.

Surely nothing could be more irresistibly funny than a paragraph in a recent issue of the *Morning Leader* headed "Men and Beasts," which we quote below, and yet the misguided scribe (probably a penny-a-liner badly in need of copy) apparently writes in a serious vein. The statements could hardly be more inaccurate, for it is a well-known fact that motor cyclists are among the best all-round sportsmen. Champion tennis players regularly ride motor cycles as well as golfers, cricketers, and those who indulge in all manner of sports. As regards football we can easily give the lie to the paragraph mentioned, for we have on several occasions had the pleasure of driving a well-known professional footballer of the Aston Villa F.C., who is an ardent rider of his motor cycle, and in provincial towns it is a common sight to see footballers riding to the field of play on their motor cycles. It would be interesting to have a medical motor cyclist's report of the writer of the "M.L." paragraph after an examination of him! He had undoubtedly been dreaming when he wrote the paragraph, as how was he to know whether "the stooped and strained faces" he saw peering at the motor cycles were actual riders, or pedal cyclists who were prospective motor cyclists? The statements have not one tittle of evidence to support them, and we are surprised that the journal mentioned should be willing to hold itself up to ridicule by 75,000 proved riders of motor cycles.

"A week or so ago there was a show of motor bicycles in the same hall. There were people there who ride these things, in idleness, about the country. Most of them were weakly made, and stooped, and had strained, unhealthy faces. Only a few looked as if they

would be any good at a game of football, or as if they could ride a horse. There was nothing to show that they were English, and they might just as well have been French. They were the present generation, about whom, possibly with some reason, the scaremongers are busy. There was a welcome contrast yesterday. The men were from the country, and most of them were strongly made, and upright,

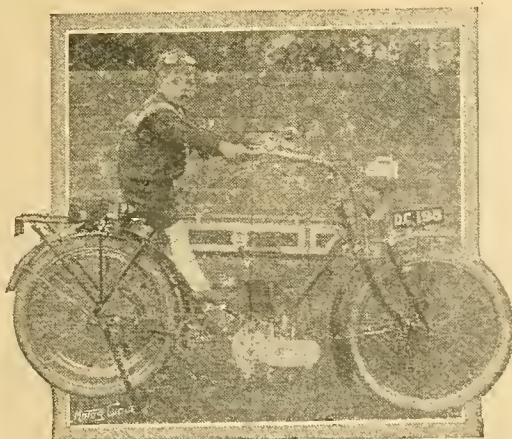
FUTURE EVENTS.

- Dec. 18.—North-West London M.C.C. Annual Dinner, Criterion Restaurant.
- " 19.—Walthamstow M.C. run to Bishops Stortford.
- " 25.—Walthamstow M.C. run to Abridge.
- " 26.—Walthamstow M.C. run to Epping.
- Jan. 6.—Essex M.C. Paper on "Magnetos," Great Eastern Hotel, Liverpool Street, E.C.
- " 7.—Western District M.C. (London) Annual General Meeting.
- " 13.—A.C.U. Paper on "The Problem of the Private Owner," at 119, Piccadilly, W.
- " 20.—A.C.U. Annual Dinner, Hotel Waldorf.

and looked as if they walked every day about a farm. Their faces were not strained or nervous, and many, it was clear, had come from another, easier century. No one could have mistaken them for anything but Englishmen. If there was any doubt, it was only necessary to watch them walking round a bullock, and talking about its points. Only an Englishman can do that."

Inland Revenue Tax Exemptions. A Test Case.

The Spelthorne Bench at Feltham recently considered the case of S. A. Gilbert, of Teddington, who was summoned by the local taxation officer of the Middlesex County Council for using an unlicensed motor cycle. Mr. E. J. Parrent and Mr. W. Whyte gave evidence in support of the summons, the former stating he had seen the defendant using the motor cycle at Teddington. Mr. Whyte said that defendant had strapped a box upon the carrier and placed his name and address upon it, and on these grounds he claimed exemption. Defendant carried sewing machines and parts of machines in the box, but this did not give him exemption. Defendant said that the carrier for the box was bolted to the motor cycle, and the straps only fastened the lids. He had never used



Starting early. A featherweight rider of a Premier. He has done at the rate of 50 miles per hour (on the stand). Photograph kindly sent by W. E. Price, of Middlesbrough.

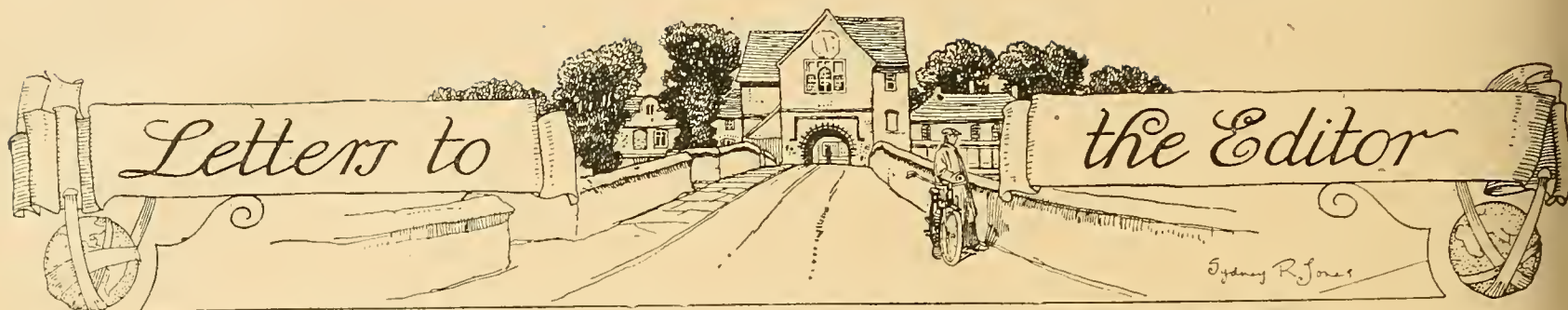
the machine except for trade purposes, and before he did so at all he consulted the officers of Inland Revenue, who told him he was exempt so long as he did not use the cycle for anything but trade purposes. Mr. Freeman: Why don't you have your name and address on the motor cycle itself? Defendant said he was quite willing to do this, but he had not thought it necessary, seeing that he had been told he was exempt. He did not use the machine in taking orders, but mainly for repairing sewing machines, and sometimes for collecting the money due on sewing machines. Mr. Wallroth said that that was unlawful, and defendant would have to pay a fine of 10s. Defendant asked that he might be exempt from taking out a licence this year, seeing it was so far advanced. The Chairman said that the Bench had no power to deal with that.

The Great North Road to be Properly Signposted.

When next the M.C.C. London-Edinburgh competitors speed along the Great North Road, they will most probably find that it is particularly well signposted, as the R.A.C. General Committee has the matter in hand. The original proposal was to post with direction signs the road from London to York, but it has now been decided to extend this work to Edinburgh if the S.A.C. concurs. The sign proposed to be used is rectangular in shape, and is divided horizontally into three panels. The central panel indicates the name of the town or village at the entrance to which the sign is placed; the uppermost panel gives the total distance to Edinburgh and the name of the next village in a northerly direction and the distance to it; while the panel at the bottom indicates the mileage to the next village south and to London. The rectangular plate is surmounted by a semi-circular headpiece bearing the initials of the R.A.C. and the name of the county branch association in whose area the sign is placed.

More Motor Cycles in England than Cars in France.

The total number of motor cars in use in France, according to a French contemporary, is 44,769, or only slightly more than one-third of the total number of motor cars in Great Britain. The latest registration figures, which were published last week, show that there were 75,000 motor cycles registered in the United Kingdom at the end of September, or 30,231 more than the number of motor cars in France. The number of motor cycles in use in France is not given separately, and we are under the impression that they are included with the car figures mentioned above. It is interesting to note that London alone has registered over 32,500 cars and 10,500 motor cycles or a total of 43,000 motor vehicles, which approximates to the entire number in use in France. The publication of the figures compiled by the R.A.C. has naturally caused some excitement in French trade circles, and the leading journals are already calling attention to the fact that if a duty be imposed on motor vehicles next year, it will seriously affect French trade in motors and parts. It is well-known that France exports nearly half her products of motor cars to this country.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Belt Rim Brakes.

[4420.]—In Mr. B. H. Davies's article on medium weight machines at the Stanley Show, he mentions a free engine machine fitted with a separate belt rim solely for a brake. I beg to inform him that this was fitted to Phänomen machines at last year's Stanley Show, and I have a machine myself fitted the same way.
P. CROSS.

The Amulree Hill Climb.

[4421.]—In reply to "Fair Play," who wrote in *The Motor Cycle* of November 29th under the above heading, the reason why Mr. MacGregor's 3½ h.p. Matchless was not disqualified in the standard touring classes at Amulree is simple. It was a standard touring model as required by the rules.
JOHN CAMERON.

The Motor Cycle in Sierra Leone.

[4422.]—With reference to the recent correspondence in *The Motor Cycle* regarding the suitability or otherwise of motor bicycles for use in Sierra Leone (West Africa), I may mention that I am now on my way to that place, and am taking with me a 3½ h.p. Scott motor cycle. As soon as I have given it a trial I shall be glad to let readers of *The Motor Cycle* who may be interested know the result of the experiment.
W.S.B.

SS. Burntu, Las Palmas.

Cold Fin.ers.

[4423.]—If "Oile" will do as I have done on my Moto-sacoché he will be happy. Get a length of flexible metal tube, fix one end to the inner chamber of the silencer and the other end to the centre of handle-bar, making a hole in each grip for circulation *et voilà*.
WHISKERS.

[4424.]—In reply to [4395] "Oile," I have tried various combinations of gloves, viz., wash leather inside and ordinary gauntlet outside, woollen in and gauntlet out, wash leather in and woollen out, but nothing can compare with the sheepskin gloves sold by most country saddlers for about 1s. 9d. a pair. These are made of sheepskin, with the natural wool left on, the wool being inside and lining the glove. The gloves are, of course, cheap and roughly made, but are far more effective than anything else I have tried. Let "Oile" pick a pair with plenty of wool in them.
AW2.

A Note of Warning.

[4425.]—May I through your most valuable paper give a note of warning to intending purchasers of motor cycles. First, when about to buy a machine, let the purchaser be sure that the cylinder can be dismounted without taking the engine out of the frame. Some machines are such offenders in this respect that the tank has to be cut away to allow room for the sparking plug. Single-cylinder engines are worse sinners than the twins. Secondly, let purchasers observe how the silencer pipes are attached to the engine and silencer. I bought a twin this year, and the pipes were put into the sockets with only a small screw put through both. The silencer was joined to the pipes the same way. Thirdly, be sure that all the threads are of sufficient depth. Some of the threads of my twin were not deeper than the thickness of a postcard and very soft. I think novices would do well to avoid inverted levers, as they are liable to catch the sleeve. Some makers like putting their silencer and magneto in front of the cylinder. This, in my opinion, is not conducive to a cool engine. Last, but not least, don't buy a second-hand machine without an expert's advice.
VICTIM.

Exerescences on Crank Case Castings.

[4426.]—We observe that Mr. B. H. Davies, on page 951 of the issue of *The Motor Cycle* of November 29th, states:

"The Humber and Quadrant Companies are, I think, the only firms who have cast a clean crank case devoid of advertising initials"

We should like to point out that the 6 h.p. Stevens engine, as fitted to our twin-cylinder machines, has no initials on the crank case, and also has the lugs inside, thus giving a perfectly round and smooth case.

THE CLYNÔ ENGINEERING CO.

The Motor Cycle in Ceylon.

[4427.]—I travel a great deal per motor cycle in Ceylon on a 5 h.p. twin Rex, and find that the ordinary saddle and toolbag are quite inadequate to ensure comfort and safety during a long ride on the main roads through the jungle, where even blacksmiths' shops are unknown. I therefore designed and made a bucket seat, and, although far from perfect, the comfort derived therefrom compared with the ordinary motor cycle saddle can only be realised when tried. To the handle-bars are attached two boxes. One is a spacious receptacle for tools, spares, etc., and the lower one is for a spare accumulator, and both are fitted with locks.

In front of the foot brake are footrests, and along the lower sides are boards 2ft. 7in. long, fitted with straps for baggage, etc. I might add that with all this extra weight (about 40 lbs.) the engine will take me up any hill in Ceylon easily, and there are some very steep ones, especially in the hilly up-country districts. I am surprised that makers do not build machines with accommodation in the front for tools, spares, etc., obviously in order to distribute the weight more evenly over both wheels.
R. K. MACBRIDE.

P.W.D., Trincomalie.

Lightweights v. Heavyweights.

[4428.]—With reference to Mr. Karlake's "very interesting" opinion of Mr. Turpin's experience with the Moto-Rêve lightweight, I think his remarks are, to use his own expression, "irresistibly funny," and one is liable to be "quite overcome" by them.

What did Mr. Karlake think that Mr. Turpin meant by "two-bags"? Not nosebags filled with carrots, surely!

I wonder, has Mr. Karlake ever ridden a Moto-Rêve machine, or even heard of one? I doubt it. If so, he would not, I am sure, "maintain that they are unsuitable for real touring." (By the way, what does that gentleman mean by "real touring"? Ask him to turn to page 904 of *The Motor Cycle* (November 22nd), and he will see for himself whether or not they are suitable for *real* touring—125 miles of mud-plugging, and then running perfectly! I wonder how many heavyweights would have done better, or even as well.

If Mr. Karlake were to enquire of the Moto-Rêve Co. for a list of trials, etc., that this splendid little machine has accomplished against many a 3½ h.p., perhaps he would alter his opinion, or, as Geo. Robey says, "Cease!"

A MOTO-REVE RIDER.

[4429.]—I have ridden motor cycles for five years now in India, and that is far different from the home conditions. I have had all different weights and h.p.'s from 4½ h.p. Minerva down to my present 1½ h.p. N.S.U. With the heavyweight I always found a great deal of exertion required for starting, and being only a small individual it very naturally caused me trouble and a lot of heart-beatings to get a "move on."

The 3½ h.p.'s were better, but if you happen to get the plug sooted or other small trouble before you can get it to

start, the machine will prove the winner every time. Now the $1\frac{1}{4}$ h.p., if it had not one special fault, would be ideal for men up to about 10 stones in weight, and above that I do not think anything over $2\frac{1}{2}$ h.p. is required for general solo riding.

The $1\frac{1}{4}$ h.p. N.S.U. I got last year (June, 1908) has given me every possible satisfaction. I use it to ride to business five miles every morning, and am never late. The one fault I find (or rather found) was the round belt drive and bad fastening devices of this class of belt. When the rain used to come down in sheets, it naturally caused the belt to slip, and tightening it only resulted in ultimate breakage. To alter this, I got a special belt rim made, $\frac{5}{8}$ in. in V section, and a S.G. belt to fit, also a $4\frac{1}{2}$ in. diameter variable pulley, which would just clear the magneto. Now I have just completed 1,800 miles on this conversion, and only shortened the belt once, and never had any belt slip. To prove the machine is capable of heavier work, I have been out ten to fifteen miles shooting, and taken a passenger on the M.H. stand carrier, and, timed by watch and cyclometer, have covered the distance at an average speed of twenty-five miles an hour, and over roads where home riders would get off and push.

If the riders of lightweights would have some consideration for the little engine beneath them, it would give them more satisfaction.

C. A. HOLLAND.

India.

[4430.]—Anent the discussion on lightweights in your paper during the last few weeks, I beg emphatically to disagree with your correspondent, Harold Karslake, who says that the lightweight motor bicycle is not fitted for long runs and touring generally.

This is not so. On the contrary, a light motor cycle, in my opinion, is infinitely more comfortable than a cumbersome heavyweight for long journeys. Naturally, one cannot go so fast, but it is quite an easy matter to average sixteen miles an hour, even in the hilly district of Devon and Cornwall. I have done many journeys on my $1\frac{1}{4}$ h.p. Motosacoche of distances varying from 120 to 150 miles in a day during the past year, and have never once had a breakdown, with the exception of a puncture here and there.

The cost of running is very slight—140 miles to the gallon in petrol, and the wear and tear on tyres no more than on an ordinary pedal bicycle. I am running a $1\frac{3}{4}$ in. Dunlop ordinary heavy roadster on my front wheel at present. It has done 1,500 miles, and shows no sign of wear. A Clincher tandem on the back has likewise done a nearly similar distance, and the ribs on the tread are scarcely worn at all. Look at the difference in the cost of tyre renewals alone.

The crux of the whole matter seems to me to hinge on speed. Most riders seem to want a machine that can do an average of thirty miles an hour, and for this luxury they put up with a lot.

With regard to hill-climbing, my lightweight will go up some hills in Cornwall on the coast road that a $3\frac{1}{2}$ h.p. would not look at, except with severe heartbreaking pedalling. I have, of course, to pedal, too, but with an Armstrong three-speed pedalling gear it is a simple matter.

Another point in favour of the lightweights is their immunity from sideslip. I am not afraid to ride on the muddiest of roads, because I can throttle my engine down to four miles an hour and it will fire consistently. A heavyweight will not do this without a good deal of adjustment of the throttle and air levers. Many heavyweight riders are afraid to use their machines in the bad weather for this reason.

A man who requires speed must use a heavyweight undoubtedly, but the man who is content to go at a moderate pace and enjoy the scenery as he goes along could not do better than use a lightweight. By a lightweight I do not necessarily mean a $1\frac{1}{4}$ h.p., but any machine that weighs under 110 lbs. I believe the Douglas, for example, weighs somewhere about that figure, and is, I know, equal in every respect to any $3\frac{1}{2}$ h.p. heavyweight on the market. But for a light rider like myself, who only weighs 9 stone 10 lbs., a $1\frac{1}{4}$ h.p. is all-sufficient.

I am certain in a few years' time average weight riders will begin to see the immense advantage of the lightweight machine, and the latter will ultimately drive the heavyweight out of fashion.

G. E. CASE MORRIS.

P.S.—I am certain there is an opening for a single-cylinder machine of $1\frac{1}{2}$ to 2 h.p., built on the lines of the modern $3\frac{1}{2}$ h.p., with vertical engine, leaving plenty of room for detaching the cylinder, etc., high-tension magneto, light motor cycle tyres, and weighing under 100 lbs.

Belts on Lightweights.

[4431.]—With reference to the paragraph by "Ixion" in his comments of the 29th ult., I am very much interested in what he has to say *re* lightweights. "Ixion" evidently has a very high idea of his knowledge of round belts, otherwise I should say he would not write as he does, but I do not think he knows as much as he thinks he does when he says "it is almost impossible to produce a machine of less weight than a $3\frac{1}{2}$ h.p. tourist model without making some sacrifice in efficiency." He certainly shows lamentable ignorance, and I feel very sorry for him.

I suppose he will acknowledge that the makers of the Motosacoche have got brains, and that they know how to use them, so I think they ought to be judges of what is the best belt to use with a lightweight of their manufacture.

If the rider of a machine with a round twisted leather belt would pay as much attention to it as he does to his boots, he would get very much better results, but he absolutely ignores it until the belt "gives up the ghost," then he writes to the makers and tells them what he thinks of them. I suppose this is what "Ixion" did in his early days.

You can take it that the round belt is all right or we would not stick to it, and we are quite ready to convince anybody that any lightweight machine is much better with a round belt and jockey pulley combined than with any other kind of belt.

MOTOSACOCHE, LTD.

O. L. DE LISSA.

A New Rotary Valve Engine.

[4432.]—With reference to the article on "A New Rotary Valve Engine" in *The Motor Cycle* of November 22nd, it may interest you to know that a motor cycle engine constructed on similar lines to the one designed by Mr. E. W. Lewis was constructed by Mr. G. Pilkington, of the Rex Motor Manufacturing Co., Ltd., some twelve months ago. (See illustration.)

H. SARGINSON.

Reviving Exhausted Dry Cells.

[4433.]—In your issue of the 15th ult. you gave prominence to an article on recharging or regenerating dry cells, that appeared in the American press, which may per-

The Rotary Valve Engine mentioned in the accompanying letter. The valve sleeve is driven by a chain from the engine shaft.

haps more or less account for the very marvellous results of getting about six times the capacity from a completely discharged cell by pouring in a few drops of acid.

The practice mentioned is absolutely wrong, and entirely useless for all practical purposes. In the manufacture of a really good dry cell one of the most important points is to keep out of the cell any chemical or other material which might produce chemical activity in the cell when no current is being taken from it; and even Board School children know that they have only to pour hydrochloric acid on zinc to get hydrogen, and likewise to consume zinc.

In designing a dry cell economically, the zinc case is made of such a thickness, that when the cell becomes exhausted the case is partly consumed, although intact and still strong enough to prevent any leakage or withstand ordinary use; but certainly no dry cells have such heavy cases that, after the cell has been completely exhausted, there is still enough zinc left to give six times as much current as had already been taken from it. If it were so, dry battery makers in the past have certainly been throwing away a lot of profit.

Hydrochloric acid is, of course, just the thing to give a cell high voltage, and if one had not to study the lasting properties of a dry battery, it would be quite easy by the aid of this acid to make a cell registering more than the usual $1\frac{1}{2}$ volts:

as previously explained, the employment of such acid would be disastrous—gas would be generated, zinc would be consumed, and in a very short time holes would appear in the case, and the electrolyte would be discharged as well as the acid, ruining clothing, parts of the machine, and causing corrosion everywhere. If the cell formed part of a combined battery, short-circuits would occur between the other cells, and the whole battery ruined very quickly. In the Hellesen battery, which I employ in my H.H. system of dry battery ignition, it would prove very difficult to get liquid from the cells at all unless they are very old ones and completely exhausted, as all the room is already taken up, and the interior does not dry, as in many other batteries on the market, where the exciting agent dries up long before the electrolyte material of the cell has been seriously impaired by chemical action, and it is only in such instances that the Hellesen method would create any effect at all, and then it will only give the cell a very feverish and short lease of life, and which will be full of trouble.

A really good dry cell one of the chief advantages is that it does not contain any acid which can escape and form corrosion on the terminals, or any parts of the machine, or rider's clothing, etc.

I am, I suppose, more interested in the dry battery from the point of ignition than anyone else in this country, and I therefore feel bound to contradict the statements taken from the American journal, as if riders generally attempt such methods it could only damage the reputation of dry batteries, and often be the cause of a partly discharged battery being completely ruined.

A. H. HUNT.

Two-stroke Engines.

[4434.]—Your correspondent H. E. Rendall, naturally asks why not fit the sparking plug on the opposite side of the cylinder on the Rex engine?

The natural position does appear to be on the inlet side, but in my opinion this is the worst place the plug could be placed in.

When the plug is on the inlet side, with the piston at the end of its stroke, the plug points are almost separated from the bulk of the compression space by the deflector on the piston crown. The result is a weak explosion.

With regard to slow running, the fact that a Rex two-stroke engine could be seen running (during Show Week) round and round in a 24ft. roadway outside the Agricultural Hall, without a single misfire, is sufficient proof of that this trouble does not exist on their machine.

The Rex twin two-stroke engine, as shown at the Stanley Show, is exactly on the same principle suggested by H. E. Rendall, except for the ball bearing in the central dividing plate; a ball bearing would be difficult to make compression tight.

H. SARGINSON.

Auxiliary Motor Wheel Attachments.

[4435.]—I was very interested in the illustration and remarks published under the heading of "Nothing New Under the Sun." I should be glad if you could supplement these. During my agent's search in connection with the Auto-Wheel invention, many interesting and weird discoveries were revealed, which condensed might have some bearing upon the idea of the motor assisted bicycle.

A prescience that a live wheel weighing not more than 10 lbs. possessed sufficient power to propel a cyclist and his machine led me to the happy selection of means whereby to govern this wheel without interfering with any of the essential features of the bicycle. This point would appear to have hitherto proved the insurmountable stumbling block to the practical use of such a contrivance. It is the knowledge of this valuable and unassailable difference between these ideas which prompted my Board to take out no fewer than twenty-one patents in connection with same. Attempts to circumvent will probably be numerous, but "the only way" will predominate.

ARTHUR W. WALL.

[4436.]—I notice in the last issue of your valuable journal, which I have taken since its inception, an illustration of an auxiliary motor wheel for push-cycles, and recollect noticing the same at the Stanley Show of 1905. To my lay mind, it does not appear clear how the motor wheel illustrated accommodates itself to the various inclinations which a bicycle assumes *en route*. Does it not rather convert the velocipede into the equivalent of a rigid sidecar with the sidecar wheel functioning as a driver, and so destroy that valuable feature

which characterises the single-tracker, viz., that of inclination and ability to take corners at speed?

From what I could see of the Wall Auto-Wheel, the inclination and steering would be quite unaffected by its presence, while the prior wheel would surely drive or tend to drive the bicycle to which it is attached in a circular path, owing to the considerable distance between the contact points of the two rear wheels.

I am anxious to see how the later introduction works out in practice. Perhaps some fellow reader could enlighten me. Wishing your journal every success,

W. A. DAVIS.

Pressed Steel Frames.

[4437.]—We have read with interest your leaderette in last week's issue, in which you say you believe that the last Stanley Show was the first time a motor cycle was shown with a pressed steel frame. We take the liberty of correcting you in this. We are the patentees and holders of the construction of motor cycle frames of pressed steel, and have shown motor cycles with this frame at the last five Stanley Shows. We shall be obliged if you will give publicity to this letter to show that we were first to make a motor cycle frame from sheet metal.

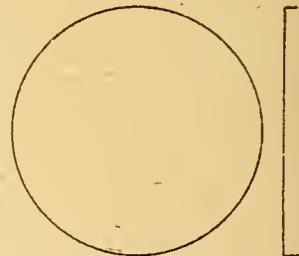
J. T. BROWN AND SONS.

A Grumble.

[4438.]—I have just received from Messrs. Bradbury and Co. that coveted silver medal which was so well earned in the 1909 six days' reliability trial. Its value appears to me to be about sixpence, and is totally inadequate as a reward for the hard work and severe strain experienced in the trials. If any disappointed motor cyclist would like to be the proud possessor of this medal he can obtain possession by applying to me at 102, Carrogate Bridge, Retford. I consider anyone who can go through these trials is entitled to wear at all events a medal of which he is not ashamed.

J. W. MORRIS.

[The diameter and thickness of the medal can be gauged by reference to the accompanying full-size sketch. Although the medal is small our correspondent should bear in mind that the value of the award is not always commensurate with the work entailed to secure it.—Ed.]



SUMMARY OF OTHER CORRESPONDENCE.

Mr. Harold Karlslake writes: "I notice an error in my letter regarding 'Wired-on v. Beaded-edge tyres.' 'Are easier to manipulate' should be under the heading 'Beaded-edge.'"

G. H. Carr writes that he has read with some interest letter No. 4405 in the issue of November 29th, by E. S. New, and differs from us and agrees with our correspondent. He says: "I could spin a yarn on oils, but to be as brief as possible, as your space must be valuable, my experience has led me to conclude that one oil can be procured to suit the whole year round," and concludes by pointing out that Kosmo Lubric oil, made by a firm of that name, of Mossley, near Manchester, has given him every satisfaction.

EXPERIENCES WANTED.

"OI 454" would like readers' experiences of the Albion disc clutch hub, made by Harris and Sons, Birmingham.

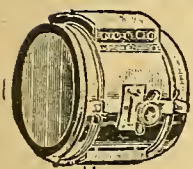
"C. S. D." (Wymondham) would like to have the actual experiences of an amateur rider of the 2½ h.p. two-speed F.N., particularly with regard to its behaviour on the slow speed.

"Magneto" would like readers' experiences with the 3 h.p. 1909 Lincoln Elk and sidecar, combined weight of passengers 17 stones. What speed can be obtained on the level, and is the frame strong enough for a light sidecar?

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

ACCESSORIES.



SERVICE HEADLIGHT.
Splendidly constructed, mirror reflector, divided front glass. Complete with generator, tubing, and clip.

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to fit any engine. Price

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Standard sizes in stock.

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"SERVICE" Special
always grips.

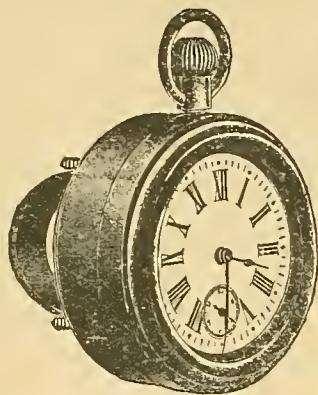
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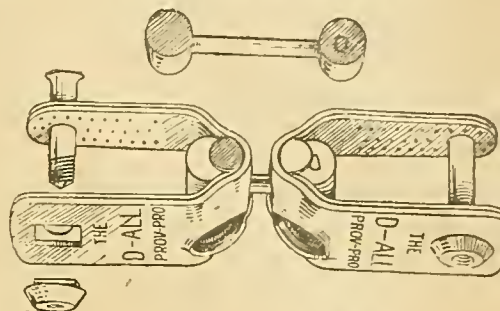
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24, 26, or 28 x 2 in. 18/6
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The rubber-studded "Dreadnought" Clincher, the finest tyre extant for heavy machines and sidecar work.

Clincher motor cycle tyres are made in four patterns, and demand your closest attention.

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THE

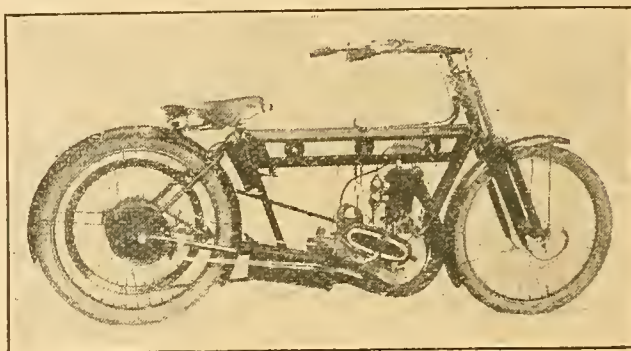
NORTH BRITISH RUBBER CO., Ltd.

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In answering these advertisements it is desirable to mention "The Motor Cycle."

This
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is years
ahead.

1910 ROC, 4 h.p. Best value of any machine on the market.

Not only is the ROC long, low, safe build, conspicuous, but the ROC Spring Fork *—the ROC Clutch and Two-speed Gear (all patented features), the Duplex Frame and Duplex Tanks, are points in favour of this sterling make. The ROC Military Models are made in two forms.

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* The "Roc" spring fork is provided with springs of the C type, supplemented by a special arrangement of pivotal and sliding connections which, while efficiently supporting the wheel, allow it to yield in a vertical or horizontal direction or any resultant, such as 45 degrees.

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GENTLEMEN.

You will know it by its **EXQUISITE** finish
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PROVINCIAL CLUBS AND THE A.C.U.

WHAT might be termed the active season is over for this year, and most clubs are beginning to think about "putting their house in order" and promulgating plans for next year, which promises to be a most successful one for the pastime, which is growing by leaps and bounds, the number of its devotees having increased during the last two years in a manner little short of marvellous.

Clubs are being formed almost every week, and many owe no allegiance to any association formed to look after motor cyclists' interests.

This is a great pity, as it would be better for the pastime if all motor cycle clubs would support one governing body. This reluctance to ally themselves under the one head, which undoubtedly at present is the Auto Cycle Union, can easily be understood when the committee of a provincial club has to consider the benefits conferred by affiliating and finds that very few advantages in reality are enjoyed by its association with the governing body.

Affiliation and its Benefits.

Many officials of affiliated clubs to whom I have spoken have been very emphatic on this matter, and state that great dissatisfaction exists among their members who are compelled to pay their affiliation fees and yet seem to derive practically no benefits.

This dissatisfaction is very general in the provinces, and the crux of the whole matter seems to be want of adequate representation on the Council. Clubs and private members in and around London apparently have matters all their own way.

The argument has been raised that this state of affairs is purely the fault of the clubs themselves, on account of their not sending representatives to the various meetings, which are nearly all held in London.

This argument is all very well as far as it goes, but it should be remembered that there are two sides to every question.

Take the case of a club in the North Midlands or Lancashire and Yorkshire districts, far removed from the Metropolis. Can it be expected that a representative will sacrifice perhaps as much as two whole days coupled with the expense and inconvenience of getting to London and back for a meeting of this kind? I should like to know what percentage of provincial clubs which are entitled to be represented at the A.C.U. meetings do actually send delegates. Very few, I fear.

Provincial clubs are asked to affiliate to the A.C.U. and by so doing materially to strengthen that body's hands. What do they get in return? Very little except what is imaginary, and yet it is only right that he who pays should call the tune.

Competitions which Start and Finish in London.

Nearly all the important competitions are held in London, or commence and finish in the Metropolitan area; and competitors from the provinces are severely handicapped in consequence, and in many cases absolutely debarred from competing on account of the time and expense incurred in getting backwards and forwards.

If something is not done very soon, I firmly believe we shall see a split in the ranks and a provincial motor cycle association formed, which, managed and worked on right lines, with one or two capable paid officials to look after the heavy work of the association, will

hold its meetings, together with the various competitions, in different districts in rotation, as do most of the great athletic associations.

No doubt an organisation managed on these lines would soon have all, or almost all, the provincial clubs rallying round, and consequently it would become by force of numbers the premier and most powerful motor cycle organisation in the country.

Is a Provincial Association Wanted?

I would urge the Auto Cycle Union seriously to consider this matter, as, if arrangements similar to what I have outlined were carried out, I am sure the new organisation would soon have a large number of clubs, together with those that have withdrawn from the A.C.U.

Although every clubman I have spoken to knows of this dissatisfaction, it is astonishing that one reads so very little about the matter. This should not be taken to mean that everything is well and everyone satisfied, because such is not the case.

If club officials all over the country could be induced to air their views and the views of their members in the pages of *The Motor Cycle*, it would soon emphasise the state of feeling that exists, and I am certain would bring about drastic alterations in the management of the Auto Cycle Union.

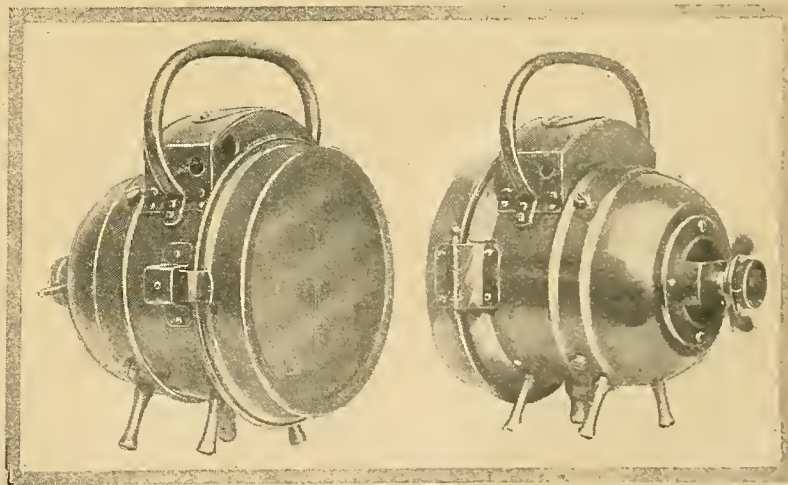
The winter or "suspense" season is the time to discuss these matters, and much work might be done in the interval, so that next season we shall see the Auto Cycle Union with its house in order, making it what it should be—the real governing body for motor cyclists.

HOWARD SMITH.

THE "FOUR INCH" POLKEY LAMP.

Readers will remember that some time back we referred to a motor cycle acetylene gas lamp made by George Polkey, Ltd., Hockley Lamp Works, Birmingham. The lamp then reviewed was a much larger and heavier one than the Four Inch, which is the subject of the annexed illustrations.

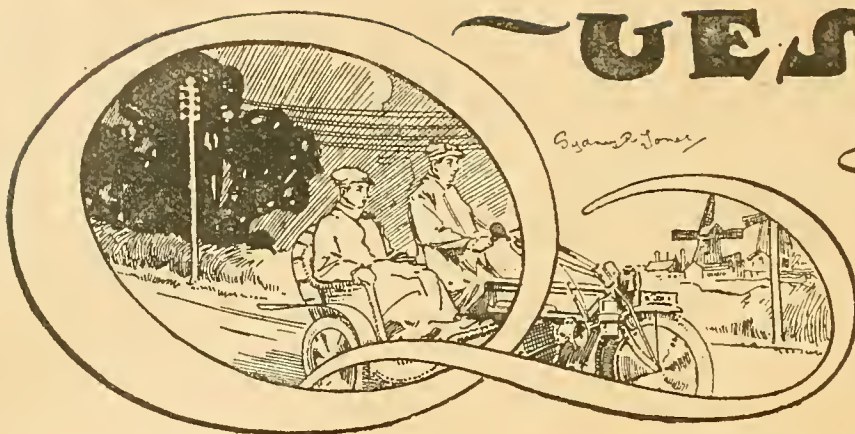
As its title implies, the new model, which is for use with a separate generator, has a four inch genuine



Mangin mirror lens, and instead of side ears to fit a forked bracket it has one ear at the back with thumb screw and winged locking nut by which it can be firmly attached to an ordinary lamp bracket. All Polkey lamps are splendidly made from sheet brass and firmly riveted together, and the Four Inch is no exception to the rule. The overall dimensions are 7in. high, 5¾in. wide, and 5½in. long, and the weight is 2 lbs. 3 ozs.

QUESTIONS

AND REPLIES



Control Wires touching the Magneto.

Q (a) I have just had a Mabon clutch fitted to my machine. The Bowden wire operating this was carried between the magnets of the magneto, and I found that when the wire came in contact with the terminal it shorted the ignition. I fixed the Bowden wire to the frame away from the terminal. This causes the wire to rub against the top of the magnets. Will this affect them and cause loss of magnetism? Firing is quite perfect at present. Would you advise insulating the control wire? (b) I find when cleaning the magnets that the dust forms quite a fringe-like appearance on the magnets. I take it this is caused by small particles of iron in the dust attracted by the magnets. Would you advise a rubber cover?—C. H.

(a) The wire can do no harm so long as it is only touching the magnets. To avoid chafing, it would be a good idea to wrap some insulating tape around the wire. (b) The magnets doubtless attract any fine particles of iron in the dust. Yes; a cover for the magneto would be an improvement.

Position of Plug and Ignition Items.

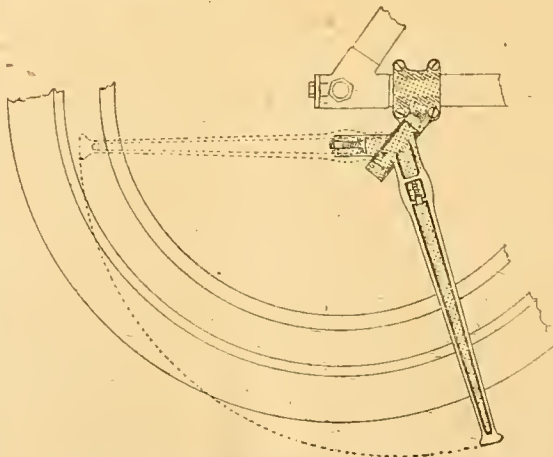
Q (a.) Which is the best position to place the sparking plug on a single-cylinder? Would it be better placed at the side edge or on the cylinder top? My opinion is that burnt gases always remain on the top part of the cylinder, as there is a space always there. (b.) Would an accumulator only of two volts instead of four work the engine if all the different parts are placed closer together, or what would be the result? (c.) Which is the correct position to adjust the plug points so as to get the quickest firing of the engine?—T. B.

(a.) The usual position for the sparking plug is over the inlet valve, where it is cooled by the incoming charge of fresh gas. The position over the centre of the piston is supposed to be the most efficient, but the plug is subjected to much greater heat, and is more likely to break. It is also less accessible than when placed in the valve caps. (b.) No, not unless the coil be specially wound to work with two volts. (c.) If you use a magneto, adjust the plug points as close together as possible without touching, say .5 millimetre. With accumulator ignition, a gap measuring between $\frac{1}{32}$ in. and $\frac{1}{16}$ in. is better.

A Partial Compression. Attention to Tyres in Winter.

Q (a) Kindly explain the probable reason for difficulty experienced in pushing my $3\frac{1}{2}$ h.p. bicycle and sidecar prior to the firing point being reached. The engine and piston appear clean and valves free in their guides. I have to expend a lot of energy on the starting run of a few yards. A friend of mine visited me with a $4\frac{1}{2}$ h.p. twin and sidecar, and I was astounded to find how easily I could handle it. (b) I have had an outhouse of corrugated iron roofing built at the end of the garden for my machine. The flooring is composed of $\frac{3}{4}$ in. boards on 3 in. joists. How can I protect my tyres from injury during the winter months? I do not want to take tyres indoors if it can be avoided. I shall during the coldest days put an oil stove in. Will this suffice to keep the tyres in good condition?—F. G. A.

(a) We should be inclined to think that the difficulty in pushing the machine along was due to the fact that the



The Bar Latch Stand made by the East London Rubber Co. The dotted lines indicate the position of stand when out of use.

exhaust valve lifter wire has stretched, and consequently does not lift the valve to its fullest extent. In this case you are pushing against a partial compression. Also try injecting paraffin before starting. (b) The best way to protect the tyres is to keep them in a dark place and one which is not heated. If the machine is only occasionally used, it would be as well to sling it off the ground, so that the weight is not resting on the tyres. Do not use an oil stove large enough to heat the place unduly, as rubber is best kept cool. It would almost be as well to sponge the tyres occasionally with a damp cloth.

Paraffin and Electric Headlights.

Q I have short distances to ride on my motor cycle every day, and desire something more handy than the acetylene lamp and generator. Paraffin being so common and reliable, would a paraffin lamp be of any use on my machine? It would be a great convenience if you can recommend it. If you can, please name the best make.—D.V.D.

You would only find a really good paraffin lamp suitable for your purpose provided the road along which you ride is lighted, and even then you would have to keep your speed well below the legal limit. We have tried a paraffin lamp and found that the vibration invariably caused the light to go out at speeds exceeding fifteen miles per hour, and as a matter of fact the illumination was not sufficiently powerful for one to exceed this speed with safety. Why not try an electric headlight, as you want one which can be readily switched on? With the latest pattern bulbs vibration, it is said, does not affect the filament, and with a powerful lens an electric head lamp gives an excellent light.

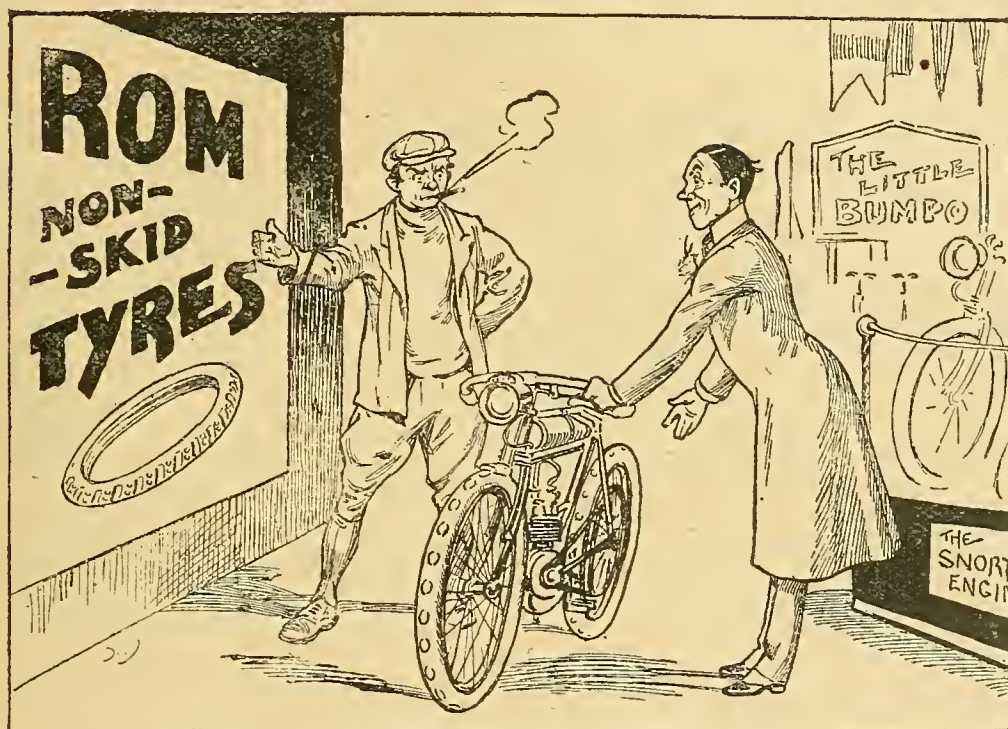
Carburettor Gauzes.

Q I notice you suggested some time ago the removal of the gauze from a Triumph carburettor, as it continually became choked with dust. In dry and dusty weather I suffer from the same trouble, but hesitated to remove the gauze, as I understood it was necessary to ensure the proper carburetting of the petrol and air, and also as a safeguard against a backfire into the carburettor, although the latter has never happened to me yet. Was I wrong in these conclusions?—C. R. W.

We think you may safely follow our former advice, and remove the gauze, if you are troubled with it becoming choked. There is very little danger of backfiring, and if a backfire did occur it is unlikely that a single layer of gauze would stop the flames reaching the petrol in the jet. We are under the impression that the gauze is partly fitted to the carburettor with the idea of breaking up the pillar of petrol issuing from the jet, and causing it to mingle more thoroughly with the air; and partly to intercept the dust drawn in at the main air inlet. There is not, however, a noticeable difference in the running of the engine when the gauze is removed.

3 MORE WORLD'S RECORDS BROKEN ON ROM

All



British

Salesman: "The tyres are our patent 'Never-Skids.'"

Practical Man: "I don't want any rum tyres, I want ROM tyres."

TYRES

By Mr. O. C. GODFREY on a "REX" MOTOR CYCLE, 24/11/09.

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MANCHESTER—Brown Bros., Ltd., Deansgate.
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PRESTON—Lancashire Motor Co., Ltd., County Garage (opposite Central Station).
BIRMINGHAM—Thos. Clayton & Son, Ltd., 125-6, New Street.

LEEDS—A. J. Greenwood & Co., 39, Guildford Street.
N.E. LONDON—Godfrey & Applebee, 165a, Hoe St., Walthamstow.
LINCOLN—W. J. Binks & Co., St. Benedict's Square.
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**YOU NEED NOT
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TWIN-RIBBED
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Exhaust Valve Pitting. Irregular Running.

? (1.) I am the owner of a 1909 $3\frac{1}{2}$ h.p. single-cylinder, and am troubled by the exhaust valve burning and pitting badly in short distances. The valve that was in the machine quite new was burnt so badly after doing 300 miles that I had to have it turned up, and the same fate befell the second valve which I put in. I am very careful in my driving, always using as much air as the machine will take. I have also tested the lift of the valve and the clearance between the tappet and stem. (2.) I am also dissatisfied with the working of the carburetter. For instance, when set for running at about eight miles an hour it will suddenly cause an acceleration of speed without any alteration in the position of the levers.—H.L.

(1.) Prolonged fast driving on a strong mixture causes pitting of the valves, also partial lifting and dropping of the exhaust valve lifter. Try controlling speed by the throttle more. All we can suggest to overcome your trouble with the valve is to try one made of a special metal. One or two of these are advertised in our miscellaneous columns. (2.) The reason for the behaviour of the carburetter is not absolutely clear. Probably there is some foreign substance in the tank or feed pipe which temporarily chokes the jet, and then sometimes frees itself. Note if the air funnel is a fixture or free to rattle about.

Engine Power for Hilly Districts.

? I have a $3\frac{1}{2}$ h.p. 1909 single-cylinder two-speed machine, which overheats and knocks badly after climbing a moderately steep gradient; exhaust pipe sometimes gets red hot. I have removed all carbon deposit from the piston and cylinder, but that does not seem to cure the evil. Compression is good, back wheel refuses to move when exhaust valve lever is released, machine will run either fast or slow, and the timing is all right. I have tried different sized jets, and always ride on level roads with as much air as the engine will take. The machine weighs, with petrol and spares, about 200 lbs. My own weight is 16 stones, and gears of the machine $5\frac{3}{4}$ - $11\frac{1}{2}$ to 1. The district in which I live is very hilly, and steep hills cannot be rushed. The low gear I find useful only for starting on hills as the engine will quickly overheat if I use it for a steep hill. I had the machine overhauled by the maker a short time ago. My own opinion is that the machine is not sufficiently powerful for my weight. Would a single-speed 6 or 8 h.p. low-geared twin be too powerful for slow traffic riding, gear of 1 in $4\frac{1}{2}$ or 5, with Watawata belt, as it is not speed I require, but power on hills?—D. S. F. (Devon).

The fact that the exhaust pipe gets red hot indicates that either the silencer is choked, or you are running on too rich a mixture. Try the machine after thoroughly cleaning out the silencer and enlarging the exhaust

release holes, and also try higher gear ratios. These alterations should enable your engine to run on the low gear for long distances without overheating. A good $3\frac{1}{2}$ h.p. two-speed machine should carry your weight of 16 stones satisfactorily if in proper order. Of course, as you live in a hilly district, an 8 h.p. twin would be extremely useful. Most of these machines are quite easy to control in traffic, but it is unlikely that a single-geared machine would climb steep hills with your weight on the saddle unless you rushed them, which is not always possible. On that account we should recommend you to have a two-speed gear, notwithstanding the high power.

The Cause of Increased Speed on Partially Raising the Exhaust Valve.

? How is it that when I lift the exhaust valve of my $2\frac{3}{4}$ h.p. machine slightly the engine runs quicker? Please suggest a remedy if this is a defect, or state what effect it has on the engine.—W.A.

The symptom you describe is an exceedingly common one. Various theories have been advanced as to the cause of the increase in speed of the engine, chief among which may be mentioned (1) the mixture being somewhat strong and air being drawn in through the valve, which is prevented from closing properly. (2.) The partial raising of the valve releases some of the compression. (3.) The pressure of the rider's fingers on the exhaust valve lifter does away with some of the negative work of the engine in overcoming the tension of the exhaust valve spring. Theory 1 is hardly feasible, as even when the mixture is adjusted as perfectly as possible an increase of speed is noticeable on partially raising the valve lifter. No. 2 is open to much question, as it is generally agreed that for the highest possible engine speeds a high ratio of compression is necessary. The last-mentioned theory seems to be the most likely one of the three. Readers' opinions would be most interesting on this point.

Taking a Motor Cycle to India.

? I am leaving for India in a fortnight, and wish to take with me my motor cycle. What precautions should be taken as to packing, and what duty is levied on arrival? Also what precautions are necessary for the storage of petrol in such a hot climate, and can petrol be obtained at most of the large towns? Would you let me know if there is any literature dealing with motor cycling in India?—H. B. Y.

The cost of cartage in London, within four miles of the Bank, packing in case, dock dues, shipping, and freight would be £2 0s. 6d. The machine should be carefully packed by experienced men. The work could be carried out by a firm such as Messrs. Davies, Turner, and Co., 52, Lime Street, E.C. If you give this firm the order, they attend to everything. The duty is 5% *ad valorem*. We do not know of any special precaution necessary for the

storage of petrol in India, except that it should be kept in as cool a place as possible. It is rather expensive—in fact, unnecessarily so, considering it is comparatively near the source of supply at Borneo—and it can be obtained in nearly all large towns. We know of no literature concerning motor cycling in India, but a large number of motor cycles are in use in that country, both by army officers and civilians. *The Motor Cycle* enjoys a comparatively large circulation in India, as it does in most out-of-the-way corners of the earth.

Fitting a Magneto Switch.

? I have a $3\frac{1}{2}$ h.p. standard motor cycle with magneto ignition. I want to fit on the handle-bar a switch to short-circuit the magneto (Beschi), and so stop engine firing when running down hills. I prefer to allow engine to induce gas in order to cool it more effectively with a fairly rich mixture. Can you tell me how and where to wire the switch, and whether it will in any way damage the working of the magneto?—T. OWEN.

The fitting of a switch is quite a simple matter. Attach the switch to the handle-bar and connect a low tension wire from its terminal to the steel screw immediately over the contact breaker of the magneto, and nearest to the oil well cover. When the switch is in the "off" position it connects the screw on magneto to the frame by means of the wire from the handle-bar. The current is thus earthed, so preventing any spark taking place at the plug. No harm can possibly ensue, as this is the proper method to "cut off" the current of the magneto.

The Secret of Slow Running.

? I have a 1904 pattern $3\frac{1}{2}$ h.p. Excelsior, and have recently had a surface carburetter removed and an Amac carburetter fitted. Previously the bicycle ran from about three miles to thirty miles per hour, now it will not do less than twelve miles per hour (and that only by nursing it), and with throttle half open it does about forty miles per hour on the level. Owing to ten miles limits in my district a minimum of twelve miles per hour is rather awkward. With throttle one quarter open the engine will take no extra air, and if the throttle be closed the least bit further the engine immediately stops firing, and this whether the spark be advanced or retarded. I have come to the conclusion that the reason must be either—(1) the spray from the jet choking the space between throttle valve and its seat when throttle is almost closed, or (2) main air inlet too large for slow running, resulting in too weak a mixture.—G. G.

We are not surprised that the fitting of a spray carburetter has so much improved the running of your machine. You are quite right in supposing that the main air inlet is too large to permit of slow running. You could either (1) stop up one hole, (2) fit a smaller adarter, or (3) a device to vary the opening of the main air inlet. This will enable you to admit a stronger mixture.

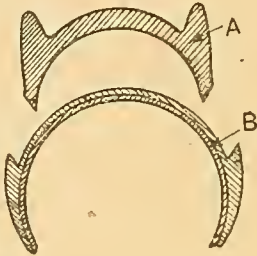
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PATENTS

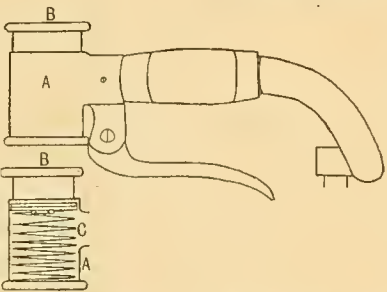
By ERIC W. WALFORD, F.C.I.P.A.

A Compressed Tyre Tread.

The tread A is moulded of slightly smaller curvature than the body B of the tyre, and its total width when flattened out may be slightly greater than that of the recess in the body. The result is that when in position the tread is subjected to compression, enhancing its wearing and puncture resisting qualities.—James Jelley, No. 14,651, 1908.



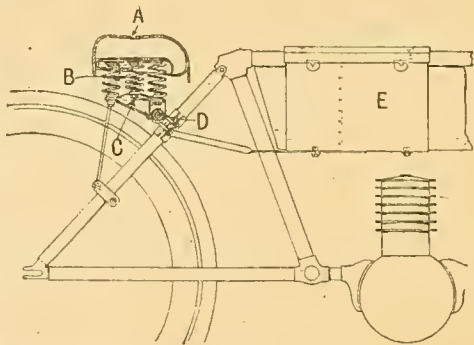
Spring Handle-bar Grips.



A spring support for the wrist is provided by arranging a cylinder A at the end of the handle-bar. Within the cylinder works a plunger B, normally held in a raised position by a spring C, but shocks are absorbed by the spring C, and do not reach the wrist of the rider.—A. H. Dunlop, No. 3,819, 1909.

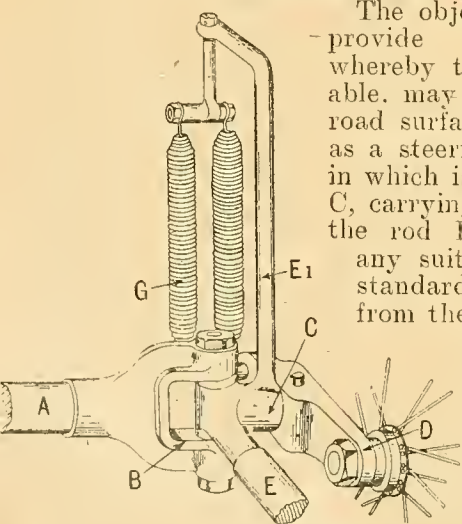
A Spring Seating Arrangement.

The seat A is supported by springs B carried by a platform C secured by a clip D to the frame. A panner E is secured on each side of the machine in the position shown, and the disposition of the seat and panniers is such that the latter may be gripped by the rider's knees, affording a secure hold.—F. Waigh, No. 9,305, 1909.



Sidecar Spring Suspension.

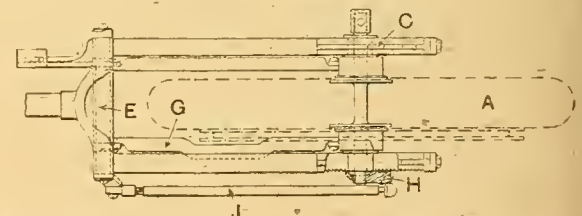
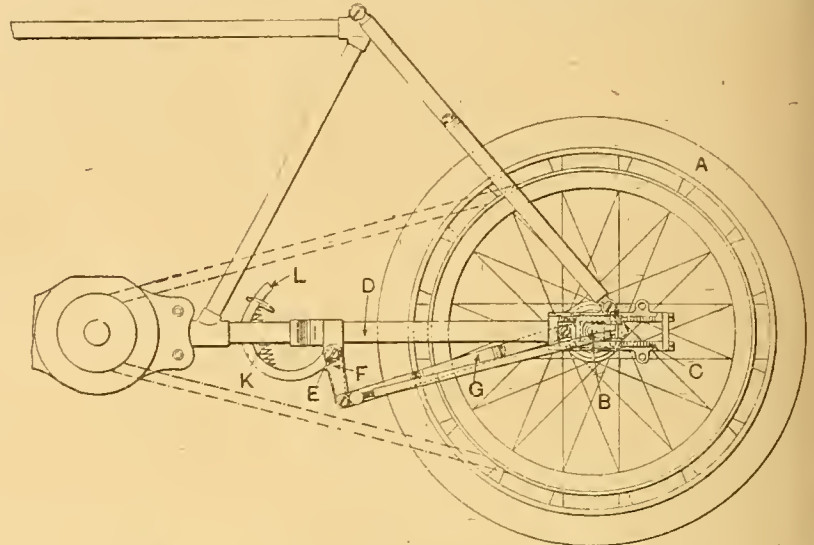
The object of the invention is to provide a simple construction whereby the wheel, which is steerable, may give to inequalities in the road surface. The rod A is formed as a steering knuckle B at its end, in which is pivoted the steering arm C, carrying the wheel spindle D and the rod E, which is connected to any suitable steering means. A standard E₁ projects upwardly from the arm C, and supports the upper end of tension springs G, the lower ends of which are secured to an extension of the arm C.—C. G. Hilton, No. 24,297, 1908.



A Belt Tensioning Device.

The tension of the belt is adjusted by moving the rear wheel nearer to or farther from the engine. For this purpose the rear wheel A is carried by blocks B, adapted to slide in specially formed fork ends C. Secured to the lower stays D is a bearing E, on which are pivoted levers F, adapted to operate rods G by which the movement is imparted to the rear wheel. To retain the wheel A in its adjusted position a spring latch H is employed, and this is adapted to be thrown out of action by a rod J, also carried

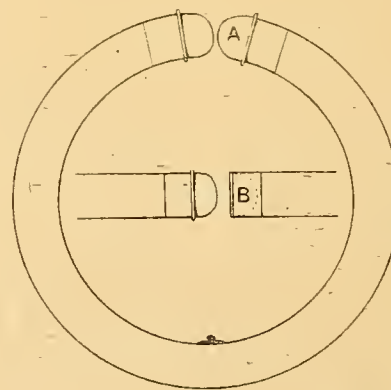
by the bearing E, and operable by the foot of the driver through a lever L, a spring K normally keeping the rod J out of action. When it is desired to vary the tension of the belt, the lever L is depressed, moving the rod J, and releasing the spring latch H. Further movement operates the rods G through the levers F, moving the rear wheel



backwards, and tightening the belt. If, however, the belt be too tight, the tension will draw the wheel forward in the fork ends until the correct adjustment is reached, when the latch H is again allowed to operate and retain the wheel in its adjusted position.—A. S., W. H., and M. A. Osborne, No. 23,801, 1908.

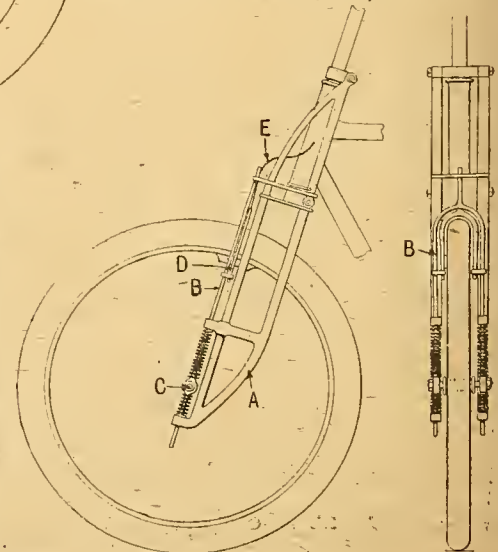
A Butt-ended Air Tube.

The tube is provided with butted ends A, as shown, which may be either integral with or formed separate from the tube. In placing the tube in position, one end is pressed to a concave formation, as shown at B, and the other end inserted therein.—J. N. Mollett, No. 27,695, 1908.



Spring Fork and Brake Mechanism.

A structure A forms a guide for a secondary fork B, which carries the wheel spindle C, and also the brake yoke D. In this way the brake yoke always moves with the wheel. The brake is operated by means of Bowden mechanism E.—A. Bar-ratt, No. 7,316, 1909.



MOTOR BICYCLES FOR SALE.

p. Whitley, Chater-Lea frame, adjustable pulley, footboards, in good running order.—Jas. Nuttall, d. Farnworth, near Bolton.

p. Rover; £10; long handles, accumulators, low position, all accessories.—Powell, 27, Amos St., Lane, Harpurhey, Manchester.

MPH. 1908. winner Sheffield Hill-climb, 1909. pares, £26; also Triumph, 1909. £35; both abso- perfect.—92, Matilda St., Sheffield.

p. Rex, magneto, good running order, handle-bar control, spring forks, good tyres, and new belt; s.—Hodgson, Market Place, Knaresborough.

ERVA, 3½h.p., Chater-Lea frame, long bars, spring forks, stand, lamps, etc., fast, and good r; £10 10s.—W., 16, Victoria St., Manchester.

9 T.T. Triumph, new August, cost £36; also Mont- gomery spring wheel sidecar, £7 10s., new same also Mabon clutch, £2.—Dobson, Bury Bridge.

ERVA, 1907, 3½h.p., little used, new studded tyre back, spare cover, three accumulators, Brooks large gas lamp, etc.; £14.—Dobson, Church St., m.

8 Triumph, 1909 engine, magneto, and forks, 4,000 miles, horn, footboards, spares, Palmer back, spare cover, and toolbag; £38.—Gregson, Hesketh Rd., port.

9 Wolf, 1½h.p., magneto, V belt, spring forks, spares, accessories, almost new condition; £17 or exchange for higher power.—C.W., 15, Percy verpool.

p. F.N., handle-bar control, special inlet pipe, footboards, and many refinements, engine, gears, agneto recently overhauled, and as new, runs per- no misfiring or rattling, tyres recently new, many; £25.—3,705, The Motor Cycle Offices, Coventry.

2 Rex, 3½h.p., long handle-bars, low seat, spring forks, surface carburetter, new tyre, Dunlop on horn, will climb anything, £9; also one Triumph, J.A.P., low, long handle-bars, spray carburetter, order, to be sold, £8 10s.—James Baron, 377, Black- Rd., Accrington.

VERVA and Rex.—We carry the largest stock of spare parts in the provinces for these machines, deliver new machines from stock at low prices; exchange, or gradual payments; charged accumu- to hire, 1s. per week.—Cookson Bros., 511, er Rd., Old Trafford.

SECTION III.

arvon, Denbigh, Flint, Cheshire, Derby, afford, Shropshire, Montgomery, and erioneth.

p. Triumph, £25; 5-6h.p. F.N., £25, 1908; no offers; perfect machines.—Percy Maltby, Ilkeston.

p. 4-cyl. F.N., just been overhauled, footboards, nearly new tyres; bargain, £26.—Henshaw, wheel- t, Stockport.

p. Minerva, just overhauled by makers, Palmer tyres; £15.—Stockport Garage, 37, Wellington t, Stockport.

UMPH, 3½h.p.; handle-bar control, adjustable pul- ley, new cylinder and piston just fitted; £25.— r, Melbourne, Derby.

9 Triumph, new August, splendid condition, with headlight, separate generator, horn, reflex; £39 Churchill, Spondon, Derby.

p. Werner, splendid machine, just overhauled at cost of £5, finished French grey; £10; exchanges.— Waterloo St., Burton-on-Trent.

X 1908 Lightweight, Bosch magneto, 1909 im- provements, perfect condition; bargain; what ?—Jefferson, Normanby Terrace, Whitby.

p. Twin Peugeot, Roc, H.B. control, 26 by 2½ tyres, handle starting, Roc clutch, variable pulley, spares, lass condition; £24.—Cowap, Hartford, Cheshire.

p. Rex de Luxe, first-class condition, handle-bar control, domed top pistons, special valves; £22, or write fuller particulars.—N. Colley, Hillingdon, n.

OTO-REVE, 2h.p., twin, 1909 model, Drnid spring forks, magneto, adjustable pulley; cost over £40 st, take £25, or exchange 5h.p. twin, or 1908 aph.—V. Jobson, 68, Radbourne St., Derby.

p. Twin Rex, new tyres, pistons, accumulators, re- enamelled and plated, perfect, like new, £18; also lightweight, splendid order, £6; exchanges con- d.—Booth, Rishaw, Winsford.

10 Phelon and Moore, delivery from makers Janu- ary 1st, 1910, all black, and gears to order; £55 including new 1909 Lucas lamp and bracket; at for sidecar; will be unable to use.—Benham, Holy- Terrace, Shrewsbury.

SECTION IV.

tingham, Lincoln, Leicester, Rutland, outhamptonshire and Warwickshire.

9 Triumph, perfect condition, only been used 500 miles; what offers?—Plastow, Grimsby.

08 Triumph, 1909 piston and cylinder, good condi- tion, lots of spares; what offers? — Plastow, sby.

1910 HUMBERS.

Gentlemen,—We have contracted for a large supply of these high-class two-speed machines, can give early delivery and "lick creation" with our exchange quotations, we make a surprising allowance for your present machine, and specially want

1909 HUMBERS, REXES, DOUGLAS'S.

Remember, we pay carriage on new machines. Foreign customers liberally treated; machines, both new and second-hand, sent carriage paid to nearest port.

30s. in the £ value offered.

Secure by fair or other means our December Bargain List. Machines to suit all pockets and appetites, short or tall men. Free by post.

BIGGEST AND BEST STOCK.

3½ h.p. BAT magneto, spring frame, two speeds..	£24 10
6 h.p. TWIN J.A.P., magneto, spring forks ..	£22 10
2 h.p. MOTO-REVE, magneto, 1909	£30 10
2 h.p. MOTO-REVE, magneto, 1908	£24 10
3½ h.p. TRIUMPH, 1909, nearly new	£35 0
3½ h.p. TRIUMPH, 1908, good order	£30 0
3½ h.p. HUMBER, 1909, two speeds, non-skids ..	£37 10
3½ h.p. MINERVA, magneto, 2½ tyres	£18 15
3 h.p. TWIN FAIRY, light and handy	£12 12
6 h.p. J.A.P., Chater Lea frame, spring forks...	£18 10
3 h.p. TRIUMPH, magneto, spring forks, 1906..	£18 10
4 h.p. ANTOINE, 26in. wheels, M.O.V., smart..	£11 10
2½ h.p. LLOYDS, vertical engine, 26in. wheels ..	£8 15
2½ h.p. CLEMENT GARRARD, 26in. wheels, low built	£8 15
3½ h.p. 1909 HUMBER, two speeds	£37 10
3½ h.p. REX, 1908½, ball bearing, h.b. control ..	£29 10
3½ h.p. TRIUMPH, new	£45 0
3½ h.p. N.S.U., magneto, 2½in. tyres, long bars ..	£22 10
3 h.p. N.S.U., magneto, 1908, smart	£17 10
3 h.p. REX, 1908, magneto, h.b. control	£17 10
3½ h.p. REX, 1909, nearly new	£32 0
5½ h.p. REX DE LUXE, Roc clutch, magneto ..	£25 10
4½ h.p. TWIN MINERVA, magneto, spring forks ..	£22 10
5 h.p. TWIN ROC, handle starting, magneto ..	£22 10
5 h.p. TWIN REX, spring forks, low built	£16 10
3½ h.p. REX, spring forks, trembler coil	£10 10
3½ h.p. REX, 26in. wheels, M.O.V., h.b. control..	£8 15

TRICARS AND CARS.

6 h.p. REX LITETTE, 1908, two cylinders, mag- neto, water-cooled, two speeds; cost £79....	£35 10
4 h.p. STEVENS, fan-cooled, belt drive	£12 12
6 h.p. FAENIR, open frame, two-speeds, two cylinders	£29 10
12 h.p. LEADER, two-seater car, four cylinders..	£55 10

Cash buyers receive special quotations.

Do you know we have put down a special plant equipped with all the latest machinery to manufacture high-class

SIDECARS at £4 17 6

Your best girl will never forget you after riding in one of these luxuriously sprung sidecars. Descriptive circular upon request.

REDUCTION IN TYRES.

We have unearthed a splendid consignment of brand new clearance DUNLOP Tyres, and offer them as below—

26 x 2	17 6	28 x 2	17 6
26 x 2½	18 -	28 x 2½	18 -
26 x 2½	18 6	28 x 2½	18 6
24 x 2	15 -	24 x 2½	15 6
28 x 2 or 2½, wired edges, 12 6.			

1910 BROWN & BARLOW CARBURETTERS.

Let us quote you for converting your machine to handle- bar control: prices reasonable. We keep a large stock, but don't keep you waiting for delivery.

500 PUSH CYCLES WANTED.

We wish to increase the ranks of "motor cyclists" from the boys of the "cycling brigade," and for about £3 and their "jigger" supply a motor cycle capable of taking them up hill and down dale in comfort and ease and minus that "tired feeling," the outcome of pedalling a push cycle up hills to be found in Yorkshire and Chiven- edge. By the way, we want a WHITE HAT for our office boy; can anyone oblige? In conclusion, don't forget to send for 1st, and remember, we have £1,000 to spend on good magneto motor cycles; what can you offer us?

BOOTH'S MOTORIES.

CHARLES STREET, off Square Road,

Phone 1062. HALIFAX. 2 minutes walk from Station.

MOTOR BICYCLES FOR SALE.

1908 Triumph, exceptional condition; any trial or examination; £32.—Laxton, Arden Villa, Berks- well.

1909 Twin Rex Motor Cycle, bought new July, studded tyres, everything as new; accept £30, complete.— 358, Stratford Rd., Birmingham.

3 h.p. Quadrant, surface, two accumulators, footboards, splendid running order; £10; exchange hammerless gun.—3,707, The Motor Cycle Offices, Coventry.

QUADRANT, 2h.p., single, Clincher tyres, fine little runabout, good condition; price £8.—Louis B. Davis, 3, New St., Birmingham.

5 h.p. Rex de Luxe, complete, all accessories; owner giving up; further details on application; £30.— Pattison, 19, Beaufort Rd., Edgbaston.

ARIEL, Ariel, Ariel.—To clear, a few 1909 2½h.p. lightweights, magneto, handle-bar control; end of season bargains.—Ariel Wks., Bonrnbrook, Birmingham.

BEST Cash Offer.—2½h.p. Minerva, French grey enamel, tyres and everything like new; value £14.—C.C.R. Motors, Ford St., St. Ann's Well Rd., Nottingham.

REX Twin, 1907, spring forks, Clincher tyres, very fast, splendid hill-climber; £16.—Louis B. Davis, 3, New St., Birmingham.

MINERVA, 3h.p., single, Clincher tyres, splendid con- dition, fast, good hill-climber; £11 10s.—Louis B. Davis, 3, New St., Birmingham.

3½h.p. Peugeot, magneto, spring forks, B. and B. H. control, Albion adjustable pulley, low, complete, splendid order; £18.—136, Church St., Lézells, Bir- mingham.

2½h.p. Zedel, magneto, B.B. handle-bar control, Dun- lops, very low, long bars, torpedo tanks, enamelled French grey, plated footrests, as new; £18 10s., lowest.—Below.

5 h.p. Twin Rex de Luxe, magneto, two speeds, H.B. control, castor wheel sidecar, fitted with Cape hood, screen, absolutely as new; best offer over £40; any trial.—27, Park St., Leamington.

3½h.p. Minerva, in perfect condition, little used, fast and powerful, footboards, also pedalling gear, lamp horn, new Stanley belt, full kit tools; £24; any trial.—Brown, Langwith, Notts.

3½h.p. 1909 Two-speed Free Engine Humber, special engine, complete with usual spares, lamp, horn etc., in excellent condition; £33, or near offer for quick sale.—C. Fenton, Kowloon, St. Patrick's Rd., Cov- entry.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

2½h.p. Minerva Motor Cycle, good condition, £10 also Roc conversion set, will fit Triumph, fault less condition, £5.—Turner, 20, Prince's St., Norwich.

DOUGLAS, 2½h.p., twin, new, not yet delivered, un- able complete; accept £35.—Neale, 2, Row 87, Gt. Yarmouth.

LIGHTWEIGHT Clement, good goer, complete, les- accumulator; £4 10s.; cash wanted.—130, London Rd., King's Lynn.

£9 10s., or offers.—2½h.p. Minerva, spring forks, ex- ceptionally low frame, polished copper tanks, B. and B., Fuller's accumulator, good condition, enamelled grey trial.—38, Sussex Rd., Lowestoft.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Breck- nock, Monmouth, Glamorgan, Carmarthen Cardigan, and Pembroke.

TRIUMPH, 1909, brand new, just delivered, 3½h.p. Clincher studded non-skid tyres; £42.—Leach, Leo- minster.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

TRIUMPH, 1908, splendid condition; £35.—Weston Mount Stuart, Boscombe Spa Rd., Bournemouth.

2½h.p. Kerry, good machine, new tyres, Brooks, Nil 24 melior; £8 10s., or nearest.—Ward, Amport, Hants

1907 Triumph, Shamrock studded, and Michelin tyres, good condition; £23 10s.; bargain.—Hunt, S. Ascot.

HUMBER, 1909, 3½h.p., two-speed, new in September with 1910 improvements; £38 10.—Buckridge optician, Calne, Wilts.

1907 Triumph, magneto, fully equipped, new condi- tion; £22 cash, no exchange.—Glasier, 5, Clarence Rd., Southsea.

2½h.p. Moto-Reve, brand new, never been ridden; own- bought car; complete with tools, lamp, and horn £36.—Lieutenant Coke, H.M.S. Mercury, Portsmouth.

FOR Sale, brand new Moto-Reve, £39 model, bought a Show, machine not unpacked; owner ordered abra- at once; nearest £30 secures.—Box No. L748, The Moto Cycle Offices, 20, Tudor St., E.C.

PREMIER, twin-cyl., 3½h.p., not run 250 miles, ma- chine without a scratch, and the smallest par- guaranteed perfect, horn, headlight, and generator; what cash offers?—Write full particulars, Joubert, 31, Vic- toria Rd., Swindon.

MOTOR BICYCLES FOR SALE.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

ARIEL, 3h.p., low built, good condition; £12.—S., 49, Brooke Rd., Stoke Newington.

KERRY, 2½h.p., 26in. wheels, fine little machine; £9 10s.—128 High Rd., Tottenham.

MINERVA, 3½h.p., free engine, sidecar, perfect; £15 10s.—128 High Rd., Tottenham.

TRIUMPH, 1910, brand new; £48 15s.; big allowance on old machine.—128 High Rd., Tottenham.

6 h.p. Twin Antoine, grand sidecar machine; £18, or exchange.—Cross, 180, Liverpool Rd., Islington.

1908 Triumph, Palmer tyres, fine condition; £27, bargain.—33, Killyon Rd., Clapham, S.W.

BARGAIN.—2½h.p. Werner, low, good goer; seen after 5 p.m.; £6 10s.—6, Herndon Rd., East Hill.

STANTON'S Great Clearance Sale to make room for 1910 Bradburys; call, write, or wire.—Below.

STANTON (£6).—3h.p. Quadrant, spring forks, perfect running order; also (£6) 2½h.p. light Scout, Chatter-Lea.

STANTON.—1908 Minerva, 3½h.p., magneto, spring forks adjustable pulley, studded tyres, not done 300 miles, almost as new; £21 to clear.—Below.

STANTON.—1908 N.S.U., 3h.p., magneto, splendid condition, powerful, thoroughly reliable; £17 to clear; room wanted.—Below.

STANTON.—4-Cyl. F.N., 4½h.p., and nearly new sidecar, powerful, reliable combination; £32, absolute sacrifice.—Below.

STANTON.—Shop-soiled 1909 Moto-Reve, otherwise absolutely brand new; £31, exceptional bargain; don't miss.—Below.

STANTON.—Roe and Sidecar, 6h.p. twin J.A.P. engine, magneto, two speeds handle starting, thoroughly overhauled; £30 for quick sale; smart, reliable combination.—Below.

STANTON for 1910 Bradburys; call, see, and try one.—619, Lea Bridge Rd., Leyton, London.

3½h.p. Minervas, like new, one with magneto, one 2 without; £18 and £16; real bargains.—Bunting, Wealdstone.

TRIUMPH, 1906, magneto, spare tube, good working order; £16 10s.—Evans, 33, Springdale Rd., Stoke Newington.

1909 Triumph, complete, horn, lamp, and spares; nearest cash offer £40.—Spring, Latchmere Rd., Kingston, Surrey.

WHITTLE'S.—1909 F.N. lightweight, magneto, spring forks, absolutely as new, perfect, and unscratched; sacrifice 20 guineas.

WHITTLE'S.—Bat, 3½h.p., spring frame, genuine M.M.C. engine, De Dion carburettor, nearly new, unscratched; great sacrifice, £16 16s.

WHITTLE'S.—N.S.U., 5-6h.p., twin, latest type, magneto, suitable for sidecar, very powerful, like new; £26, offers.

WHITTLE'S.—Kerry, 2½h.p., Model de Luxe, perfect order; £8 15s.—Whittle's Motor Exchange, Earlsfield, Phone, 711, Post, Wimbledon.

3h.p. Quadrant, good condition, surface carburettor; seen by appointment.—F., 12a, Fisher St., Southampton Row.

1908 Triumph, new October, in good condition; £33; owner going abroad.—Master, Meeanee Barrack, Colchester.

CASH Offers wanted for 3½h.p. Brown, magneto, 26 by 2½ Palmer cord tyres.—Box L707, The Motor Cycle Offices, 20, Tudor St., E.C.

3½h.p. Motor Cycle, Longuemare, Palmer tyres, good condition, powerful; sacrifice £10 10s.—G., 37 Pretoria Av., Walthamstow.

50.—Humber Motor Cycle, free engine, two-speed, nearly new; reasonable offer wanted.—Horry, 5 Commerce Rd., Wood Green.

3½h.p. Minerva, new accumulator, Clinchers (unscratched), engine perfect; any trial.—Dover House, Clifton Hill, Brighton.

£6 10s.—Minerva pattern, engine as new, Palmer, ridden 100 miles; bargain.—134, Highgate Rd., Kentish Town.

F.N. Lightweight, magneto, spring forks, new May, 1909, ideal winter mount; £25.—W.G.S., 627, Barking Rd., Plaistow, E.

1909 5h.p. Special Twin Rex, enamelled grey, condition perfect, with spares and accessories; bargain, £30.—16, Haverstock Hill.

TRIUMPH, 3h.p., magneto, in splendid order, lamp, horn, carrier; bargain, £16 10s., or exchange.—Batchelor, Clarence St., Kingston.

HUMBER, 1910, 3½h.p., two speeds, H.T. magneto, brand new; £50; liberal allowance on old machine.—128, High Rd., Tottenham.

3½h.p. N.S.U., all complete, fast, and powerful, Palmer tyres, headlight, two accumulators, perfect order; £12.—Jenny, Leighton Holme, Frimley Green, Surrey.

A38.

No. 1840. 5½ h.p. PHANOMEN Motor Cycle, fitted with twin Zedel engine, magneto, Nala two-speed gear, spring forks; guaranteed. Price.. £45 0

No. 1917. 3½ h.p. 1909 TRIUMPH, Palmer Cord tyres, condition like new; guaranteed. Lowest price .. £35 0

No. 1625. 3 h.p. BRADBURY, low frame, magneto ignition, horn, carrier, stand, etc.; guaranteed .. £16 10

Two 1½ h.p. MOTOSACOCHEs, low frame models, magneto ignition, late 1909 machines, condition as new; guaranteed .. each £23 10

Three 1½ h.p. Lightweight F.N., complete with magneto and spring forks; up to date; all guaranteed .. from £15 0

Eight 1909 3½ h.p. Standard REX Tourist models, brand new, complete with stand, carrier, tools, no plates; ready for the road; usual price £42. To clear .. each £35 0

No. 1887. 3½ h.p. QUADRANT, magneto, spring forks, Birmingham make, smart, and good sound roadster; guaranteed .. £17 10

2½ h.p. 1909 DOUGLAS, new last May, in excellent condition; guaranteed. Lowest price .. £25 0

Six 1½ h.p. MOTOSACOCHE Lightweight Motor Cycle; all guaranteed .. from £12 10

Two 3½ h.p. HUMBERS, two speeds, 1909 models, magnetos, and spring forks .. from, each £28 10

No. 1807. 5 h.p. REX DE LUXE, 1908 model, two-speed gear and free engine, magneto, black finish, Cantilever seat, carrier, stand, spring forks; guaranteed .. £23 10

9 h.p. BAT and Sidecar, magneto ignition in tank, spring back and front, J.A.P. engine and metal clutch, Whittle belt, etc.; guaranteed. The whole combination .. £35 0

No. 1898. 3½ h.p. 1908 TRIUMPH, condition better than new, guaranteed at Wauchope's .. £32 0

No. 1894 & 1895. 9 h.p. BAT, and sidecar. Offers .. £35 0

No. 1896. 9 h.p. RILEY Tri-car, nice condition, side doors, three speeds & reverse, guaranteed .. 19 Gns.

No. 1881. 3½ h.p. QUADRANT, magneto, low frame, splendid machine, guaranteed .. 10 Gns.

No. 1853. 4½ h.p. HUMBER Tricar, water-cooled coach-built front seat, first cash .. £15 15

No. 1874. 1½ h.p. MOTOSACOCHE, 1907 model, in nice condition; guaranteed .. 21 Gns.

No. 1873. 2 h.p. 1908 MOTO-REVE, grey finish, smart machine; guaranteed .. £32 10

No. 1867. 3½ h.p. ARNO, two-speed gear and free-engine clutch, up-to-date machine, in new condition; guaranteed .. £12 10

No. 1861. 3½ h.p. BAT, sound machine, fit for the road; guaranteed .. £35 0

No. 1860. 3½ h.p. T.T. TRIUMPH, 1909 model, splendid machine and perfect as new; guaranteed .. 15 Gns.

No. 1855. 1½ h.p. MOTOSACOCHE, perfect order, ready for the road; guaranteed .. 19 Gns.

No. 1847. 2 h.p. 1908 MOTO-REVE, twin-cylinder engine, spring forks, magneto ignition, splendid condition, direct V belt drive; guaranteed .. Offers.

No. 1845. 3½ h.p. brand new PHELOX & MOORE, 1909 model, two-speed gear and free engine. £16 10

No. 1842. 3 h.p. TRIUMPH, spring forks, 1906 model, nice condition throughout; guaranteed .. £13 10

No. 1837. 3½ h.p. 1907 MINERVA, smart machine; guaranteed .. £12 10

No. 1836. 2½ h.p. MINERVA, 1907 machine, nice condition; guaranteed .. £23 10

No. 1835. 1½ h.p. MOTOSACOCHE, magneto ignition, 1909 model, spring forks, as new; guaranteed .. £35 0

No. 1834. 3½ h.p. TRIUMPH, 1909 model, magnificent machine; guaranteed .. £25 0

No. 1829. 3 h.p. SCOTT-JOWETT Two-stroke Motor Cycle .. £35 0

No. 1828. 3½ h.p. 1909 TRIUMPH, all accessories, magnificent machine; guaranteed .. £4 4

No. 1826. Sidecar, rigid type, second-hand .. 20 Gns.

No. 1814. 3½ h.p. MATCHLESS, magneto in tank, Druid spring forks, nice machine; guaranteed .. 9 Gns.

No. 1813. 3½ h.p. FAFNIR, nice condition, accumulator ignition, sound machine; guaranteed .. 17 Gns.

No. 1810. 3½ h.p. PEUGEOT in No. 6 Chatter-Lea frame, low frame, torpedo copper tank, good, sound machine; guaranteed .. £17 0

No. 1801. 2½ h.p. 1908 Featherweight REX, nice condition, magneto ignition; guaranteed .. £25 0

No. 1764. 5-6 h.p. Four-cylinder F.N., 1908 model, good, sound condition; guaranteed. Price ..

Second-hand and New Bargains quoted in this column are offered for sale by WAUCHOPE'S. Dozens of bargains besides those quoted can be inspected on the premises at 9, SHOE LANE. Inspection is cordially invited.

WAUCHOPE'S

9, Shoe Lane, Fleet Street

(off Ludgate Circus),

LONDON, E.C

Telephone, 5777 Holborn. Telegrams, "Opificer, London"

MOTOR BICYCLES FOR SALE

£7.—3½h.p. Standard, fast, powerful, vertical spray, long bars, Rawlids belt, Dunlops bargain.—45, Charles St., Stepney.

1909 Triumph, ridden 500 miles, 14 guinea gomery sidecar, used once; bargain, £40.—feur, 3, Elm Mews, Bayswater Rd., W.

F.N., 4-cyl., 4½h.p., autumn, 1908, R.O.M. tyre, did condition, do 50 easily; £26, quick sale, bell, 4, Champion Park, Denmark Hill, S.E.

MOTO-REVE, brand new, 1909 model, 32 in. am open to take yours in part; new Triumph Reves; early delivery.—Bunting, Wealdstone.

If You Want Bargains in second-hand motor cycles can get them at Wauchope's, 9, Shoe Lane St., London, E.C., just off Ludgate Circus.

TRIUMPH Motor Cycle, 3½h.p., delivered from in August last; usual price £48; slightly £40.—C. W. Wood, Haywards Heath, Sussex.

TRIUMPH, 3½h.p., June, 1909, splendid condition, Lucas lamp and horn, all accessories, cost £52 10s., sell £35.—82, Lee Rd., Blackheath.

3½h.p. Triumph, guaranteed perfect condition, 32 in. new, tyres excellent, spares, tools; £32, Surridge, 69, Loughborough Park, Brixton, London.

1909 Triumph Motor Cycle, 3½h.p., faultless, cash, wanted immediately; cost £48; accept cash offer.—3,702, The Motor Cycle Offices, Croydon.

3½h.p. Kerry de Luxe, H.B. control carburettor, low and powerful, in new condition; great gain, £11 10s.—47, Highbridge St., Waltham.

3½h.p. Quadrant, Nala, two-speed, new 2½ in. back, Palmer front, excellent passenger machine, £18 10s., or offer.—N. Lambert, 14, Tite St., Ch.

4-CYL. F.N., 4½h.p., magneto, spring forks, thoroughly overhauled, most reliable, sacrifice £20.—17, Kennure Rd., Mare St., E. London.

BARGAIN.—1907 model Minerva, 2½h.p., long handle-bars, low, good hill-climber, graduation, accessories; sacrifice £9 10s.—Carter, 65, St., London, S.W.

HAMPSTEAD for great bargains, new and hand, gradual payments taken on any exchanges.—Only address, 5, Heath St., Har.

HAMPSTEAD (£15).—F.N., 1½h.p., lightweight spring forks; and magneto, cost £35 last.

HAMPSTEAD.—Humber, 1909, two-speed, new, Druid spring forks, all accessories and great bargain, £32.

HAMPSTEAD.—2½h.p. Douglas, magneto, and forks, splendid condition; £28, with accessories, 3½h.p. N.S.U., £13.

HAMPSTEAD.—Minerva, 2h.p., good order, £4 Humber, 2h.p., £4 10s.; Humber, 2½h.p., condition, £5 10s. Tel.: 2678, P.O.

HAMPSTEAD (£12).—Riley, 3½h.p., M.O.V. accessories, splendid condition; Humber, £4 bargain.

HAMPSTEAD (£23).—4-cyl. F.N., 4½h.p., model, magneto, spring forks, with all accessories.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½h.p., condition, with all accessories, late model.

HAMPSTEAD (£27).—F.N., new condition 1908 model, 4½h.p., magneto, spring forks, accessories.

HAMPSTEAD.—1910 new Triumphs in stock, Reves and F.N.'s at special reduction, models.

HAMPSTEAD.—Sole London and district agent, Lincoln Elks, all models in stock; special trade.

HAMPSTEAD (£12).—Singer, 3h.p., magneto, non-skid on back, in splendid order, with series.

HAMPSTEAD (£17).—F.N., 1½h.p. Lightweight magneto and spring forks, with all new accessories, bargain.

HAMPSTEAD (£26).—Genuine 1908 V.S., model, 5h.p., magneto, and spring forks, all series.

HAMPSTEAD.—Are now showing all the leading machines; exchanges entertained; delivery stock, no waiting.

HAMPSTEAD (£12).—Lincoln Elk, 3h.p., model, new condition, with accessories, gains, guaranteed.

HAMPSTEAD.—Triumphs, 1910, in stock; Douglas, Moto-Reves, F.N.'s, no waiting; payments taken, five per cent. extra.

HAMPSTEAD.—Triumph, 1907, new tyres, condition, £27; Rex, 1909, new condition Douglas, 1909, £27.

HAMPSTEAD (£4 10s.).—2½h.p. Minerva, frame, special bargain, guaranteed. Tel. P.O. 5, Heath St.

TRIUMPH, 1907, magneto, 1909 H.B. carb and ignition, Mabon clutch, Rich tubes, new skid, new belt, tank, re-enamelled, plating unsold new condition, lamp, horn, spares; price £30.—Barnes, 46, London Rd., St. Albans.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1910 Speed King Twin Rex, beautiful machine, bought at Show, not been ridden 10 miles; unforeseen circumstances only reason for selling; price £42 10s.—Apply, W.H.B., Elm Grove, Ockham, Surrey.

1909 T.T. Triumph, three pulleys, various, three handle-bars, two spare wheels, new-tyres, spares, and tools; £38.—Write, J. T. Bashall, Elm Grove, Ockham, Surrey.

LSO 4h.p. Stevens, in Chater-Lea frame, magneto J.A.P. carburetter; £14, as above; also brand new Millford sidecar, £7 10s., as above.

NEW 3½h.p. N.S.U., magneto, not ridden 100 miles. Tools, Riche's tubes, including spares; too powerful; exchange up-to-date lightweight and cash, or sell £26 10s.—S., 124, Falcon Rd., Battersea.

1909 2½h.p. Douglas, spring forks, magneto, in splendid condition, ridden under 500 miles, spares, including new Dermatine belt; £32 10s., no exchange.—Box L746, The Motor Cycle Offices, 20, Tudor St., E.C.

CHRISTMAS Clearance.—An exceptional chance. 2½h.p. Minerva, £8 10s.; Werner and Triumph, £4 0s.; several others, all real good machines; push bikes exchanged.—Bunting, Wealdstone.

1909 Twin Rex, 50 miles only, two belts, spares, three-note horn, Lucas lamp, automatic oil feed; £34; or, exchange 1909 single.—Box No. L745, The Motor Cycle Offices, 20, Tudor St., E.C.

24h.p. genuine De Dion engine and carburetter Chater-Lea frame, spring forks, new Liberty tyres, Watawata belt, in excellent condition; price £11.—Age, 74, East Hill, Dartford, Kent.

1909 Triumph, delivered January, excellent condition, original Shamrock tyres, scarcely worn, spares; only wants seeing; getting 1910 model; lowest £36 10s.—Knight, Riverside, Pulborough, Sussex.

1918.—Twin Peugeot, 7h.p., Chater-Lea, torpedo tanks, H.B.C., Palmer tyres, 1in. Dermatine, lamp, generator, two accumulators, pulleys, spare valves, tools, just overhauled.—Bryan, 13, London Rd., W. Croydon.

1h.p. N.S.U., twin, magneto, low frame, 2½ tyres, steel studded back, in new condition; a genuine bargain to immediate purchaser, £18.—I, Walsingham Gardens, South Ealing, W.

1908 6h.p. J.A.P., Chater-Lea, very low, spring forks, Brown and Barlow carburetter, Continental tyres, Whittle belt, two Pete-Radford accumulators, in perfect condition; bargain, £25.—63, Norfolk Rd., Dalston, London.

24h.p. Minerva, splendid condition throughout, long handle-bars, low saddle position, lamp, horn, tools, bag, many spares, spray carburetter, fast, powerful, grand hill-climber; sacrifice £7 15s.—12, Market St., Horsham, Sussex.

N.L.G., 7-9h.p. Peugeot, all control on handle-bars, magneto, Continental Model de Course, 26 by 2½, no spare tubes, belt, plugs, guaranteed first-class condition; any inspection allowed; take sidecar anywhere; £38, or offer.—Scott, 45, Baalbee Rd., Highbury, N.

STANTON'S.—Bradbury, 1909, winner numerous gold medals, guaranteed absolutely perfect in every way, general condition as new, unpunctured R.O.M. tyres, fully equipped with all spares and accessories; tuned to perfect pitch; £34 for quick sale.—619, Lea Bridge Rd., Leyton, London.

A. G. FENN'S Twin Speed King Rex, picked engine, perfect balance, 1910 valves, pistons, rockers, and connecting rods, with special cams, special tank, stand carrier, two toolbags, Cowey speedometer; examination by appointment; price £40.—27, Mortimer Market, London, W.C.

OUR Latest Model Motor Cycle, built throughout with genuine Chater-Lea fittings, and fitted with 5-6h.p. Peugeot engines, for £38, is really an eye-opener; sidecars from £5. Call and inspect models; free trials; satisfaction guaranteed.—Davies, Brodie, and Co., 45a Fitcham Lane, Streatham.

SECTION IX.

omerset, Devon, Dorset, and Cornwall.

1910 Triumphs can be supplied from stock; cash, exchange, or extended payments.—Guy's, Cycle Depot, Weymouth.

7-9h.p. Peugeot, Chater, Longuemare, Whittle, C.A.V., Palmers, splendid order, except platinum for commutator; bargain, £18, part exchange, Triumph accessories, tyres, etc.—Paynter, 59, College Rd., Devonport.

11h.p. Buchet, Longuemare, two accumulators, foot brake, new belt, long handles, very low, voltmeter lamp, stand, tools, splendid condition, very powerful and reliable; great sacrifice £8.—Clemens, Hotel Esplanade, Brighton.

BAT-J.A.P., 1909, 4h.p., M.O.V., Phelon and Moore two-speed, belt drive, Brown and Barlow 1910 carburetter, lamp, horn, all spares, new October, not done 10 miles; cost £65, take £49 10s.—Moffat, High St., Leovil.

SECTION X.

Scotland.

1h.p. Rex; £8, cheap.—Johnston, Westmill of Barnes, Tremnay, Aberdeenshire.

1909 Triumph, condition as new in every respect, spares; offers.—Welsh, 8, Chamberlain Rd., Edinburgh.

COLONIAL READERS

Write us for terms for either new or second-hand Motor Cycles. Our price will come as a revelation to you. We supply on lowest terms.

- F.N.
- BAT
- L.M.C.
- BROWN
- NORTON
- HUMBER
- DOUGLAS
- PREMIER
- BRADBURY
- WILKINSON
- MOTOSACOCHE
- PHELON-MOORE
- MATCHLESS
- MOTO-REVE
- QUADRANT
- TRIUMPH
- INDIAN
- KERRY
- N. S. U.
- R.O.C.
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1909 TWO ONLY 1909

NEW MOTO-REVES

Absolutely brand new and perfect. Fully guaranteed. Spring forks, variable pulley, stand, and carriers; 39 guinea models.

£31 — Our Price — £31

1909 THREE 1909

¾ h.p. BRADBURY'S

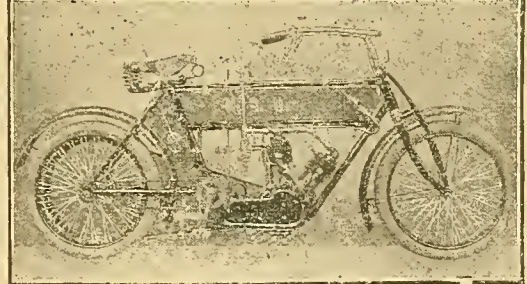
Absolutely brand new and perfect. Standard £46 models.

£36 — Our Price — £36

SEND FOR LISTS POST FREE.

Send for our lists of second-hand motor cycles and accessories. We save you pounds, and it only costs A HALF-PENNY FOR A POSTCARD.

N.S.U.'s N.S.U.'s N.S.U.'s



SPECIFICATION :

ENGINE—Genuine N.S.U. throughout.

IGNITION—Eisemann for singles; Bosch for twins.

FRAMES—Standard, and very low built.

WHEELS—2½in. and 26in.

TYRES—Peter Union 2½in. section to singles, and 2½in. to twins.

CARBURETTER—N.S.U. float feed type.

BRAKES—Two—Bowden band brake rear wheel, and back-peddalling brake.

EXTRAS—Combined stand & carrier, belt punch, two oilcans, spanners, screwdrivers, etc., repair outfits, plugs, etc., all free.

GENERAL—We guarantee fully every machine sold.

PRICES :	Maker's price.	Our price.	Deferred payments.
3 h.p.	£37 ..	£25 ..	—
3½ h.p.	£40 ..	£31 ..	£33
3¾ h.p.	£42 ..	£32 ..	£34
5½ h.p.	£52 ..	£37 ..	£39

Deferred payment terms: One-third down, and balance in monthly payments of £2.

1909 HUMBERS.

All practically new models. Fully guaranteed.

508.—3½ h.p., two-speed magneto, Druid spring forks, large belt rim and pulley, Brooks' Bro5/4 saddle, Dunlop studded tyres, practically new£37 0

509.—3½ h.p., two-speed gear, Dunlop studded tyres, and perfect, magneto .. £35 0

MAUDES' MOTOR MART,

136, GREAT PORTLAND ST. (off Oxford Circus), LONDON, W. Also at POWELL ST., HALIFAX. Telephone: 552 Mayfair. (See our other advt.)

MOTOR BICYCLES FOR SALE.

3h.p. Fafnir, Chater-Lea, Longuemare, new cylinder, piston, engine perfect, new trembler coil, whole machine just overhauled; £16, offers.—Daggart, Whyhouse, Kirkcaldy.

TRIUMPH, 1908, perfect condition (just paid £5 thorough overhauling). Cowey speedometer (new magneto switch, horn, spare cover and Riche's tubes, pannier bags, valves, plugs, and full kit of tools, new rubber studded tyres, Dreadnought and heavy Bata all guaranteed; £40, a bargain.—Jones, Wormit, Fifeshire.

SECTION XI.

Ireland and Isle of Man.

5h.p. Twin, Sarolea engine, Kerry frame, 2½in. Dunlop, spring forks, not done 100 miles, perfect condition guaranteed; offers.—Quill, Ardara, Bangor, Co. Down.

1909 Triumph, run 500 miles, splendid condition, f engine, Palmer tyres, new September; cost £2 take £50; 1909 Motosacoché, run 100 miles, magneto ignition, new August, condition perfect, £21. Beauchamp, Portarlinton, Ireland.

TRICARS FOR SALE.

6h.p. Twin Riley, three speeds, reverse, spares, perfect condition, smart; £43.—147, High Rd., Wood Green, N.

5h.p. Mototricontal, 1908, chain drive, two-speed, for particulars; offers.—Marks, Crignaut, Glam.

6h.p. Twin-cyl. Zenith Tricar, two speeds, perfect condition; must sell; £27 10s.—9, Parkholme B Dalston

9h.p. Riley Tricar, good as new, three speeds and reverse; a bargain, £30.—New Red Lion Hotel, Burnley, Lancashire.

4h.p. Tricar, in grand condition; inspection invite very smart and fast; £12.—Apply, 57, Harr Rd., Leytonstone.

5h.p. W.C. Tricar; bargain; dirt cheap; exchange magneto cycle and little cash.—134, Highgate B Kentish Town.

31h.p. Humber Tricar, convertible, £9 10s.; 3½h.p. Minerva tricar, £7 10s.; wind screen, 15s.—Potternewton Lane, Leeds.

PHENIX Trimo, coach-built, 3½-4½h.p., new belt, good tyres, non-skid back, splendid condition; bought car; £15.—94, St. Alban's Rd., Watford.

SPRING Frame Bat, 4½h.p., free engine, Clinchers, punctured; write for photo; £20, or offer.—Boot, 8, Beverstone Rd., Thornton Heath, Surrey.

41h.p. Coach-built Tricar, N.S.U. w.c. engine, 4 speeds, chain drive, free engine, wheel steering trial; must sell; £16.—2 Magee St., Kennington Pa

31h.p. Humber Tricar, wicker body, handle starting £9 15s.; 4h.p. w.c. Fafnir-engined coach-built tricar, grand condition, £15.—128, High Rd., South T tenham.

TRICAR, 6h.p. J.A.P., twin, free engine, two speed chain drive, Mills-Fulford forecarriage, splendid h climber, good condition; £18.—T. Grainge, Thames Led Cheltenham.

REXETTE, King of little cars, 5h.p., chain drive, t speeds, foot clutch and brake, coach-built, wh steering, new non-skid to back, engine and gears ju overhauled by makers; £17 10s.—120, Broomfield R Coventry.

REXETTE, 10h.p., twin-cyl., 1907 model, water-cool two speeds and reverse, twin tyres on back, Du lop tyres throughout; open any trial; price £35.—Lou B. Davis, 3, New St., Birmingham.

LAGONDA Sidecar Combination, Continental and mer, butt-ended tubes, H.B. control, Brooks 110 whole in perfect condition, and like new; sacrifice £15, offers; 50 miles trial.—Write first, 1a, Northumberla St. W.

REXETTE, 10h.p., 2-cyl., water-cooled, 3-seater, 19 model, open live frame, wheel steering, twin ba wheel, absolutely new condition, exceptionally fast; £3 good motor bike part payment.—48, Walton Rd., Ea Molesey.

PULLMAN'S Postal Auctions. — Tenders wanted i two water-cooled, open frame, two-speed trica 4½ and 6h.p. respectively, good condition, together separately.—Full description on application to Pullm Bros., London Rd., Norbury, London.

9h.p. Singer Tricar, 2-cyl., three speeds, reverse, go medal winner London-Plymouth back, run 1909, v fast and powerful, in perfect condition, Trier and M tin (car) automatic carburetter, accelerator pedal, and screen, complete set spares, lamps, horn, etc.; any tr given by appointment; Phone, 7646 Wall; accept £8 —Wood, 33, Cornhill, London.

TALK About a Tricar, here is the ideal machine. Y can take a companion ride in all weathers, witho fear of skidding, challenge the fast cars for speed a hill-climbing, and crawl in traffic. The cost of upke is low. Often a man buys a second-hand machine o find that a large outlay is required to put it in ru ning order. Here is an exception: It is the Rexte "King of Little Cars," 6h.p. water-cooled engine, t speeds, torpedo back, the tyres (usually a tricar's w point) are all new Palmer cords, everything is in th ough order, and there is not a prettier tricar made; t owner can satisfy you regarding reason for selling, a the price is not more than a motor bicycle (£25); co and examine it.—15, Thames Side, Reading.

SIDECARS AND FORECARS.

RIGID Sidecar, upholstered red, 26in. tyre, good condition; £3 15s.—Turner, 20, Princes St., Norwich.

IDECARS, rigid, choice of two, 26in. wheels; £4 5s. each; real bargains.—Lewis, 23, Arden Rd., Handsworth.

COACH-BUILT Forecar, adjustable, to fit any cycle, hand brakes; £5.—Motor, 213, Lancaster Rd., Weston.

BASKET Forecarriage, frame, pair of 26in. wheels, in good condition; sell or exchange.—Simpson, Horne, Doncaster.

ILLS and Fulford Castor Wheel Sidecar, good condition; £6, or offer.—Brenner, 19, Parliament St., Hampstead.

WHOLESALE and Retail manufacturers.—Baskets, springs, fittings.—Middleton and Co., Watson St., Wington Green, London, N.

FULFORD Rigid Sidecar, 1909 standard model, unscratched; cost £8 8s., sacrifice £5.—12, Sutherland Rd., W. Ealing, London.

FORECARRIAGE, complete with basket and all fittings, A Won Clincher tyres, in splendid condition; —W. H. Cocks, opposite Station, South Ealing, W.

IDECARS.—Best value in England. Fit all motor cycles. Prices, £4 15s. and £5 10s., fitting free; and hands from £3 15s.; send for list from actual maker.—C. A. Edgar, 123, Holloway Rd., London, N.

PLENDID Abingdon Forecar Attachment; art cane upholstered green, 26in. Peter Unions, enclosed makes, fit any machine, 90s., cost £14; also Montmery flexible sidecar, £5; both are as new.—Pilkington, Marble Place, Southport.

DAVIS, Automobile Engineer, Barnsbury Grove, N., begs to inform readers that he is the inventor and sole builder of the protected double-seated sidecar, illustrated recently in *The Motor Cycle*. This sidecar, with tiller steering, is the last word in comfortable touring cycling. Particulars and prices on application.

MOTOR TRICYCLES.

1 h.p. Fafnir-Chater-Lea, water-cooled, two-speed gear, chain drive; £12.—Apply, Briggs, A.B.C. Harf. King St., Norwich.

OR Sale, De Dion Tricycle, 3h.p., water-cooled head, two speeds and free engine, Bosch magneto, good running order; £16 10s.—George and Jobling, South St., Newcastle-on-Tyne.

TANDEMS.

MOTOR Tandem, 26 by 2 Palmer cord, new, Renolds motor chain, lantern, generator, sidecar, trailer cycles; exchange cinematograph, films, conjuring, anything entertaining.—Mystic, Fivecrosses, Frodsham.

QUADCARS.

SEATED Quad, 3h.p., two speeds and free engine, new gears, good running order; £11, or exchange motor cycle.—Fisher, Dublin House, Harrow.

CARS FOR SALE.

CLIPSE.—10-12h.p. Star box van, splendid order; £60.

CLIPSE.—20-30h.p. Darracq, two ignitions, luxurious body, canopy, two screens, perfect; £165.

CLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance, splendid order; £95.

CLIPSE.—12h.p. Aster, 2-cyl., side entrance, pressed steel, Stepney, hood; absolute bargain, £65.

CLIPSE.—6h.p. Siddeley, 2-seater, pressed steel frame, splendid order; £42 10s.

CLIPSE.—10-12h.p. J.P., 2-cyl., side entrance, long chassis, hood, perfect order; £80.

CLIPSE.—9-11h.p. Clement, 2-cyl., M.O.V., tonneau, excellent condition; £57 10s.

CLIPSE.—14h.p. Forman, 4-cyl., side entrance, pressed steel frame; bargain, £105.

CLIPSE.—10-12h.p. Sorex Cab, 4 seats, in splendid order; £87 10s.

CLIPSE.—6h.p. Swift-De Dion, 2-seater, hood, perfect order; £38.

CLIPSE.—5h.p. Beeston Humberette, two speeds, climbs anything; £28 10s.—Eclipse Engineering Motor Co., 255, Earlsfield Rd., Wandsworth. Phone, 35 Putney.

h.p. Rex, three speeds, reverse, cardan, good tyres, splendid condition; £22 10s.—20, Potternewton ne, Leeds.

6 h.p. Germain, 4-cyl., four speeds, reverse, guaranteed; £60; exchange smaller car.—128, High Rd., Tottenham.

1 h.p. De Dion Phaeton, two speeds, perfect condition; £18 10s., or exchange.—128, High Rd., Tottenham.

0-12h.p. Darracq, handsome 2-seater, screen, push pedals, complete; £90; tricar and cash.—109, London Rd., Ipswich.

LEMENT, 9-11h.p., twin-cyl., 2 or 4-seater, thoroughly overhauled, running splendid; £45; exchange.—Clerk, Melbourne, Derby.

h.p. Swift, in excellent order, two speeds and reverse, 2-seater, smart car; must clear; £25, or good bike t.—Davis, Barnsbury Grove, N.

The Halifax Motor Exchange

Largest Rex Dealers,
16, Westgate, HALIFAX.
Phone, 766. Telegrams: "Perfection."
1910 REXES. Deliveries from Stock.
Liberal exchanges.

"POPULARS."
1909 3½ h.p. Magneto REX, like new.. £32 10
1909 3½ h.p. REX, used in last T.T.
Race £35 0
1908 3½ h.p. Magneto REX, spring forks £24 10
1908 3½ h.p. two-speed REX DE LUXE £32 10
1908 3½ h.p. N.S.U., two speed, like new £26 10
3½ h.p. competition magneto REX, used
by Mr. Jacobs, London..... £29 10
3½ h.p. competition magneto REX, used
by Mr. O. C. Godfrey £29 10
4 h.p. ROC, magneto, clutch, h.b.
control £24 0
3½ h.p. Magneto N.S.U., spring forks .. £18 10
4 h.p. ANTOINE, high tension magneto £18 13
3 h.p. Magneto SIMMS, 2½in. Palmers £17 10
1907 3½ h.p. BRADBURY, 26in. wheels £13 10
1907 3½ h.p. QUADRANT, spring forks £17 10
3 h.p. SINGER, belt drive, h.t. mag. £16 10

SPECIAL BARGAINS.
3 h.p. HUMBER, spray, free engine .. £10 10
3 h.p. BRADBURY, long and low £10 0
3 h.p. RALEIGH, spray, vertical £12 0
1906 3½ h.p. REX, spring forks, M.O.V. £15 10
3½ h.p. ROVER, spray, Palmers,
26x24 £13 10
4 h.p. STEVENS, H.B. control, band b. £13 10
3 h.p. CLYDE, magneto ignition £15 0
3½ h.p. WERNER, used with passenger
2½ h.p. WHITLEY, spray, wants
attention £4 5
2 h.p. F.N.-SAROLEA, wants atten-
tion £4 5
2½ h.p. Magneto SINGER, wants
repairs £4 5
Monster list on application.
Cash offers considered.

BRAND NEW
1909 REXES. 1909
1909 3½ h.p. Tourist REX £38
1909 3½ h.p. REX DE LUXE, 2-speed £48
1909 5 h.p. REX DE LUXE, 2-speed £50
Compare these with 1910 prices.

DE LUXE SIDECARS, 2½in. tyres,
everything of the best, built by
experts, three-bolt attachment,
26x2½in. Clincher A Won tyres.
See our £4 17s. 6d. Sidecar, with art cane
body, before purchasing cheap sidecars.

SIDECAR MACHINES.
1909 5 h.p. REX DE LUXE, brand new,
cash or exchange Offers
1908 Twin Tourist REX, magneto £26 10
1908 5 h.p. two-speed REX DE LUXE £35 0
1907 Twin Magneto REX £20 0
1907 5½ h.p. Twin REX, spring forks .. £16 16
7-8 h.p. Twin MINERVA and N.S.U.
Sidecar, very smart lot £29 0
Twin WERNER Lightweight, spg. forks £12 10
5½ h.p. REX DE LUXE, Roc clutch .. £25 10
6 h.p. Twin ANTOINE and Sidecar .. £18 10

EASY PAYMENTS.
£3 DOWN secures any of these.
Balance 5/- per week.
2½ Ariel £9 5 2 Sarolea .. £6 0
2½ Bradbury .. £6 10 2½ Kerry £9 10
3 Humber .. £10 0 4 Coronet .. £15 0
3½ Rex £10 10 3 Ariel £9 10
2½ Lloyd's £7 10 3½ Werner... £13 10
4 Atelier £13 10 2 Humber .. £8 10
4 Stevens .. £13 10 3½ Bradbury £14 10
Push cycles taken in exchange.

5½ h.p. REX, spring forks, fitted
with new Sidecar, art cane body,
2½in. Clincher A Won tyre,
special detachable fittings....
Montgomery Sidecar, seats two, nearly
new..... £4 10
Mills-Fulford Sidecar, brand new £5 15
Rigid artcane Sidecar, shop-soiled £3 15

NEW CARBURETTORS.
Handle-bar Control Amac, 19/6. Brown and
Barlow, 25/- 1910 Carburettors, 30/- and 32/-
Cash discounts.

1,000 1908-9 Magneto Machines
wanted for spot cash. Full
trade value given.

CARS FOR SALE.

PALMER.—15h.p. Darracq, 5-seater, hood, screen, du
ignition, many extras, including Stepney; £95.

PALMER.—24h.p. Mass, 2-seater, racer, low, lig
fast, complete, hood, screen, electric lamps; £11

PALMER.—12-16h.p. Corre, 5-seater, hood, screen, be
lamp, light car, cheap to run; £75.

PALMER.—16-20h.p. De Dietrich landaulet, open
closed body, beautifully upholstered; bargain, £11

PALMER.—10-15h.p. Panhard chassis, 4-cyl., fo
speeds, reverse, Krebs, wheel control; £56.

PALMER.—7-9h.p. Jackson, racy type, 2-seater
new, pressed steel frame; great bargain, £85.

PALMER.—24-40h.p. P.I.A.T., Roi des Belges, co
plete with hood, screen, splendid car; £175.

PALMER.—12-14h.p. Humber, tonneau, 4-cyl., card
drive, raked steering, economical car to run; £2

PALMER.—16-20h.p. De Dietrich lorry, 4-cyl., magn
ignition, 4 speeds, very powerful; £75.

PALMER.—15-20h.p. Mors, side entrance, brough
honeycomb radiator, steel frame; £150.

PALMER.—5h.p. motor boat, seat about 20 perso
25ft. long, magneto ignition; £45.

PALMER.—All above seen any time at L. N. Palmer
190, Mellison Rd., Tooting. Garage one mini
Merton Rd. tram terminus, Tooting. Phone, 20
Streatham. Photos, details per return. Easy term
exchanges.

HALIFAX.—Brand new single-cyl. magneto O.T.A.
voiturette, 100 by 110, lamps, hood, spares, et
£60, usual price 106 guineas.—Motor Exchange, We
gate, Halifax.

HALIFAX.—10-12h.p. 2-cyl. Brush, £39 10s.; 8-
h.p. 2-cyl. Ford, £32 10s.; any reasonable excha
considered.—Motor Exchange, Westgate, Halifax.

10-12h.p. Pick Car, 5-seater, three and reverse, n
tyres, 870 by 90, many spares; trial; take tw
bike or tricar part, or sell £30 cash.—Hewlett, Upt
on-Severn.

10 h.p. Decauville Car, 4-seater, Samson non-skid
£25, a bargain, or £15 and modern motor cy
engine and magneto.—Box L694, *The Motor Cycle* Offic
20, Tudor St., E.C.

12-16h.p. Gladiator, Aster engine, swing seat, ho
new Dunlops, excellent condition; £70; acc
good magneto machine part payment.—Scruse, 234, B
tersea Park Rd., S.W.

RILEY, 2-seater, 9h.p., Cape hood, headlights, clo
speedometer, splendid condition; only £75, qu
ale; motor cycle considered in part payment.—Heybou
Motors, Maidenhead.

NEW Orleans, 8-11h.p., smart, 2-cyl., 2-seater (deta
able tonneau), three speeds and reverse, dark bl
wheels, tyres nearly new; any trial; extremely good ord
£55; good motor cycle and cash.—28, Woodbridge R
Ipswich.

SPLENDID 2-seater Car, climb anything, drip lul
cator, electric governor, splendid condition, kit
spares, etc., Dunlop tubes and covers, three unpuncture
any trial; accept £45, or exchange for motor cycle a
cash.—Shandon, West St., Chesterfield.

15 h.p. Ariel, 4 cyls., side entrance, four speeds, ho
screen, 810 by 90 tyres, bark non-skids, sp
tyre, full set lamps, etc.; photo; £150; smaller car
good motor cycle entertained in part exchange. —
Woodford Rd., Forest Gate, London, E.

MADISON Bargains.—Smart Argyll Car, side entran
three speeds and reverse, best upholstery, dark bl
plush, engines Aster, about 12-15h.p., three speeds a
reverse, gate change; magnificent set even wheels a
lamps, electric tail lamp, many spares, tyres excelle
most recently £275, modern equipped with good set ac
mulators, coil, thermo water circulation, fan-cooling, br
radiators; trial at these works; seat five, good fam
car; a genuine bargain, £155.—Littleover Wks., Derb

INSURANCE.

PLEASE send for reduced rates for 1910 policy; p
sonal 5s., inclusive 18s. 6d. per annum.—Bass, a
surance broker, Ongar.

INSURE Your Motor Cycle with Hugh J. Boswe
insurance broker, Norwich, at greatly reduc
premiums; fire 2s. 6d.; accidents to cycle 14s. 6
third party 7s., theft 9s. 6d., inclusive policy 18s.—Plea
write for particulars.

SITUATIONS WANTED.

SALESMAN-BOOK-KEEPER, 29, suburban or p
vincial garage; moderate salary.—Blenkarne, 6
Forthbridge Rd., Clapham Common, S.W.

FINANCIAL.

PARTNER with £250, for skating rink; 18,000
habitants; no competition; open in a month.—51
Westgate, Peterborough.

WANTED, Partner in established motor cycle bu
ness, with capital for extension, fullest invest
tion; exceptional opportunity for safe investment.
Harry Martin, Daymar Motor Co., East Croydon, Surre

BUSINESSES FOR SALE.

ESTABLISHED Cycle and Motor Business for d
positional market town, good position, side entran
living accommodation; about £300 required.—No. 370
The Motor Cycle Offices, Coventry

REAL VALUE

NOT bounce is OUR business Method.

Stock at Square Road.

1909 HUMBER, two speeds, magneto	£35 0
h.p. Twin PREMIER	50 Gns.
h.p. Twin REX, quite new	£36 0
h.p. Twin REX, splendid condition	£32 0
1908 TRIUMPH, magneto ignition	£29 0
h.p. fitted Roc two-speed gear	£35 0
h.p. ROC, two-speed and clutch	£30 0
Twin N.S.U., magneto, very low	£23 0
Twin N.S.U., magneto, very low	£21 0
EX DE LUXE, clutch, etc.	£28 0
Twin REX, magneto, very low	£25 0
N.S.U., magneto, spring forks	£17 0
DEC, magneto, Nala two speeds	£19 0
Twin REX, magneto	£20 0
Twin N.S.U., mag., spring forks	£21 0
N. Lightweight, Bosch magneto	£17 0
GRITZNER, 1908, magneto ignition	£17 0
magneto REX, fine condition	£18 0
1906 REX, M.O.V., spring forks	£13 10
DE LUXE, magneto, clutch	£22 0
TWIN REX a beauty	£16 10
REX, M.O.V., spray	£10 10
1907 REX, lovely goer	£15 15
low REX, H.B. control	£11 0
Twin REX, and sidecar	£20 0
N.S.U., magneto, and sidecar	£27 0

THIRICARS.

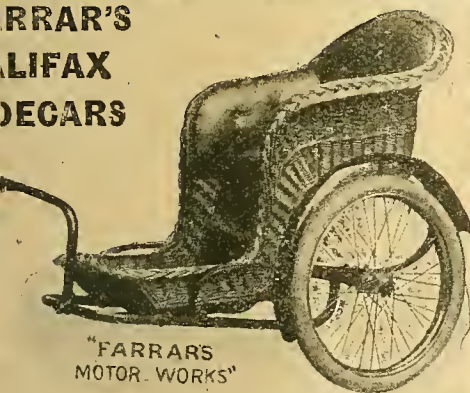
REXETTE, fine machine	£24 0
ROVER, newly enamelled	£17 0

DOWN secures any of these. Balance 5/- per week.

Excelsior	£3 1 2 1/2 h.p. Minerva	£7
Humber	£5 1 2 1/2 h.p. Stevens	£5
Rex	£3 1 2 1/2 h.p. R. and P.	£7
Dux	£3 1 2 1/2 h.p. King	£8
HUMBER, 26in. wheels		£9
MINERVA, low, 26in. wheels		£11

"PREMIER" Magnetos utterly the finest magneto. £3 15s. each. DELIVERY FROM STOCK.

FARRAR'S HALIFAX SIDECARS



7s. 6d. complete with best tyres. Guaranteed 12 months. An ideal winter attachment, rigid. Good, stylish, and comfortable. No p. Beautifully sprung on double C spring. Available anywhere. Don't buy till you have seen ours.

SPECIAL BARGAINS.

Brook Saddle	10 6
to, padded top	15/-
Brook's, new	15/-
Memore's "Rideasy" padded	9 6
and Barlow 1910 Carburettors, H.B.	
control	28/-
Carburettors, H.B. control	19/6
old carburettor accepted in part payment.	

SIDECARS.

have the following, taken in part payment for our "Halifax" sidecars	
gomery, 24in. wheel, very good	£3 15
to, 26in.	£3 15
Fulford, 26in. wheel, fine condition	£3 15
igh, 26in.	£3 3
28in.	£3 3

High-class Machines Wanted. Cash Waiting.
E. FARRAR,
Motor Works, Square Rd., HALIFAX.
Telephone 919.

COUPLINGS.

2 3/4 h.p. Twin Fairy Attachment, nearly new, free engine; £5; or near offer. — 62, Barnsbury St., N.

ENGINES.

M.M.C. Engine, as new, 4 1/2 h.p., air-cooled; £4. — King, 28, Fowler St., Camberwell.

3 1/2 h.p. M.M.C. Engine, in splendid condition, also trembler coil; £3 10s.—32, Hanover St., Swansea.

3 1/2 h.p. Engine, in extra fine condition, with Longue-mare carburetter; a bargain, £3 5s.—L. S. Fearn, Alfreton, Derbys.

3 3/4 h.p. Rex Carburetter, pulleys, completely overhauled; £4 10s.; got valveless engine.—39, Station Grove, Wembley.

2 1/2 h.p. Engine, overhead tappets, carburetter, silencer, coil, and accumulator; £4.—Edward Irving, 13, Lowther St., Penrith.

4 1/2 h.p. Twin Hamilton Engine, as new, £4; approval deposit; wanted. 28 by 2 non-skid band.—Clutson, Quorn, Loughborough.

ENGINES for Cars, cycles, motor boats, and aeroplanes.—Send for particulars to the Advance Motor Mfg. Co., Ltd., Northampton.

BARGAIN.—Powerful engine, 5in. stroke, complete with carburetter, and detachable free engine clutch, starting handle; £5, or offers.—Apply, No. 3704, The Motor Cycle Offices, Coventry.

80 by 80 Fafnir Engine, brand new, guaranteed, with carburetter, £8; 2 1/2 h.p. De Dion, fitted with Ruthardt magneto and engine plates, £8; 1 1/2 h.p. Antoine, 25s.—Frank Whitaker, Green St. Green, Orpington.

3 1/2 h.p. Quadrant Engine, with thumbslide controlled carburetter, £8; 2 1/2 h.p. Brown and Barlow carburetter, adjustable pulley, and silencer, perfect condition, bought new this year, £6 10s., or nearest offer; plain coil, and 20 amp. Pigmy accumulator, 16s.—Thackray, Bridge Lane, Ilkley.

MADISON'S. Madison's.—Engines for aerial experimenting.—Littleover Motors, near Derby. First-class model air and water-cooled petrol motors, 1 1/2 h.p., part machined. 9s. 9d. upwards; list 4d. There is nothing approaching our new model practical motor on the market, and our engines should be a consideration to traders; stock them by all means.—Above.

IGNITION APPLIANCES.

IT is a fact.—Pure platinum is best for contact tips.—Meredith, G.O.M., Summer Lane, Birmingham.

TREMBLERS for all makes of engines, with solid pure platinum tips, 1s. 3d. each. — Meredith, G.O.M., Birmingham.

BOSCH D.A.1 Magneto, absolutely perfect, a little beauty, bought in July last latest type; highest cash offer over £3.—H. Rswill, 74, Brook St., Chester.

JEBRON, Registered 291-289, vastly superior to platinum, cures misfiring; best contacts for blades, screws, rockers, magnetos, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmers, 9d.; Jebron screws fit Bosch magnetos DA2, DAV, contact breakers 5a, 5b, 5c, 5s, 6d. pair; old screws Jebronised, 2s. 6d. each. Or 10,000 fitted. Try it.

JEBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent. Liberal trade terms.

JEBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Harry Martin, when making their recent world's records.

IRIDIUM Champion Contacts. — Any parts fitted returned same day, 1s. 3d. each, warranted pure; special iridium trimmers, 9d.; magneto screws refitted, 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.

50 Magnetos, high tension, best make; your coil and accumulator taken in exchange.—Booth's Motories, Halifax.

FULLERS Accumulators, large stock, all sizes; old accumulators taken in exchange; magnetos, 59s. 6d.—Booth's Motories, Halifax.

500 Fullers Midget Plain Coils, 10s. 6d.; 200 Fuller Midget trembler coils, 17s. 6d.; liberal allowance for old coil in part payment.—Booth's Motories, Halifax.

IGNITION Coils and Magnetos Repaired, any make; accumulators repaired and charged; best workmanship, moderate charges. Tel.: 453.—Glover Bros., Electricians, Coventry.

MAGNETO Repairs.—Bosch magnetos repaired in two days at half makers' prices; work guaranteed; accumulator and coil repairs a speciality; Mayfair accumulators, 15 amp., 10s. 6d.; guaranteed.—Fellows, 49, Hertford St., Marfair.

MOTORISTS, we are experts on ignition; send your coils, accumulators, and magnetos to us for overhauling and repairs; all work guaranteed; promptness and dispatch.—The Victoria Garage and Electrical Co., Ltd., Coventry.

TYRES.

MOTOR Cycle Tyres, any size, heavy, 12s. 6d.; tubes, 7s. 6d.—Stockport Garage, 37, Wellington Rd. N., Stockport.

5,000 Old Covers and Tubes wanted in part payment for new Continentals. R.O.M., Palmers, Shamrocks; gratifying allowances; right place for tyres.—Booth's Motories, Halifax.

TEMPTATION!

YES, we're open to temptation by offers for any machine in Stock.

FIRST COME, FIRST SERVED!

Send your Offers. All Snap Bargains.

1909 3 1/2 h.p. two-speed REX, new. What offers.	
1909 TRIUMPH, brand new	£45 0
1909 Twin REX DE LUXE, SOILED	£49 10
4 h.p. ROC, 1907, magneto, H.B. control	£23 0
MOTO-REVE, Druid forks, magneto, V belt	£25 0
MOTOSACOCHE, 1908	£22 10
TRIUMPH, spring forks, magneto	£22 0
3 1/2 h.p. N.S.U., magneto, low, long bars	£18 0
SINGER, 3 h.p., late model	£18 0
ANTOINE, 4 h.p., magneto	£18 0
3 1/2 h.p. QUADRANT, a gem	£17 10
3 1/2 h.p. ARIEL, M.O.V., 26in. wheels	£15 15
REX, 3 1/2, 1906, spring forks, M.O.V.	£14 10
4 h.p. CORONET, Roc type frame, 26in. wheels	£14 10
ALLDAYS, 2 1/2, 26in. wheels, spring forks	£11 0

"TASTY BITS."

Twin CLEMENT, spring forks, Palmers	£9 19
REX, 3 1/2, John-o'-Groat's model, 22in. frame	£9 10
KERRY, 2 1/2, spray, 26in. wheels	£10 10
3 h.p. HUMBER, spray, clutch	£7 10
2 h.p. HUMBER, good value	£6 10
TRIUMPH, 2 h.p. Minerva engine, spray	£9 0
MINERVA, 2 h.p., mechanical	£8 15
QUADRANT, 2 h.p., low, 26in. wheels	£8 10
REX, 3 h.p., long bars, dropped seat	£7 10
RALEIGH, 2 h.p., vertical	£7 5
REX, 3 h.p., good value, vertical engine	£5 19
1 1/2 h.p. MINERVA, splendid value	£5 18
TRIUMPH-MINERVA, good order	£5 19

"BIRDLIP" BEATERS.

EXCHANGES.

1909 Twin REX DE LUXE, NEW	£51 0
1909 3 1/2 h.p. REX Speed King	£37 10
5 1/2 h.p. Magneto REX DE LUXE	£26 0
1908 Twin REX DE LUXE	£32 10
5 1/2 h.p. Twin REX, spring forks	£16 16
7-8 h.p. MINERVA, 1908	£27 10

MISCELLANEOUS.

The "COLYTE" Headlight, large separate generator, MIRROR LENS 19/6
Largest size THREE-NOTE HORN 8/6
New and Second-hand Accessory List on receipt of postcard. GET THIS—IT'LL PAY YOU.

HANDLE-BAR CONTROL CARBURETTORS.

1909 Models B. & B.	25/-
1909 Models Amac	19/6
Large Stock of 1910 models. Exchanges on application.	

NOTE TYRES. PRICES.

ALL NEW, PERFECT, AND BEST MAKES.
24 x 2 1/2 13/6; 26 x 2 1/2 18/6; other sizes 13/6 each.
Send for Lists (free). Exchanges made.

Competition Defied.

£3 DEPOSIT, and balance 5/- weekly for any machine up to £11 list. OTHERS, terms on application.

SIDECARS.

On APPRO. on receipt of Cash.

£6 COMPLETE, with 2 1/2 in. tyre, well made and elegant art cane body, wide mudguard, 3-bolt fastening (MY SPECIALITY).

THEY'RE WORTH DOUBLE.

Most easily detached sidecar on the market.

A MARVEL OF VALUE.

Collier's Motories,

37, Park Cross Street, LEEDS.

(Facing Town Hall.)

In answering these advertisements it is desirable to mention "The Motor Cycle."

HELLO BOYS!

Here's Bargains for you!

3 h.p. HUMBER	£5 0
3 h.p. HUMBER	£7 10
3½ h.p. HUMBER	£8 10
3½ h.p. HUMBER	£10 0
2½ h.p. STAR GRIFFON	£6 10
1½ h.p. ZEDEL	£6 10
3 h.p. QUADRANT	£10 0
3 h.p. QUADRANT	£8 0
3½ h.p. REX	£5 10
3 h.p. HUMBER Magneto	£15 10
3½ h.p. VINDEC Special	£12 0
3 h.p. REX	£6 0
1½ h.p. KERRY	£7 10
3 h.p. ROYAL STAR	£8 10
2½ h.p. LLOYD Magneto	£11 0
5 h.p. Twin PEUGEOT Forecar. ..	£20 0
3 h.p. ARIEL	£10 15
3 h.p. KERRY	£8 10
2½ h.p. Twin FAIRY	£13 0
2½ h.p. ARIEL	£8 15
3½ h.p. REX Magneto	£16 10
3½ h.p. REX Magneto	£18 0
3 h.p. BRADBURY	£10 10

All the above for **Spot Cash**. Many more for deferred payments. Also £1,000 worth of high-class Magneto Models.

Write me for terms re the exchange of your Old Mounts for 1910 Machines. I have the new models here. Come and see them. Big allowances made on old models.

WANTED.

Twin Sidecar Machines with free engines and two-speed gear. State age, specifications, and lowest cash or exchange prices.

SIDECARS.

The largest stock in England, all makes. Morecambe models from **£4 17s. 6d.** Job stock of Montgomerys 1909 models. Listed £11 and £12, to clear **£8**. Note, all are carriage paid and on approval. This concession is worth 5/- each.

MOTO-REVES.

I hold the entire stock of 1909 models, and am offering the 39 guinea Machines at **27 guineas**, spot cash. Can be converted similar to 1910 for about 2 guineas extra. Only just a few, so don't miss them if you want one.

1909 CARBURETTORS 1910
Amac 1909, **17/6**; 1910, **32/-**. Brown and Barlow, 1909, **18/6**; 1910, **30/-**. With 1910 models I give a separate generator lamp, or hooter as present. Note, all sent carriage paid.

CARRIAGE OF GOODS.

This is a serious item, and should be taken into consideration in all quotations. Remember, I am the only firm, whether dealer or maker, who pays the carriage. Deal with the man who does best for you. Bargain lists now ready. Send for one. Also state your wants. I hold stocks of everything, and at a right price. For the present, Good-bye, Boys, while Monday next, when I hope to publish list of winners re my competition.

HITCHENS

Lancashire Motor Exchange,
Euston Rd., MORECAMBE.

Telephone 112.

Telegrams: "Motor, Morecambe"

TYRES.

BRAND new Continental Tyre, 700 by 80, not used; also inner tube, fit same; what offers?—Sharman, Ashford, Middlesex.

RETREADING with rubber studs, 12s. 6d.; new studded covers, 21s.; why pay more?—Fox, Suffolk St., Birmingham.

HALIFAX.—Covers, all sizes, from 12s. 6d.; list on application; tubes, 4s. 11d.—Motor Exchange, Westgate, Halifax.

COVERS.—Two brand new 810 by 90, 50s. each; and two ditto, 650 by 65, 30s. each; never used; bargains, cost double.—F., 28, Woodbridge Rd., Ipswich.

MAGNETO Covers, made of special high-class rubber, warranted not to tear; wet, mud, and oil resisting; 2s. 6d. each; post 1d.—Below.

SURRIDGE'S Special Heavy Inner Tubes, made of best red rubber, will stand speed and the roughest of handling.—Below.

SURRIDGE'S Tubes are made for the motor cyclist who wants no trouble.—Below.

SURRIDGE'S Tubes are the result of a practical hard rider of all weathers; the absolutely best obtainable.

SURRIDGE'S Tubes, 26in. by 24in., 13s.; 26in. by 24in., 13s. 6d.; money returned with pleasure if not approved; best quality.—58, George St., Camberwell, London.

BASTONE for Covers and Tubes.—See last week's advert.—215 and 217, Pentonville Rd., King's Cross, London, N.

LIMITED Quantity Dunlop and Clincher tyres, 17s. 6d. each; Clincher tubes, 4s. 11d.; all new.—Booth's Motories, Halifax.

REPAIRERS.

PREMIER Motor Company, Limited, for all repairs.

PREMIER Motor Company, Limited, for Antoine parts.—Aston Rd., Birmingham.

ANTOINE Cylinders, pistons, etc.; prompt delivery.—Premier Motor Company, Limited, Aston Rd., Birmingham.

COMPRESSION.—Cylinders ground and new pistons fitted; 24s.; oldest engines restored to highest vitality.—Premier Motor Company, Limited, Birmingham.

OBsolete Parts accurately duplicated; irreproachable work; quotation free for all repairs.—Premier Motor Company, Limited, Aston Rd., Birmingham.

ACER, Ltd., for repairs.—64, Grosvenor Rd., Hanwell, W. Tel.: 433 P.O., Ealing.

COMPRESSION Restored, cylinders ground to .001in. guaranteed; pistons fitted.—Acer, Ltd.

ENGINE Repairs in all branches.—Overhauling, rebushing, replacements.—Acer, Ltd.

RAPID Delivery and reasonable charges. Lists free.—Acer, Ltd.

WISTED or Bent Frames and Forks, etc., should be sent to Middleton's, Watson St., Newington Green, London, N.

CRACKED water Joints of Motors successfully retallurgical process.—Lea and

Son, Engineers, Runcorn.

REBUSHING.—Replacements, and Alteration Specialists. No delays, and low prices.—Lomas and Co.

ENGINES Repaired, cylinders re-bored, new pistons and rings fitted, re-bushed, etc.—Stevens Motor Manufacturing Co., Ltd., Pelham St., Wolverhampton.

TO West of England Motorists.—Car and motor cycle repairs, prompt and reliable; cylinders re-bored, new pistons and rings fitted; don't hesitate; send straight to us.—Hamlin, Motor Wks., Bridgwater.

REPAIRS, engine or frame, new parts to pattern or drawing; cylinders ground, new pistons; low prices, prompt attention; oldest firm in this line.—Baines Bros., Gainsborough.

ACCUMULATORS, Magneos, and Coils repaired; re-magnetising, rewinding, replatinising; repairs to trade; catalogue.—The High Tension Co., Brownlow Wks., 1a, Guilford St., London. 1409 Holborn.

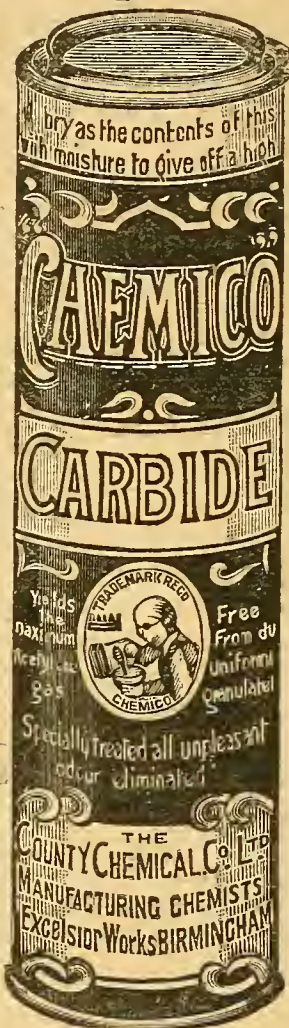
CCCCCCCC.—Compression means power; cyl. re-bored and new pistons fitted; guaranteed fit 4-1,000in., bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

TENNANT Engineering Co. still the leading house for restoring compression and rebushing, cyls. re-bored and reground, new piston, gudgeon pin, and rings fitted, any motor cycle size; 19s. 6d.; work finished dead smooth and despatched three days.—120, Pershore St., Birmingham.

BIRMINGHAM.—Overhauling, rebushing, cylinders re-bored, pistons, pulleys, valves, connecting rods, step-cut rings, any special parts to sketch; frames cut down and altered; agents for the Douglas lightweight; estimates by return; work guaranteed.—Priest and Co., 66, Bishop St.

LOSS of Power is often due to poor compression. See that the valves are true on their seatings. A few minutes' grinding with our special compound will make the worst valve absolutely gas tight without scoring the seating; ready for use, per large tin, 8d., post free.—Williams Bros., Engineers, Lytham, Lancs.

"CHEMICO" CARBIDE.



Of all users Carbide the Motor Cyclist should be the most particular in his selection. There is every reason why the rider of an engine-driven machine should have a light not only strong, brilliant, but steady in supply of gas. This is only possible when

"CHEMICO" CARBIDE

is used, because it is free from dust and foreign matter, and gives an absolute maximum gas yield, with slow consumption.

1 lb. Tins, 7/6

½ lb. Tins, 4/6

"CHEMICO" TYRE STOPPING.



The following testimonials speak for themselves.

Nov. 16/10

Gentlemen,

Thanks for your Tyre Stopping

Tried it on my motor cycle 25 in.

cover. Cut 1 in.

long and right through to the

Result was a perfect repair, quite equal to vulcanizing, and there to stop, it is evident, as after a ride through mud, the repair is still first rate.

I am glad to have found out my capital preparation.

I hope to find some more good things at the Show on your Stand.

Yours faithfully

P. DYER

Croydon.

Price, 6d. and 1/-

The County Chemical Co. Ltd.

BIRMINGHAM.

THE MOTOR CYCLE SUPPLEMENT

CLUB NEWS.

The Motor Cycling Club.

The second event of the winter programme will take place on January 8th in the form of a progressive whist party, to be held at Messrs. F. Stewart and Co., 50, Old Bond Street, at 8 p.m. Tickets may be obtained from Mr. Edwin Gwynne, White Lodge, Crediton Road, W. Hampstead.

North-west London M.C.C.

Members are reminded of the annual dinner and distribution of prizes, to be held on Saturday next, the 18th inst., at the Criterion Restaurant. A splendid musical programme has been arranged. Tickets may be obtained from Mr. A. Stanley Phillips, 84, Alexandra Road, N.W., or from any member of the committee.

Proposed Manchester Wednesday Motor Cycle Club.

Mr. E. V. Stevens, 100, High Street, Manchester, has been in communication with several interested motorists regarding the formation of the above body, and will be glad to hear from others who are likely to join the new club. A meeting will be held at the Grosvenor Hotel, Manchester, in January, of which notice will be given in due course.

With regard to the above and the paragraph published last week, Mr. A. Davenport asks us to mention that there has been a club in existence for the last two or three years called the Manchester Wednesday Cycling and Motor Club. Further particulars will be sent on application to F. Renshaw, 11, Upper Brook Street, Chorlton-on-Medlock, Manchester.

Western District M.C. (London).

Instead of the beginning of December one might have imagined it was midsummer to see the large muster assembled at headquarters on the 5th inst. About twenty-six motor cyclists were present, including two or three members of other clubs, also a car and a taxi. But for the very cold chilly morning and greasy state of the roads a much larger crowd would have been present. After some tuning up operations a move was made to a secluded by-road, where a straight stretch of about threequarters of a mile was selected. Here H. C. Tromp van Diggelen was brought to account for his audacity in challenging through *The Motor Cycle* a 2½ h.p. machine against any standard touring machine up to 3½ h.p. His 2½ h.p. Wanderer is a splendid machine and very fast, the rider knowing how to handle it. The reputation of the modern 3½ h.p. engine was saved, however, F. H. Mullett, the hon. sec., on a Triumph, proving the winner by about sixty yards. The captain, H. E. Vowler, also on a Triumph, then essayed the task, and won by about the same distance. The contests were from a flying start, but Mr. van Diggelen stated that he required a greater distance than was there available to get up full speed, so probably more will be heard of the Wanderer next year on either the Brooklands or Stadium tracks.

Several other contests were engaged in, and after adjourning to the nearest hotel for some light lunch the riders wended their different ways home to spend an hour or so on machine cleaning. Everyone seemed to have thoroughly enjoyed the day's events.

Five new members were obtained during the day, in addition to seven new members who were enrolled at a committee meeting held on the 3rd inst.

Glasgow M.C.C.

Members of the above club are requested to meet at Thos. White's Restaurant, 7, Gordon Street, Glasgow, on Wednesday next, the 15th inst., at 8 p.m. Mr. H. S. Bilbe will read a paper, "1910 Machines, as Seen at the Stanley Show," and a number of new engines, parts, etc., will be on view. The meeting is open to all motor cyclists, whether members of the club or not, and any friends of members will be specially welcome. The reading of the paper will be followed by a discussion, and any available time remaining will be devoted to music. A thoroughly enjoyable evening is anticipated.

Auto Cycle Union.

Mr. P. W. Bischoff has kindly undertaken to deliver what will undoubtedly prove to be a most interesting paper on "The Problem of the Private Owner," before the members of the A.C.U. on Thursday, January 13th. In the course of this paper Mr. Bischoff will deal with the difficulties a private owner has to contend with in competition with other competitors who frequently have, it is alleged, special machines placed at their disposal or who get their own machines tuned up to a state of perfection by the manufacturer.

Bradford M.C.C.

The third annual dinner of the Bradford Motor Cycle Club took place at the Imperial Hotel, Bradford, one evening last week. The club numbers about 100 members, and more than half of these were present. The past season has been the most successful for many years past. The after-dinner arrangements included a pleasant entertainment made up of vocal and other items contributed by Mr. Eagland's Concert Party, and during the evening the distribution of a lengthy list of prizes was made by the president, Mr. S. Johnson. The recipients were the winners of the reliability trials, hill-climbing contests, passenger trials, paperchasing, speed judging, the Edinburgh to Bradford and the London to Bradford runs. The prizes included eighteen gold, four silver, and fourteen bronze medals.

Middlesbrough and District M.C.C.

On Wednesday evening last, before an audience numbering about thirty-five, composed of members and friends of the Middlesbrough and District Motor Cycling Club, Mr. W. A. Duchars read a paper entitled "The Tourist Trophy (Motor Cycle) Race, 1909." Before introducing the lecturer, Mr. Alex. Lauriston, who occupied the chair, made sympathetic reference to the subject of the recent wreck of the *Ellan Vannin*.

Mr. Duchars then read his paper, which was profusely illustrated by lantern slides (kindly lent by the Government of the island); these latter were much appreciated, judging by the applause which greeted many of them. Many very interesting details of the motor cycle racing were given.

A hearty vote of thanks to the lecturer, moved by Mr. R. W. Day and seconded by Mr. E. Rees, was carried in an enthusiastic manner. On the proposition of the hon. secretary, a vote of thanks was extended to Mr. A. Lauriston for so ably presiding at this meeting.

The fourth annual ball is to be held in the Victoria Hall on Friday next, December 17th. Tickets may be obtained from Mr. S. L. Gjertsen at 10, Bridge Street, Middlesbrough.



THE birth of the Motor Cycling Club took place at Frascati's on October 10th, 1901. A small band of enthusiastic motor cyclists met there, and passed a resolution to form a motor cycling club with the above name. A provisional committee was appointed, and on November 19th, 1901, the first general meeting was held and a full committee elected. Mr. T. Underwood was appointed hon. secretary and Mr. G. Tripcony hon. treasurer. During the next few months little was done by the club, and there were many changes among the officials. It was announced early in 1902 that the club intended to hold an opening week-end run to Brighton, and all motor cyclists in the country were invited to participate. In those early days of the motor cycle



Mr. J. van Hooydonk, an old member of the Committee and Trials Hon. Secretary of the Team Competition for the last two years. The photograph was taken before the introduction of special motor cycle clothing.

members rose from 20 to 109. There were only two competitions held in 1903, namely, the 2.0 miles reliability trial for the S. F. Edge Trophy and a Passenger Trial. The former competition was won by W. J. Milligan on a Bradbury, after four attempts to find the winner. With Mr.



Mr. Arthur Candler, who has served on the Committee for six years and five years as the honorary secretary.

Horace Reeves, who was appointed hon. secretary; E. March, hon. treasurer; C. W. Brown, trials hon. secretary; and J. A. Jackson, captain. A very excellent programme of events was arranged, and it was on the suggestion of a well-known and enthusiastic motor cyclist—we refer to the



present hon. secretary, Mr. Arthur Candler—that the popular twenty-four hours' Whitsuntide run from London to Edinburgh was inaugurated. In the first competition twenty-one competitors succeeded in reaching the G.P.O., Edinburgh, within the schedule time, and the success of the members of the M.C.C. in this event undoubtedly called public attention to the reliability of the motor cycle, and benefited the industry to no small extent. Another very popular event in 1904 was the Inter-team Competition for *The Motor Cycle Challenge Cup*.

Year by year the membership has gone steadily up, and the list of attractions has increased. There are now 315 members on the books, and the value of the annual prize list amounts to nearly £400.

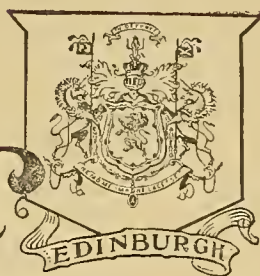
The club is very fortunate in its present officials. The president, Mr. Charles Jarrott, is one of the original members, and a better president it would be impossible to find. The chairman of the committee, Mr. R. H. Head, is deservedly popular; he has been an active member and official during the greater part of the club's life. The present hon. treasurer, Mr. R. C. Davis, has held office for nearly four years, and all who are interested in seeing the club in a sound financial position hope that many years may elapse before another hon. treasurer requires to be elected. A committeeman who has acted repeatedly as trials hon. secretary, and who has put in an enormous amount of work for the club, is Mr. J. van Hooydonk, who narrowly escaped being a founder member; he has been on the committee for seven years. Mr. F. J. Jenkins is another of the club's old and valued workers; he is always untiring in his efforts to keep the club up to the highest state of efficiency. The weekly club runs have been for some time past in the capable hands of the captain, Mr. E. B. Dickson, who has been unceasing in his efforts to make members and friends happy at such gatherings. That the hon. secretary, Mr. Arthur Candler, is answerable to a very great extent for the success of the club since its inception, no one will deny who knows the quiet, unostentatious way in which he goes about his work, and the amount of work he gets through on behalf of the members. Mr. Candler is also a born diplomat, and when knotty points occur in committee he is the man who steers the barque of the M.C.C. safely to harbour. He has served on the committee for the past six years, and as hon. secretary for five years.

The M.C.C. Eighth Annual Dinner.

The members of the Motor Cycling Club and their friends to the number of over 100 assembled at the Empire Rooms, Trocadero Restaurant, on Saturday last, for the eighth annual dinner and distribution of prizes. The president, Mr. Charles Jarrott, was in the chair, and the prizes and awards won during the year were distributed by Mrs. Jarrott. After the dinner and the royal toasts, the chairman, Mr. Charles Jarrott, proposed "The Motor Cycling



Mr. Charles Jarrott
Photograph by



Club," and said he had first to read a telegram from Mr. A. G. Reynolds wishing the members a pleasant evening, and regretting his enforced absence. Mr. Jarrott then went on to talk of the unique position held by the Motor Cycling Club in the world of sport on account of its strength, activity, keenness, and importance. The most pleasing aspect of the club was the way in which the membership had increased and is still increasing, the enthusiasm of its committees, and the excellent way in which the events were supported. In proposing the toast he mentioned the name of Mr. Arthur Candler, the hon. secretary.

Mr. Candler, in reply, said it was owing to the good work of his committees that he had been able to get through his five years' hon. secretaryship. This year 142 prizes, of the value of £400, had been won in the various competitions. They had tested speed at Brooklands, and held consumption tests to develop economy. In the London to Edinburgh run they had seen how reliable the motor cycles and cars could be. He had originated the last-named event, and had done so partly to encourage the motor cycle industry, and was pleased it had been successful. He then mentioned he had received letters from members who resided in all parts of the world, including one from Mr. D. J. Maitland (Ceylon), who sent a silver rose bowl to be awarded in one of the club competitions, and suggested it should be offered to any competitor in the London-Edinburgh run who should accomplish the journey by aeroplane. Mr. Candler also mentioned that Mr. Jarrott would present a prize for the most skilful riding by a member in a motor cycle competition.

Mrs. Jarrott then distributed the prizes won during the year, and also handed to Mr. R. Creak Davis, the hon. treasurer, a handsome token of the appreciation of his good services. Mr. Davis, in thanking the members, said amid applause he would again offer himself for election as treasurer.

Mr. R. H. Head in proposing "Our Visitors and the Press" said the club owed the Press a deep debt of gratitude, they had present a member of the lay press and two representatives of the technical papers. Among the visitors he mentioned the ladies (especially Mrs. Jarrott), Mr. Robert Todd (A.C.U.), Major Lindsay Lloyd, and Mr. Stenson Cooke (A.A).

The toast was responded to for the press by Mr. E. M. P. Boileau (*The Motor Cycle*), and Mr. E. Perman, and for the visitors by Major Lindsay Lloyd.

In an amusing speech, the toast of "The Chairman" was given by Mr. S. H. Fry, and with the Chairman's reply a most successful evening came to an end.

Both imports and exports of motor cycles show a marked improvement over the corresponding figures of last year. The value of foreign imports has risen from £2,703 in November, 1908, to £5,895 in November, 1909. The exports for November were in 1908 £7,449, and in 1909 £14,925.

PROPOSED MOTOR CYCLE SHOW AT OLYMPIA.

At a special meeting of the Cycle and Motor Trades' Association held last week, it was decided that the motor cycle, cycle, and accessory manufacturers and traders should combine with a view to holding a show next year at Olympia, and that a committee should be appointed to discuss the matter with the Society of Motor Manufacturers and Traders.

We hear that it is proposed to hold the new show just prior to the motor car show at Olympia, which opened this year on November 12th. This date is, in our opinion, too early, and many manufacturers would do better business, particularly with private buyers, if the show were held nearer to the commencement of the active riding season. Whatever date is selected, we hope the members of the managing committee will decide to separate the motor cycle from the pedal cycle stands. Separation of the exhibits was often urged in connection with the Stanley, but was said to be impossible, because the larger makers of pedal cycles looked upon their positions as a kind of leasehold, and refused to be moved.



Chairman of the Motor Cycling Club Committee, Mr. R. H. Head.

DISCUSSION ON MR. COVE'S PAPER.

At the conclusion of Mr. Cove's paper, a summary of which is published on the next page, there followed an animated discussion. The Auto-Wheel was severely criticised, but found champions in Messrs. D. Leechman and F. E. Smith.

The former said its critics should try it before condemning it, and the latter that it would do good missionary work among cyclists. A brisk argument took place on the size of wheels. Most condemned the 22in. wheels on



The Captain of the Motor Cycling Club, Mr. E. B. Dickson.

the A.S.L., and favoured the 28in. on the Indian for the extra comfort they gave. There was also a good deal of discussion on various methods for combating rust. Mr. Rosetti was called upon to give his views on sidecars. He was an enthusiastic supporter of the rigid pattern, and considered it the most practical of all the types.

NOVELTIES AT THE STANLEY SHOW.

Summary of a Paper read by Mr. H. G. Cove before the members of the Essex Motor Club, at the Great Eastern Hotel, E.C., December 9th, 1909.

SOME of the novelties that I shall describe are novelties only so far as the Stanley Show is concerned, for they have been previously exploited, and the public are well aware of their good points, while others perhaps only saw the light of day at the Stanley Show.

Perhaps the greatest novelty was the Wall Auto Wheel, which has been so much commented upon by the press. In the first place I must ask you all to dissociate from your minds the utter nonsense that has been written about this invention, and look at the thing calmly from a motor cyclist's point of view. Here we have a two-stroke horizontal engine with outside flywheel and epicyclic gearing in the hub of a wheel which is attached to the transmission side of a pedal bicycle. The sole control is by a lever clipped to the handle-bar and connected by Bowden cable to the engine. The petrol and oil tanks form the mudguard. Under the very best conditions the maximum speed that can be obtained on good level roads is sixteen to eighteen miles an hour, and it will therefore be a most enthusiastic person who dreams of getting an average of more than twelve miles per hour on a day's run. I am of opinion that the prospective motor cyclist could more profitably turn his attention to the many excellent lightweights than to this peculiar yet ingenious invention.

The Touring Auto Cycle.

The T.A.C., though rather complicated, will, I think, when toned down slightly, have a bright future. At present I think there is too much weight on the back wheel, and that the laminated springs have too much work to do. The four-cylinder engine is a beautiful piece of work, and the same remark applies to the gear box, but I do not think the connecting rod is strong enough. It struck me that the sparking plugs were rather close to the top tube, and that the wheel would not be so steady as handle-bar steering. The long wheelbase should make the machine comfortable riding, and safe on greasy roads, but I question whether it would be as handy in traffic as the majority of motor cycles fitted with a free engine or a two-speed gear.

The Bradbury machines were similar to those that came under our observation during the A.C.U. Six Days' Trials, but I was surprised to find that the frame was still made without a tube under the tank.

The Rex machines were greatly improved in many details, but the exhaust lifter on the twins was not one that commended itself to me. The Bowden wire was passed through the induction pipe without a stop, and it appeared to me that a Bowden stop at the side of the induction pipe would have been a much better job, as a straight lift could have been obtained by slightly setting out the levers that actuated the lift, and the induction pipe need not have been drilled.

The chief novelty on the F.N. stand was a tricycle fitted with a 2½ h.p. engine with a two-speed gear and clutch, and for a commercial man whose district is a fairly flat one I do not know of a better mount.

The A.S.L. looked one of the most comfortable machines in the show, though perhaps many will object to the 22in. wheels. I look forward with great interest to seeing one of these machines in the Quarterly Trials. It is claimed that the device can be adjusted to suit any weight, and that the air spring cannot possibly break or get out of order.

A Much Improved Machine.

It really seems absurd to class the Brown as a novelty, and yet the new model was so full of good points, and such an advance, that I may perhaps be allowed to mention it. The frame is a true diamond shape, and much lower than last year. The spring fork is an entirely new design, has no side play, and allows of a front rim brake being fitted. Very large lubricators were fitted on the hubs, thus allowing quite a sensible oilcan to be used.

The Wanderer is a newcomer to England, and though of German make it will doubtless have many followers. Many good points were claimed, but I noticed that neither handle-bar control nor front brakes were fitted. I do not think I need say much concerning the Indian motor bicycles, for

although they are a novelty so far as the Stanley Show is concerned, yet their performances have been so meritorious since they were introduced to this country that they must be well-known to all. The engine is a really beautiful production. I am not quite sure that it is the machine for a novice, but for the experienced rider I do not think there is anything better on the market. Of course, I must have my usual grumble, and in future models I hope we shall see 26in. wheels. The Ariel is an old friend in new clothing, and quite unrecognisable from the machine we were used to in years gone by. It was beautifully finished, and gave evidence of much care and thought. The novelty was the variable gear and free engine pulley. It appeared to me that an endeavour was being made to accomplish a variable gear but without any arrangement for taking up the slack of the belt.

The Humber firm have discarded the old silencer on the down tube, the magneto is carried high up, and is less liable to become bespattered with mud and water. In other respects the machines appeared to be as last year. I did not notice much that was novel on other stands. Several standard makes such as Premier, Quadrant, Bat, Triumph, Matchless, Norton, etc., being very much as we have seen them before with a few slight improvements, and when one considers how excellently these machines have performed on the road and track, we really must ask whether it is possible to improve them, and if so in what way.

On the Phelon and Moore machines the lever actuating the two-speed gear is now controlled by a Bowden wire. The lightweight was identical with the one that went through the October Quarterly Trials, and I was pleased to notice a machine had been staged enamelled all over, with the exception of the handle-bars and a few nuts.

Lightweights.

The lightweight machines again made a bold show. The Moto-Rêve was shown in several models, the newest having a tandem twin engine. This model did not appeal to me so well as the old twin of the V-type. A newcomer was the Omega, which was a distinct novelty, and with the top tube removed it might appeal to a lady. The carburetter would, owing to its position, quickly become choked with dust or mud. The Enfield struck me as being one of the most serviceable machines in the show, for with its low engine position and khaki coloured frame it was a very good example of the all-weather lightweight. The Douglas machines have been considerably improved in many minor particulars, the most interesting being the fitting of an adjustable pulley. The F.N. lightweight, although rather heavier than others, is quite an ideal machine. The engine embodies many novelties, not the least of which is that two timing wheels only are used.

The A.C. tricar which has performed so efficiently during this year was staged in several patterns, the newest of which has been christened the "Mighty Atom." This is certainly one of the smartest tricars I have seen, and is sure to give a good account of itself on the road.

Tyres and Accessories.

Of tyres I did not notice anything fresh, except a new pattern Palmer Cord, which is now made with rubber studs instead of ribs, as formerly.

There were many minor improvements in the way of lamps, but only one or two really great ones. The first of these is the Lucas King of the Road, and as now made it will give the most powerful light it is possible for motor cyclists to desire. Without removing it from the bracket the lamp may be swung round to throw the light rearwards when making roadside adjustments at night-time. By a simple contrivance it can also be tilted to any angle desired.

The Autoclipse is another high-class lamp, with Mangin lens and anti-dazzling mechanism.

Without a doubt many will disagree with a deal that I have said, but I did not come here with the sole idea of pleasing you, but more to open a discussion in which all present may have an opportunity of airing their views.

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BORE-STROKE RATIO AND EFFICIENCY.

By JAMES L. NORTON, A.M.I.A.E.

THE question of bore and stroke ratio and efficiency has brought forth a storm of correspondence recently in the columns of *The Motor Cycle*, and is a subject which is of considerable interest to connoisseurs of speed and power.

It is, of course, impossible in a short article to deal in an exhaustive manner with the many and varied sides of the question or to treat upon all points of merit or demerit of the opposed features of design. Long or short stroke—both have their advantages. It is generally understood that with a given bore, length of stroke has a very material effect upon power, due principally to increased capacity, but it does not appear to be universally known that an increase of stroke without an increase of capacity contributes to a higher efficiency, and therefore greater stroke power, or power per revolution.

The Petrol Motor really a Heat Engine.

The petrol motor is essentially a heat engine, and eliminating for the moment factors of mechanical efficiency or inefficiency, the amount of fuel efficiently consumed in a given time determines principally its power. This amount is in turn determined by piston displacement, measured in practice by actual volume swept out, again controlled by valve area and timing, valve chamber and carburettor design, temperature, and other factors. (In this article we cannot consider the matter of charge weight in its relation to volume.)

By efficient combustion is meant that at a determined point of the piston stroke, the fuel charge is by ignition raised to the highest possible temperature (the work done being proportional to the change in tem-

perature), and maintained at that temperature with its resultant pressure as nearly as is possible during the whole of the working stroke.

Thermal Efficiency.

The more complete the combustion the greater is the expansion and consequent pressure on the piston head and the greater the thermal efficiency. (In passing it may be mentioned that there are losses which increase with a rise of temperature, due to greater difference in heat of gases and cylinder walls.) Thermal efficiency is that proportion of heat given to the engine in the form of fuel or petrol which is converted into useful work.

A factor affecting this efficiency is the shape determining the superficial area of the combustion chamber exposed to the burning gases. The greater this area the more rapidly the pressure falls, owing to convection of heat through the walls and then to radiation. Considering these factors, and remembering that for a given capacity a spherical chamber presents less superficial area than any other shape, it naturally follows that the engine of which the combustion chamber most nearly approaches a sphere should (other things being equal) show the highest thermal efficiency.

It now remains to be seen which of the two types of engine—the long or short stroke—of equal cubic capacity and compression, more nearly approaches the ideal conditions necessary for the best results.

Assume two cylinders, one 80 mm. bore by 100 mm. stroke and the other engine 100 mm. bore by 64 mm. stroke (this is a somewhat extreme comparison, but will serve for illustration), both having an equal

Bore-Stroke Ratio and Efficiency.—

capacity of approximately 500 cubic centimetres and a compression space equalling twenty-five per cent. of the piston displacement, giving a compression of five atmospheres, or 73.5 lbs. (isothermal). The absolute or actual pressure, however, would be considerably higher—probably over 100 lbs.

A Definite Loss of Power.

Now the long stroke engine presents an area of combustion space (for argument's sake we are assuming a perfect cylinder without valve pockets) of 163 square centimetres. The short stroke area is 207.5 square centimetres, which gives us 44.5 square centimetres more cooling surface exposed to the burning gases than the long stroke, or in round figures twenty-five per cent. more. This spells a definite loss of thermal efficiency in the combustion chamber of the short stroke—that is, a definite loss of the power units given in the form of fuel.

So far only the combustion chamber has been considered, but if in addition we reckon the area of the cylinder walls exposed by the piston during its stroke we find the position is reversed, and, so far as actual surface is concerned, the short stroke has less. The total superficial area of the cylinder walls and combustion chamber of the long stroke is in round figures 413 square centimetres and of the short stroke 409.5 square centimetres, or a difference of 3.5 square centimetres.

Now on these figures alone we should decide in favour of the short stroke engine, because from the thermal point of view apparently it just has it; but let us look at the matter a little more closely.

Comparison of Area Exposed to Gases.

That portion of the cylinder walls uncovered by the piston below the point of exhaust valve opening should not be considered when calculating thermal efficiency as determined by area exposed to gases. As a matter of fact, the greater the surface after that period the greater the tendency to general efficiency, as it is then desirable to cool the gases as rapidly as possible. If the area of that portion be assumed at fifteen per cent. (a normal amount) of the piston displacement, we find the scale is turned in favour of the long stroke by 23 square centimetres, or rather more than fifteen per cent. It must be borne in mind that abstraction of heat means slow burning or combustion. That portion of the charge in contact with the chamber walls burns, comparatively speaking, very slowly indeed, and the heat is carried off so rapidly as to lessen the expansive power of the charge very considerably. Further, gases in thin layers or between closely adjoining walls if ignited in some cases part with their heat so rapidly as to prevent combustion, and, in fact, to extinguish the flame. Of course, such conditions are not found in the average motor cycle engine, but the short stroke engine of super-high compression certainly approaches them, as is proved by the following figures.

A Solid Chunk of Gas.

The long stroke engine mentioned has a combustion space of 25 mm. by 80 mm., containing what may be termed a solid chunk of gas.

The short stroke has a chamber of 16 mm. by 100 mm., or a pancake-like slab of gas, the propagation

of flame in which must necessarily be slow and creep gradually (in a comparative sense, of course) across the chamber, parting with its heat as it goes at the expense of efficiency and petrol, and with a rapidly heating cylinder head.

The foregoing, relating to cylinders without pockets and showing increased thermal efficiency for an engine with stroke longer than the bore, applies with still greater force to engines having side pockets for the valves, and more definitely in favour of long strokes.

After all, when results are considered (not comparative results) the internal-combustion engine is a very inefficient power producer. Only some twenty-five or twenty-eight per cent. of the power in heat units actually given is returned in the form of useful work by the best petrol engines. The gas engine has reached some ten per cent. higher efficiency.

Mechanical Efficiency.

Now that the question of efficient combustion has been determined, let us consider which engine will transmit the force developed by this combustion with least mechanical loss. That is to say, is the long or short stroke most mechanically efficient? Under the heading "Mechanical Loss" or "Internal Resistance" we will place that proportion of power developed by the burning fuel which is used in overcoming friction (fluid and solid), inertia of parts, elasticity or spring of the metals which compose the engine (a portion of which latter loss is returned), compressing the valve springs (a portion of this loss is also returned, depending upon speed), opening the exhaust valve under a head load, induction of the charge, compressing it, and expelling the exhaust gases. Friction is undoubtedly one of the greatest sources of loss, and is the resistance to motion which a body meets with from the surface on which it moves. Given a perfectly smooth surface, the amount of friction depends not so much upon area in contact as upon weight or pressure.

Now if we consider the two engines we shall find that the long-stroke bearings are subjected to much less weight per square inch than the short stroke.

Stress on Bearings.

Given an explosive pressure of 150 lbs. per square inch of piston area, which approximates 7.5 square inches for the small bore, the maximum weight on the connecting rod bearing at dead centre is, in round figures, 1,100 lbs., and for the short stroke engine with an approximate area of 19 square inches at the same explosion pressure the weight on the bearings would be 2,800 lbs., with a directly proportioned increase of frictional loss. The same applies to all the bearings of the engine except the timing gear. To obtain equal power from both engines it will be necessary to run the short stroke at higher speed. This will tend to increase thermal efficiency, but will lower stroke power, owing to the lowering of charge weight and increase of friction—caused by pumping and suction efforts and valve lifting losses—causing a still further loss over that of the long stroke.

So far we have not considered the effects of speed of revolution or inertia in the two types of engines, basing this argument on the fact that the amount of fuel efficiency consumed in a given time determines power. The short stroke advocates say at once, "There we have you." Our engine will turn over faster because it has a lower ratio of piston speed to



SEASONABLE PASSENGERS.

Bore-Stroke Ratio and Efficiency.—

revolutions, therefore lower inertia stresses, and so will induce and explode a greater number of charges—will, in short, consume a greater amount of fuel in a given time, and, it therefore follows, is more powerful.

A Small v. Large Number of Strokes.

On the face of it this seems very plausible, but at the same time cannot be passed without question. Granting for the moment that the short stroke gives a greater number of strokes per minute than the long stroke of equal capacity (of this more anon), we have to consider if these numerous strokes maintain their maximum effectiveness or efficiency, and, if not, if a smaller number of efficient strokes are not better than a large number of wasteful or inefficient ones.

From the economic and efficiency point of view this latter query admits of but one answer, but let us consider the effects of the higher speed of revolution. It has been shown that this higher speed is a necessity if the short stroke is required to develop the same h.p. as its rival of equal capacity but longer stroke. We will consider the four strokes in sequence.

Induction.

When the contents of the cylinder fall below atmospheric pressure, nature's abhorrence of a vacuum compels an inrush of air, which, if sufficient time be allowed, brings the contents to a maximum; but the time in the case of our engine is very short indeed—in fact, the one fifty-fourth part of a second is the full time allowed if the engine is running at no more than 1,600 r.p.m. Even this would not be so bad if the charge would enter immediately it had the opportunity, but it does not, hesitating for a fraction of time on the threshold, so to speak, owing to inertia, and then following the piston in a more or less attenuated or rarefied form (depending upon rapidity of displacement). It is not, however, until the piston is well down its stroke that it seems to realise the position of affairs, and too late tries to make up for lost time, only to find that it is not so strongly invited, and the door is shut against it. There is a rebound and consequent waste of fuel, and the vacuum that was aching for a full charge must be content with a small one, in weight at any rate, with a consequent lowering of the compression on the following stroke. A very definite fall on the power stroke results, owing not merely to decreased compression pressure, but to decreased charge weight. I believe it was Mr. T. Hyler White who said "that for each pound reduction of charge below atmospheric the power of the engine will be lowered ten per cent." Having roughly tested this, I find that, if anything, the loss is somewhat underestimated.

Combustion Not Complete.

Still dealing with the power stroke, we find that, owing to lowered compression, the charge is slower in burning. The high number of revolutions has also shortened the time for burning, so that at the period of valve opening combustion is not complete. We also have the disadvantage of a comparatively high terminal pressure, against which we have to open the valve, without the advantage of a higher mean effective pressure, and also the disadvantage of exposing the valve seat and stem to the blast of burning gases and the piston to increased negative pressure during exhaust.

In short, speed of charge induction is limited. If revolutions, etc., are too high, a smaller charge enters, with above disadvantages, and the inertia losses are also increased. Although we have high revolutions the power is not increased in proportion, and, in fact, from a certain point the power curve, instead of rising with the revolutions, may fall off.

To overcome this grave objection to excessive revolutions (which the short stroke advocates say they are able to obtain), compression ratios have been made much higher than is advisable for motor cycle engines. And whilst the revolutions and power curves are somewhat higher, the advantage is but temporary, and beyond a certain point the position cannot be maintained. The sustained output of power of the engine is actually lowered to the equivalent of a well-designed one of smaller capacity, and its usefulness for slow pulling materially lessened.

Effect of Inertia on Timing.

It must not be overlooked that the further objection inherent to high revolutions is the effect of inertia and momentum upon the valve timing. A vast amount of energy is imparted to the valve when propelling it from its seating, and before the stored energy is expended in overcoming the strength of the spring, the inertia of the mass itself and friction, the valve will have been thrown far above the calculated height of lift by the cam, will remain for a fraction of time stationary, then descending, will not reach its seat until the crank has passed several degrees beyond the point of most effective closing; in fact, I have known closing of the exhaust to lag sufficiently to overlap inlet opening. This is advantageous in certain types of engines and at certain speeds, but in this instance resulting in burning charge being expelled through the carburetter.

This mention of the disadvantages of high revolutions will give rise to the opinion that the writer is adverse to high speed engines, but this is not so. Let us have high speed, the higher the better, provided we have proportionate efficiency in power, but let the increased number of revolutions be ensured by improved design, workmanship, and material rather than by methods as unsatisfactory as the resulting improvement is temporary. In the space at my disposal I cannot go as closely into the matter as I should wish, or prove if it is not possible to obtain as many efficient revolutions per minute (in case we need them) with the long as with the short stroke engine of equal capacity; but remembering that the matter of inertia stresses due to increased piston speed is the principal and main argument the short stroke advocates have against the long stroke, we must point out that weight as well as speed determines these stresses, and that we have a considerably higher limit of safe piston speed in the long than in the short stroke.

The Difference in Piston Weight.

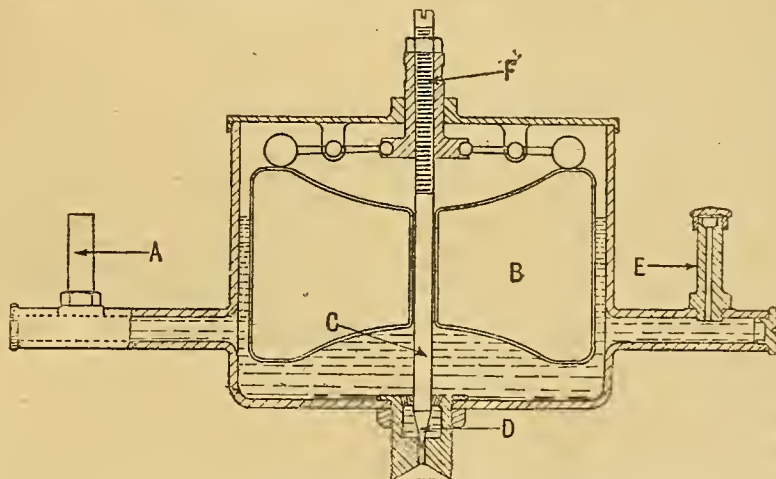
The difference in piston weight in the two engines under consideration is approximately sixty per cent., possibly more, and is so much in favour of the long stroke that the scale of revolutions is on the balance, and a slight advantage in design will turn it in favour of whichever engine possesses that advantage.

I will now point out a few of the popular arguments in favour of the short stroke, and without more repetition than is necessary will endeavour to show how far these arguments hold good.

(A.) You are compelled to use a lower gear to do equal work. The long stroke may use an equally low

The short stroke gives greater power per unit of engine weight.

of the spirit in the jet tube proper, then by screwing the needle in or out the level of the spirit can be raised or lowered and a very fine adjustment obtained.



The part on which the levers are pivoted is, of course, free to work through the float chamber cover of the carburetter just in the same way as the needle itself is free to move in an ordinary carburetter.

Until upon the open road ye murmur "It is here."—M. A. T.



Discussion as to the future of the motor cycle waxed so hot and fierce at the late Stanley Show that the Editor greatly desired to provide his readers with some actually reliable information on this subject. Hearing that a clairvoyancy bureau in the West End had at last established communication with the spirit world, he sent an experienced member of the staff to consult the gifted mediums of the bureau, and the following is the commissioner's statement of the revelations vouchsafed to him.

MADAME SECCONCITESKI considerably disconcerted me at the very outset of my interview by informing me that what I might see in her crystal depended primarily on the purity of my life. Sober, serious persons, she informed me, obtained far greater clarity of vision than people of cynical temperament and indifferent habits. I quailed visibly, in the consciousness that my language had been rather lurid only the day previously, when it had taken me two hours to recover the red-hot pieces of a broken exhaust valve from my cylinder near Henlow Crossing. However, sustained to a false courage by the sternness of the editorial command, and, low be it spoken, by half a bottle of fizz injected just previously, I took my seat in the chair with as good a face as possible, and stared as intently at the crystal ball on the table as if it had been a broken down magneto.

The room slowly darkened, and the crystal seemed to swell and glow gradually, until all sense of my actual locality was lost, and I found myself standing in the Agricultural Hall, Islington, brilliantly illuminated by huge coronas of some unknown lamp. A mysterious compulsion impelled my faltering steps towards a stand which occupied practically the whole of the ground floor. A courteous attendant began by leading me to an armchair. When I was seated, he handed me a Larranaga of the best and a tumbler containing a new American drink.

A 1999 Lightweight.

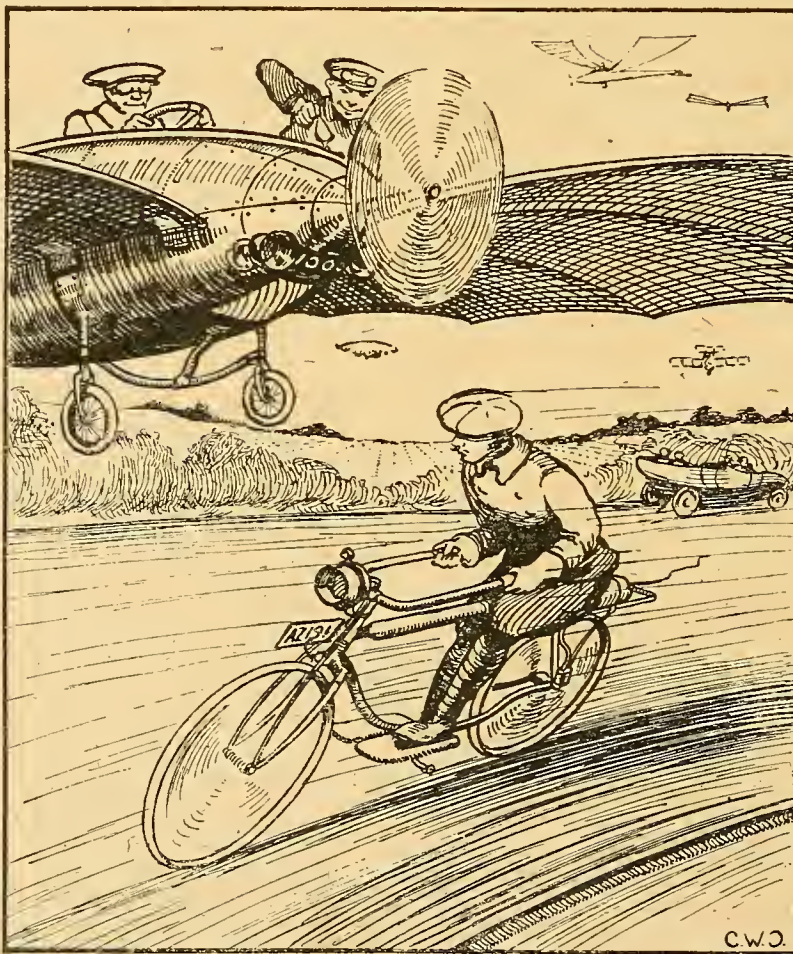
My creature comforts being thus provided for, he submitted his 1999 catalogue, and I realised that my life and character were not quite bad enough to

obstruct the passage to me of the crystal's secrets. The catalogue informed me that I was inspecting a lightweight exhibit of eighty years hence, and the attendant presently wheeled up to my feet a small velvet covered platform on wheels, on which was mounted his lightweight de luxe for the season of 2000 A.D. It was slung from a spring balance, registering 38 lbs., and it was the most extraordinary motor cycle I have ever seen.

To begin with, it had no tyres worthy of the name. Its spidery wheels were shod with light rings of aluminium, semi-circular in section, and less than half an inch thick. The engine was no bigger than a "fifty size" tin of Wills's cigarettes, and could be dismantled from the frame without tools. It simply slid on to a clip resembling a generator bracket, fixed to the saddle pillar tube. It drove the back wheel by a shaft like the flexible drive of a 1910 speedometer. This shaft was provided with a small bevel at each end, and was attached by two bayonet joints, one at the engine, the other near a crown wheel set on the rear spindle. Petrol was carried in the top tube of the frame, the petrol pipe being connected by another bayonet joint. At first sight the

machine appeared to have no control at all, but I presently espied that some gear or other was concerned with the right footrest.

This was stirrup like in shape, and below it was a small rod ending in a tiny wheel, which would obviously make contact with the ground when the rider's foot was placed in the stirrup. As there were no signs of any ignition, it occurred to me that this might be a device for picking up current from a live wire, similar to that common in 1909 on overhead



On the road with a 1999 A.D. lightweight. "A slow family plane passed within a few yards of my head . . . , and a small boy shot me in the back of the neck."

Peep into the Future.—

electric tram systems, and so indeed it proved to be. Remembering "Ixion's" advice, I rose from my chair, and lifted the machine, which certainly felt no more than the 38 lbs. registered on the dial. The salesman appeared anxious on the point, and informed me that on another stand a 22 lb. lightweight was exhibited, but that it had neither piston nor flywheels inside its engine, and that its frame was a dummy, composed of *papier maché* tubing. At any rate, the machine under examination seemed an honest job, and I pulled out my cheque book. The stand immediately began to rock and swim around me, and when my surroundings steadied and assumed definite shape again I was outside the Archway Tavern, Highgate. Here I found the M.C.C. foregathering for club run to the North. It was evident that if dear, dirty old London had not altered much during eight decades, the country roads had undergone great transmogrifications.

The Highways of the Future.

The ordinary stone pavement ended abruptly just north of Highgate, and a broad steel tape about double the width of an ordinary highway had taken its place. It was split into eight tracks, divided by light aluminium rails; four tracks went north, four were restricted to southward traffic. The two central tracks were for police and repair men, the next two for racing motors, and each pair of side tracks for touring cars and motor cycles respectively. Horsed, pedestrian, and pedal-cycle traffic was still, however, allowed to use the ancient macadam highways on payment of a heavy annual tax. If anyone wished to stop for food, petrol, or to diverge to a side road, he had merely to turn a small striker on the near side of the car or cycle, so that it touched the aluminium rails. It would then ring a bell, and the roadmen let the far end of the next section of the track sink, so that it conducted the traveller down its inclined plane into a subterranean stopping bay.

Easy Starting.

The M.C.C. offered me the position of honour, but, being a stranger to the modern track, I preferred to see them start off first. I noticed each machine possessed the same single control as my own. Each man cast a leg over his saddle, and, putting his right foot in its stirrup, depressed the wheel beneath on to the road surface. He then jogged the machine forward with his left foot till the tiny wheel touched the steel track. This was evidently highly electrified, for the engine instantly started off of its own accord, and the machine glided pleasantly away.

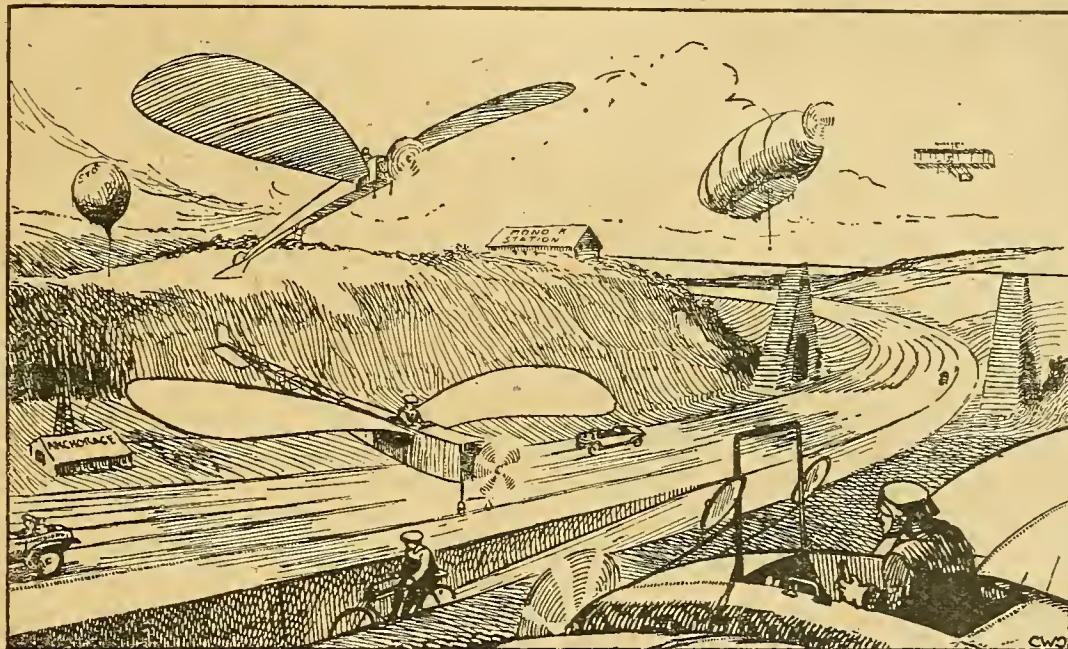
One of the club experts informed me that to stop one had only to relieve the stirrup of foot pressure, when the tiny contact wheel broke circuit with the track. He strongly advised me, however, never to use this method on a speed highway, lest I should be hidden down from behind. He advised me rather to ring one of the bells on the rails by means of my handle-bar striker and descend the inclined plane

which the roadmen would then open into the bays beneath the track. The inclined plane would always lead me on to an insulated surface, where the engine would stop of its own accord.

Date of the Last Breakdown A.D. 1952.

I enquired what I must do if I had a breakdown, but he scornfully informed me that the last breakdown on record occurred in 1952 A.D., and that non-stop trials had long since been abandoned, since the last A.C.U. trial had been prolonged for seven years in the attempt to find a winner. This sounded good enough, so I slung my leg over the saddle, and hitched my handy little jigger forward till my contact wheel touched the steel track.

I was soon spinning forward at thirty miles an hour, and was deliciously impressed with the poetry of motion. Not a jar was perceptible, which puzzled me for a time, but I presently noticed that every motor on the track had solid metal tyres, and that at last the silly old makeshift dodge of springing vehicles and using resilient tyres had been abandoned years before in favour of the more logical method of springing the *road* instead. On closer inspection



"Most of the aeroplanes flew disgustingly low, and the airhogs would suddenly loom up out of the distance at 200 miles an hour."

the apparently solid steel track was seen to consist of small laminated steel plates, each mounted on springs, and built up into framed sections. I afterwards learnt that the under-springing was lubricated by forced circulation from enormous turbine pumps set at intervals of twenty miles.

Impeded by Aerial Traffic.

I soon discovered, however, that there was considerable room for reform even in these advanced times. It took me some while to get used to the aeroplanes, which were buzzing about overhead in all directions at truly formidable speeds. A slow family plane passed across the track within a few yards of my head before I had covered ten miles, and a small boy in its bows deliberately shot me in the back of the neck with a catapult. Most of the aeroplanes flew disgustingly low, and the airhogs would suddenly loom up out of the distance at 200 miles an hour, dive straight towards one's face, and with a sudden tilt of their elevators at the last second of safety jerk up into the blue empyrean again. My most unpleasant experience

A Peep into the Future.—

occurred when a racing plane split its propeller within forty yards of me, and one of the vanes sizzled past my ear, and sliced the front three cylinders clean off a racing Napier that was passing down the central avenue of the track. However, my fellow clubmen told me that these dangers were to be met by roofing in the highroads in the near future.

Towards Wetherby I began to feel rather stiff, and turned out my handle-bar striker to make contact with the aluminium rail. Instantly the section of track in front of me dipped its far end, and I slid down its inclined plane into a brilliantly lighted underground stopping bay, rather like a Tube station.

The Captain is Decapitated.

The other M.C.C. men were already there, in a great state of indignation because their captain had had his head cut off near Grantham by part of a broken propeller, which had spun off an aeroplane which was flying too low. Public opinion, they said, ran so high in favour of aeroplanes that a motorist had no chance in a lawsuit with a flying man, and it was highly improbable that his sorrowing widow would obtain any compensation. I had previously felt rather nervous about the system employed for shunting riders who wished to drop down into the subterranean bays, but I found it worked admirably in practice. When a section of track was dipped, the previous section was automatically insulated, and any motor upon the previous section was thus held up till the depressed section swung up again.

A Magnificent Lunch.

I enjoyed a magnificent lunch with the club, and it was then agreed *nem. con.* that we should go further north that I might be shown Sutton Bank under modern conditions. I objected strenuously, owing to lurid memories of attempts to climb Sutton years ago on an 8 h.p. twin, but the members laughingly over-ruled my objections, and told me that my microscopic mount would make light of the once formidable climb. We informed the road superintendent that we wished to reascend to the upper regions, and insulating the track just south of the station, so as to hold up any motor cycles approaching along our section of the track, he dipped the northward section. The light of day streamed down on us again, and moving forward our cycles on to the steeply sloping plane, we shot gracefully up on to the track again, as soon as our feet touched the rests, and put our contact wheels in circuit with the track once more. In the same easy fashion as before we trickled north into Thirsk, which was now one of the grand trunk junctions. Here we

encountered a two minutes' delay, as we all had to descend again into a stopping bay, out of which inclined steep planes led us up on to the cross road for Scarborough.

Hill-climbing made Easy.

A few miles brought us in sight of Sutton Bank, and the aspect of the famous hill was indeed changed. Scenery and surroundings remained unaltered, but the surface of the road was thickly dotted with motors of all sorts and sizes, each of them flying up at a good thirty miles an hour. Scrutinising the spectacle closely, I noticed that the wheels of the various vehicles were stationary—they were simply resting on a sort of moving tape, which rolled them up the hill with their engines at rest; all the cars had their side brakes locked, and the cyclists had their feet on the ground. The fixed steel track terminated exactly at the base of the gradient, and I then saw that the surface of the hill consisted of corrugated steel tapes, running over enormous drums sunk in the ground. We simply steered our machines straight on to one of the narrow side tapes, dropped our feet to support the machine in a vertical position, and in a couple of minutes or so found ourselves at the summit, where the former type of steel track, comfortably undersprung, recommenced, and continued right into Scarborough.

The Fate of the Old-time Machines.

As I slid silently and swiftly on towards the queen of watering places, I fell awondering what had become of the old-time $3\frac{1}{2}$ h.p. tourist machines and 8 h.p. twins, and even while I wondered, the quiet hedgerows on either side began to dissolve like the painted scenery of a transformation in a pantomime, and I found myself in the British Museum. There in a glass case was the very identical Matchless twin on which Collier had won the T.T. Race in 1909, and beside it stood a figure that I took for Collier himself—the same neat athletic figure, compounded of steel wire and india-rubber, the same pleasant dogged smile. I sprang forward to renew old acquaintanceship, but only to realise that Collier was a waxwork. I realised with a sigh that, thanks to steel tracks and endless hill-tapes and advances in design, the day of the high-powered machine had long since passed. As I mused sadly on the decay of sport and the elimination of the human factor, the glass cases and their dusty contents faded, and once more I found myself seated in the chair and gazing anxiously at the winking crystal ball.

"Two guineas, please, sir!" murmured the clairvoyant. "Cheap at the price, too!" responded I dreamily, as I stumbled down the steps and took a miserable out-of-date taxi in my haste to communicate the astounding vision to my Editor.





MISTIMING THE FIRING.

The Choice of a Lightweight.—

particularly liable to foul, and will need detaching more than those of a big machine. On the other hand, all these parts are necessarily very light and only about half as strong as on a standard 160 lb. roadster. Therefore, before placing our order we must see first that every part which we shall have occasion to detach is truly accessible, so that we can get a good hold on it with a proper spanner or make our cleaning wire for the jet tube touch the spot without an awkward preliminary process. Secondly, we must see that the parts are strong enough to stand heavy pressure from tools. I have known lightweights which were beautifully constructed, but were too light for protracted use; such details as the inlet valve domes or the caps over the valve were turned and machined so thin that one grip with a 6in. spanner would crumple them up like a wine bottle's cap of tinfoil. We should therefore attach special value to the adequate design of such parts as require detachment frequently, and to the provision of special keys which make the most of whatever grip is provided.

Comfort must be Studied.

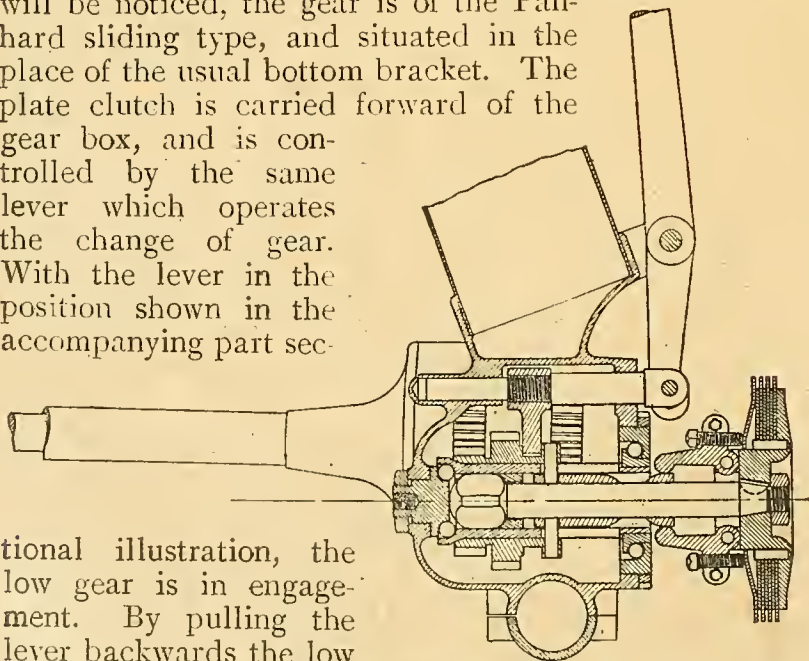
Again, we must not forget comfort. In a lightweight we have a machine with a frame which is only about fifty per cent. stronger than a pedal bicycle, and has to travel on occasion in most owners' hands

at over twice the speed of a touring pedal bicycle. If the spring fork and seat position are roughly planned, we shall find the machine excessively uncomfortable, and we shall not be athletes enough to drive it at even the moderate speed for which it is designed. Fortunately, it is quite possible to make a lightweight comfortable. There are several lightweights which are quite comfortable—in fact, as comfortable as any machine I have ever ridden, thanks to their spring forks and rational sized tyres. But some lightweights I have bestridden were abominably vibratory on ordinary surfaces at all speeds in excess of twelve to fifteen miles per hour. We must demand a good saddle, good tyres, good spring forks, and a properly proportioned riding position.

I have little doubt that a great many recruits will be won to the sport by the gradual improvement of lightweights. We now have an excellent range of very light and simple models suited for the potterer in fairly level districts. We are also provided with machines of 100 to 120 lbs. which will face winter roads and bad hills in the more exacting localities. Consequently the less athletic member of the pedal bicycle brigade can find a light machine that will do his work, irrespective of his place of residence. So we ought to see a big demand. I add as a rider my own personal conviction that the majority of lightweight enthusiasts will end by graduating on the 3½ h.p. standard roadster.

A SIMPLE TWO-SPEED GEAR.

RECENTLY we mentioned the fact that a prominent American motor bicycle—the 1910 pattern four-cylinder shaft-driven Pierce to wit—is fitted with a two-speed gear and multiple disc clutch, and we now illustrate this unit as the general arrangement and design have been so neatly carried out. As will be noticed, the gear is of the Panhard sliding type, and situated in the place of the usual bottom bracket. The plate clutch is carried forward of the gear box, and is controlled by the same lever which operates the change of gear. With the lever in the position shown in the accompanying part sec-

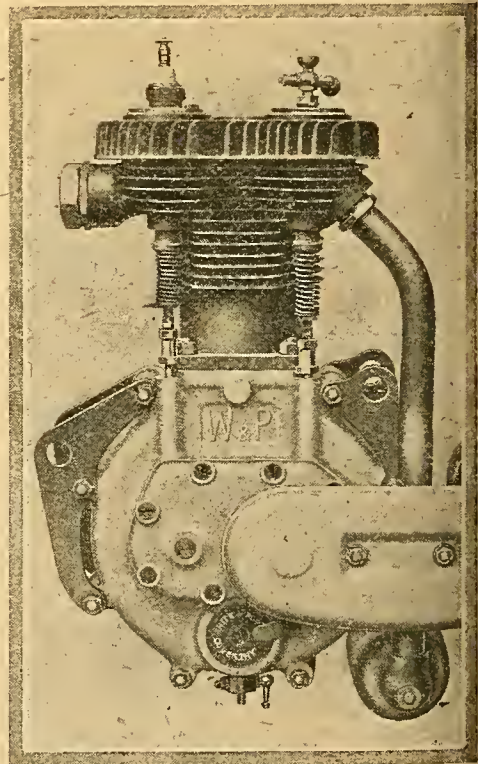


tional illustration, the low gear is in engagement. By pulling the lever backwards the low gear is pulled out of mesh and the neutral position is obtained. By a further backward movement the larger of the two gear wheels is caused to mesh with the gear on the shaft driving the rear wheel, and as the gears move into complete mesh, the second cone moves forward sufficiently to expand the clutch levers and cause the plates to engage.

It will be gathered from the description that maltreatment of the gear change is impossible, which is one of the features of the 2¼ h.p. F.N.

THE 1910 W. & P. ENGINE.

THE White and Poppe engine is of all-British construction, and one of the most substantial motors of its kind on the market. Years ago the White and Poppe was a favourite among motor cyclists, but it was not heard much of during 1907 and 1908. This year, however, the engine has attracted much attention by reason of its fine showing on Premier motor cycles in the most important competitions. To deal with its salient points of design, the mechanical valves are placed some distance apart to assist the engine to keep cool. The radiating surface of the combustion head, as will be noted, is exceptionally large. A single ball bearing is fitted to the pulley side of the mainshaft. A good feature is that the tappets are adjustable, and the top of the tappet is provided with a fibre buffer to minimise the clatter of the valves. Four piston rings are fitted in separate grooves, as also a special ring to keep the gudgeon pin in position. The bore and stroke are 85 by 85 mm., and the engine is claimed to give 5¼ h.p. at a speed of 1,760 r.p.m.



'THE SILENT INDIAN.'

Mr. H. G. Cove in his very interesting paper on "Novelties at the Stanley Show," read before the members of the Essex Motor Club on December 9th, comments on the INDIAN as follows:

"I do not think I need say much concerning the INDIAN motorcycles, for although they are a novelty so far as the Stanley Show is concerned, yet their performances on the road and the track have been so meritorious since they were introduced to this country, that they must be well known. The engine is a really beautiful production, and the more one looks at it the more one understands how our old friend who runs the company in England fell in love with it. The handle-bar control is almost perfect, and when mastered, by the way, quite a simple operation; one would only with reluctance go back to levers. The engine is remarkably quiet and the chains make no noise whatever. If ever a motorcycle could be considered silent this is the one, and henceforward the makers should call it the "Silent Indian." The mechanical lubricator is a real boon, and I hope and expect that this device will be extensively copied by other makers."

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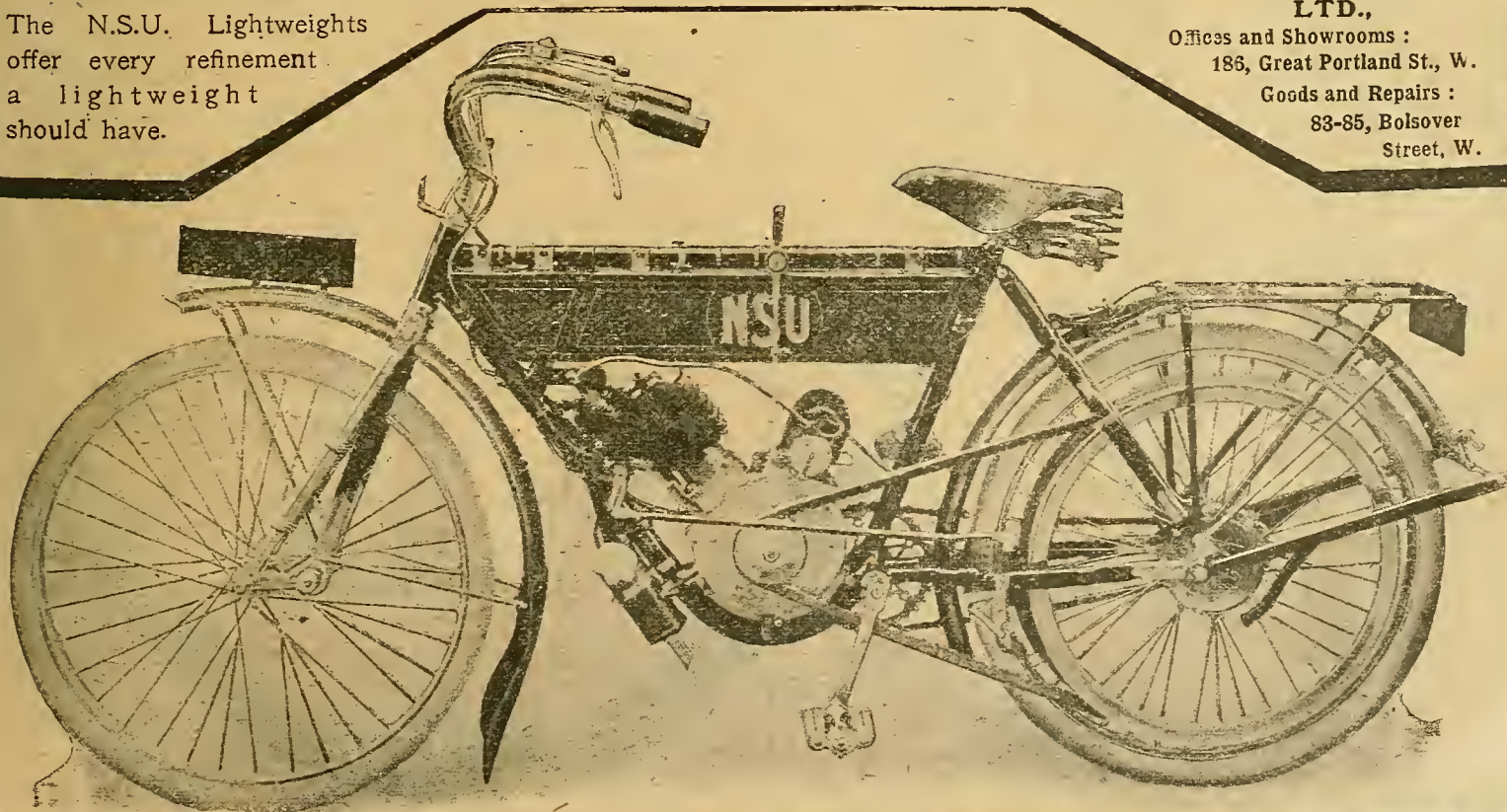
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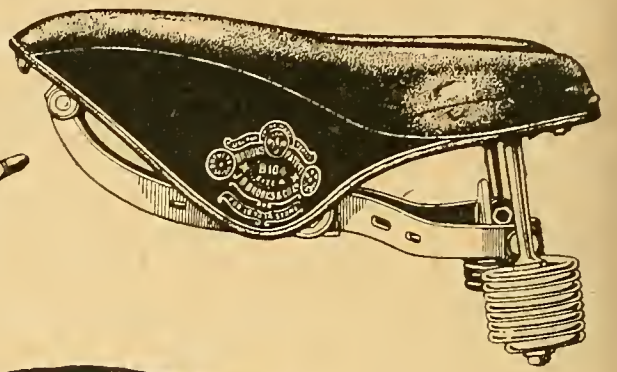
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The Choice of a Lightweight.

By "IXION."

Pydmy R Jones

It is already obvious that the Stanley Show marks the dawn of a new era in lightweights. Never before were so many motor bicycles scaling between 75 lbs. and 120 lbs. collected under one roof. Many of our readers who have never owned any but medium and heavy machines will be tempted to experiment with one of 80 lbs. or so; and the purpose of these notes is to offer suggestions that may be of use in making a selection.

We all know that when we take two engines of different makes labelled as $3\frac{1}{2}$ h.p. on the road, one may prove to be much more powerful than the other on all occasions where power is required. Both no doubt develop, say, 4 b.h.p. on a brake or electrical test, both will drive a machine at, say, 40 m.p.h. on the flat; but when we face an abnormal hill one will die away to nothing, and the other will climb it. When we tackle a 1 in 10 grade slowly on grease at a third of the maximum r.p.m., one will stick and the other will pull steadily up to the summit.

The Essential Feature.

The prime essential of a good motor bicycle is a first class engine. If this applies to a $3\frac{1}{2}$ h.p., which in normal running has at least $1\frac{1}{2}$ h.p. in reserve, it applies with redoubled force to a $1\frac{1}{2}$ h.p. or 2 h.p., which on half a dozen occasions in every twenty miles spin has no power in reserve at all. Therefore an unknown low-powered engine should scarcely be bought without a road trial or other trustworthy evidence. Anybody can make a $1\frac{1}{2}$ h.p. engine, weighing, say, 25 lbs., but only a few firms can make an engine of this type that is roadworthy. No matter how graceful the outlines of the machine, no matter how practical its specification, no matter how obvious the excellence of its workmanship may be, an order should not be placed unless the quality of the engine is known; and the salesman of a new lightweight engine that is good will be only too ready to demonstrate its paces on the road to genuine enquirers. So if any reader fancies a lightweight machine which has not publicly won its spurs, he will do well to obtain such a test.

Secondly, if he can get 2 in. tyres he should attach great value to them. Lightweights do run on smaller tyres, and some of them perform remarkably well. Bigger tyres spell increased immunity from both puncture and vibration, and, other things being equal, preference should be given to the lightweight which has fairly large tyres.

The Transmission Question.

Thirdly, many otherwise excellent lightweights have been ruined for practical purposes by an unsatisfactory transmission. I am overjoyed to see chain transmission, shaft transmission, and variable gears making

a tardy appearance on lightweights, for some of my otherwise most enjoyable spins on these handy little jiggers have been spoilt by chronic belt slip of stiff rubber belts on engine pulleys of very small diameter and by trouble with the fasteners of round belts. Leather V belts, seeking flexibility not only by excellence of material, but by ingenuity of construction, are well suited to lightweights, and are probably as good a single gear drive for the purpose as can be had. Even better are positive reducing gears, allowing the use of a 4 in. or 5 in. engine pulley, as also the chain drive. But there is no magic in rigid drives. They require more exact and costly workmanship than belt drives, otherwise the owner has only stepped out of the frying pan into the fire; and with the ultra-light frame tubing essential for a lightweight machine there is a special fear of frame "whip." If the frame whips ever so little the rigid drive throws a fierce cross strain on the bearings, and the resultant friction will swallow up a larger percentage of the horse-power developed by the baby engine. Similar caution must be observed in selecting a two-speed gear. Lightweights are now offered with variable gears and free engines. These baby engines normally run at a very high speed, and can seldom be slowed down to a "countable" ticking pace, as a heavy rimmed flywheel 85 by 85 mm. may be. We have to ask whether the tiny engine will run hot on a ten or twelve to one gear, whether it will stand being run with no load at all on it and the clutch out, and also—most important of all—what amount of friction is engendered by the low gear ratio. Every rider who is experienced with two-speed gears knows that in most instances a second gear of ten to one is by no means twice as efficient as the high gear of, say, five to one, for the train of cogwheels devours horse-power to an extent little thought of by some. When we are buying a two-speeded lightweight we must ask with special insistence how near the emergency ratio approaches a direct drive. I am happy to say two or three machines shown at the Stanley possess a low gear that is all but direct and frictionless.

The Importance of Good Joints.

Again, I should attach vast importance to the mechanical nature of the assembling devices. Every joint on a lightweight has to be just as air or petrol-tight (if possible, tighter) than on an 8 h.p. racing twin. We cannot admit air leakages on the inlet pipe, compression leaks around sparking plugs, valve caps, etc. The same applies to the joints in the petrol system. The unions of the tank and carburetter have to be just as proof against leakage on our bantam-weight as on our 2 cwt. sidecar hauler. The carburetter passages, being especially minute, are

OCCASIONAL COMMENTS.

BY IXION.

Possibilities of a Modern Tricycle.

I see some riders are inclined to coquette with the tricycle again. My first piece of advice to such enthusiasts is that they should do a good bit of hard road work on a pedal tricycle first, as most of us have lost the art of tricycle steering during recent years, and so long as the instinct to *balance* by means of the front wheel, as well as *steer*, lingers in the subconscious mind, a tricycle is a dangerous mount. The retention of bicycle instincts accounts for some of the sidecar accidents which seem so inexplicable to the thoughtless rider. In an emergency the new knowledge of the top of the mind is frightened away, old instincts reassert themselves, the tricycle combination receives an instant of bicycle steering, and whup! the whole contraption is in the ditch underside uppermost.

Granted a practised handler, I must admit that the resuscitation of the tricycle is rather attractive, at any rate for winter work, as the two-wheels-astern type absolutely does not skid. The skids alleged against it are simply steering aberrations on the part of the rider when he has momentarily lost his head and reverted to front-wheel balancing. Personally, I don't favour the two front-wheel steering type; minus a good heavy weight over the front axle, it is about as miserable to sit as anything I know. I did a great deal of riding at one time on the old De Dion type of tricycles, and, apart from weight and noise, their main faults were short wheelbase and bad balance. The best motor tricycle I ever sat on was a compound machine built by Hayward, of Ashford, Kent; it was mostly assembled from De Dion and Ariel parts with an Aster engine, if memory serves me aright, and it had long wheelbase, and some pretensions to balance. My own tricycle could be pulled over backwards with two fingers, because all the weight was slung behind the rear axle. A new modern tricycle will require a long wheelbase, with the engine carried well forward; if the engine has a low compression, air-cooling will suffice; two speeds and weatherproof transmission are essentials, as the vehicle will only appeal to the hard-riding fraternity, and pace will not be a desideratum. I do not think I should ever have sold my last tricycle if it had possessed magneto ignition, a modern carburetter, a sound gear, strong brakes, been more silent, and comfortable to sit. It had a coil and accumulator system of ignition, which was constantly getting rained out; it was an hour's work to dismount the carburetter, which resembled a rook's nest in being composed of a hundred small parts and hemmed in a regular forest of branching rods; its brakes were worse than useless, though luckily there was so much friction owing to the low gear that it could safely descend Sutton against engine compression; the clutch fork was always breaking or dropping off, leaving me with only the low gear. equal, say, to 9 m.p.h. on the flat; its water-cooling system normally resembled a factory fire sprinkler, shedding tears from every pore at the slightest provocation; while to dismount was a sort of cross between grand circle and double splits, as a huge plated cylindrical tank projected generously on either side of the saddle. None the less, gentle reader, I rode it 15,000 miles; and I live to tell the tale.

The Aftermath of a Campaign.

I do not know that we have achieved very much by our campaign against the use of special machines in hill-climbs. As compared with twelve months ago, we now see the machines entered in a hill-climb split into two classes. One class is strictly scrutinised by eagle-eyed experts, clad in that brief authority which so often makes a man forget his manners, and the entries that are passed bear at least an ostensible similarity to the machine which the average private owner receives in response to his cheque. The other class consists of a horde of freaks. So far, undoubtedly so good. But the same men still win. The private owner winner is as rare as ever, and, when found, is usually a member of the amateur expert class, which is rather increasing in numbers. How would it be if the A.C.U. annually compiled a list of winners in all motor cycling competitions up to date, and novice classes were arranged for men who have never won a prize at all? This is the regular practice in rowing, but oarsmen are divided into three classes: (1) Maidens (novices); (2) juniors (first year winners); (3) seniors (old hands who have won open events). I fancy this idea might give a fillip to some competitions. However, I console myself that our wordy campaign has achieved something. So-and-so's 130 lb. twin bicycle, with racing saddle, paper-treaded tyres, drilled frame and fittings, rigid forks, and open exhaust, was his "standard tourist model" less than twelve months ago. It now capers about as "our special Brooklands racer," and the public dodges a little hoodwinking.

Wired-on Tyres.

I think I can answer Mr. Karslake's query as to why wired-on tyres are less popular on motor cycles than the beaded-edge patterns. The average rider seldom experiences sufficient tyre trouble to make him as much of a tyre expert as the average puncture repair boy at a small cycle shop. If he did, the wired-on tyres would become more popular, because they are not really difficult to manipulate, and possess at any rate a moiety of the advantages claimed for them by Mr. Karslake. But the average motor cyclist sells his mount before his tyres are so worn that he experiences frequent trouble, and whenever possible he gets his tyre work done at a garage. He also knows that the wired-on tyres are more awkward to manipulate when new, and less easy to "roll back" after refitting a tube, to see whether it is nipped or not. When new, there is little to choose between the two patterns in ease of manipulation, because neither of them is easy at all, if they are a true fit. It took me an hour to fit a new beaded cover this summer, and longer to fit a wired-on. When both have been ridden for some time they become a trifle supple; the wired-on becomes distinctly the harder of the two to manipulate, and the average indolent rider will sacrifice a good deal of efficiency for anything that simplifies tyre repairs. I have known expert riders prefer a certain make of cover simply because they knew it was always a very sloppy fit. One real disadvantage of the wired-on tyre is that should a wire break (it is not improbable, as I have had ocular proof) the rider is stranded.

CURRENT CHAT

TIME TO LIGHT LAMPS

Dec. 20	..	..	..	4.50 p m
.. 22	..	..	..	4.51 ..
.. 25	..	..	..	4.53 ..
.. 27	..	..	..	4.54 ..

A Good Year's Trading.
The report of the Service Co. shows a gross profit of £7,234 7s. and a net amount available for distribution of £1,731 5s. 7d.

The 1910 Stanley Show.
Already the date of next year's Stanley Show has been decided upon. The 1910 exhibition will be the thirty-fourth of its kind, and will be held at the Royal Agricultural Hall, November 18th to 26th (both dates inclusive).

New Speed Limits.
On the main road through Bettws-y-coed from the south-east boundary of the old post office to the Elsi Lake, Jubilee Path, and on Mill Street, Bettws-y-coed, from the bend under Tanybryn to the above-mentioned main road.

Compliments of the Season.
The Editor and staff take this fitting opportunity of wishing all readers of *The Motor Cycle* a Happy Christmas and a Prosperous New Year.
As in past years a portion of the present issue is devoted to the lighter side of motor cycling. The article, "A Peep into the Future," cannot fail to interest all at this season of the year.

Inland Revenue Licences.
Motor cyclists are advised to take out their 15s. Inland Revenue licences as soon as possible after January 1st, as should the new Government decide to increase the amount of the present licences, they might quite possibly immediately take effect. In this case all those who had not taken out their licences would have to pay on the larger scale, while those who have paid would probably require to make no further expenditure until January, 1911.

Loan of Lantern Slides Wanted.
Mr. B. H. Davies would be glad if any reader who possesses lantern slides of any incidents in the 1909 motor cycle trials either of the A.C.U. from the Shrewsbury Centre, or of the Scottish Trials from Edinburgh to John-o'-Groat's and back, would put these slides at his disposal for a lecture he is invited to give to a motor cycle club. He will be happy to pay all expenses. Letters and parcels should be addressed c/o the Editor.



SPECIAL FEATURE

SEASONABLE ARTICLES AND ILLUSTRATIONS.

A PEEP INTO THE FUTURE.

BORE-STROKE RATIO AND EFFICIENCY.

Imports and Exports of Motor Cycles.

Last week we drew attention to the marked increase in both foreign imports and British exports of motor cycles and parts during November. The figures for the eleven months ended November 30th compared with previous years were as follows:

	1907.	1908.	1909.
	£	£	£
Motor cycles	48,612	35,349	38,250
Parts thereof	27,463	25,360	27,036
	£76,075	£60,709	£65,286

Our exports show a much greater increase, this year's figures being already £36,488 in advance of the figures for the corresponding period of last year. For the eleven complete months of 1909 the value of British exports as well as the figures for the two preceding years, were as follows:

	1907.	1908.	1909.
	£	£	£
Motor cycles	25,186	33,768	57,764
Parts thereof	24,461	18,336	30,828
	£49,647	£52,104	£88,592

The Re-exports.

£7,614 worth of foreign-made motor cycles and parts were re-exported from this country during last month, bringing the eleven months total for 1909 to £20,731. The above figures are a clear proof that the pastime is growing rapidly in countries over the seas as well as at home.

Six Days' Reliability Trial.

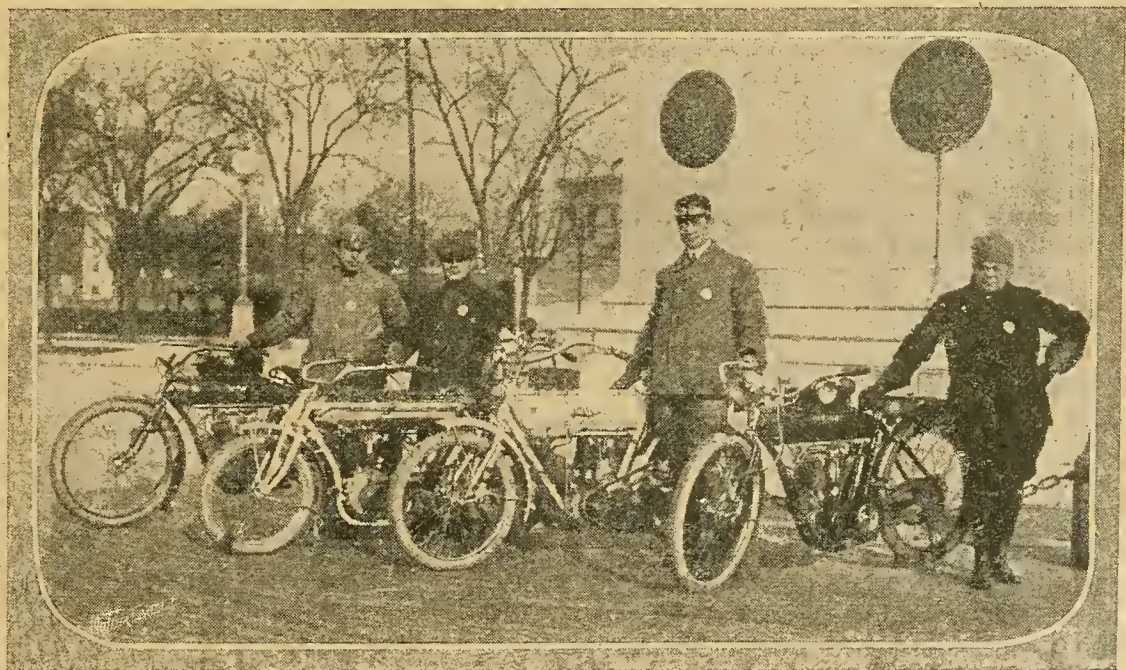
It has been decided that next year the annual reliability trial shall extend from Land's End to John-o'-Groat's. It is possible that the route followed last year may either be amended or the course be extended, so as to make the trial more arduous.

A New South Wales Motor Act.

The N.S. Wales Motor Traffic Act, 1909, has recently been assented to, but owing to the fact that it will take a considerable time to prepare a comprehensive set of regulations, and to provide other necessary machinery, the Chief Secretary has determined that the Act shall not come into practical operation until January 1st next.

A "Flying Squadron."

At the suggestion of T. K. Hastings, a "flying squadron" composed of four motor cyclists has recently become part of the staff of Sheriff Alfred T. Hobley, of King's County, U.S., and is said to be the only one of its kind in existence. In the event of an emergency one of the motor cyclists is pressed in service, and dashes off on his motor cycle to fulfil any order. If the sheriff requires a paper served in a hurry, the members of the squad are ready and willing to travel any distance for him. It is expected that sheriffs of other counties will follow the example of Sheriff Hobley, who, by the way, will recommend Sheriff-elect Quinn to reappoint the squad special deputy sheriffs, when the former vacates his office on December 31st.



A U.S.A. sheriff's "flying squadron." From left to right: T. K. Hastings (chief) (Indian), J. B. French (Peugeot), J. C. Fawcett (N.S.U.), and F. H. Chase (Indian). (See paragraph above.)



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Abolition of the Speed Limit.

[4439].—Like many other motor cyclists in this neighbourhood (Blackheath, S.E.), I am anxiously waiting to hear that some steps are being taken to abolish the present speed limit. Surely we have sufficient members in both Houses of Parliament to carry through successfully an amendment of the present law. It seems to me we are continually grumbling, but as for taking definite action it does not appear to have occurred to anyone with means in his power to take the matter up.

WEARIED.

The Value of Awards.

[4440].—I notice in the last issue a letter from a competitor in the Six Days' Reliability Trials who grumbles about the prize for which he competed, the value of which he says is sixpence. I believe that the Victoria Cross, which a man will risk his life to gain, is worth about 2½d. Do we ever hear soldiers who have won this coveted distinction grumbling about its value? J. W. Morris seems to be one of those who compete for the value of the prize and not for the distinction of winning it.

C. G. C. BARDSLEY.

Pressed Steel Frames.

[4441].—Messrs. J. T. Brown and Son's claim to be the first to make a motor cycle frame from sheet metal becomes misleading when this form of frame construction is placed in the same category as the pressed steel frame or chassis.

As patentees and manufacturers of the first pressed steel frame as exhibited on the Roc stand at the recent show, we would respectfully point out that, however excellent each may be, the two forms of design and construction are totally different.

We trust you will allow us to make this correction of your correspondents' claim.

A. W. WALL, LTD.

Timing Methods.

[4442].—I should like to know the alleged times of the competitors in the Shropshire M.C.C. hill-climb, because I think it is quite time that the A.C.U. as the ruling power should have something to say as to what methods of timing are permissible in club contests held by its affiliated clubs. In my opinion, it is absolutely impossible to time, and consequently to place, machines and riders when such crude methods as three flagmen and one watch holder are adopted on a course where the timekeeper cannot see the start or finish. The element of human error under such circumstances is so great that even allowing all employed to be competent and conscientious this must prevent the so-called timing being anything except a farce.

DISGUSTED.

Riding in Cold Weather.

[4443].—In the issue of November 29th two correspondents raise questions connected with cold weather riding. My personal solution of these during five weeks of brilliant frosty weather in Fife, N.B., has been (1) oil. I use the same air-cooled thick oil as in summer, but when filling tank I mix two ounces of paraffin oil with a pint of lubricant; this thins it sufficiently. (2.) Cold hands. I cured these by wearing, not gloves, but so-called "mitts," which are gloves without separate fingers, but with separate thumb. Gamage's supplied me with a pair of rabbit fur mitts lined with wool at a very reasonable price. By using these the heat of the fingers is not dissipated, as in the case of gloves, but each finger keeps the others warm.

J. F. BRIGGS.

An Explanation.

[4444].—Since the Stanley Show several people have spoken to me about the variable gear as fitted to the 1911 Midget Bicar. The majority of them were under the impression that on any but the top gear the rider would have to keep his feet pressed hard on the footboards in order to keep the belt at the required tension. This is a mistake, as the rocking motion of the footboards is controlled by metal friction plates within the frame, and to show the efficiency of this device the machine can be driven up a steep hill with the feet off the footboards.

A. G. WILLS.

Improvements in Detail.

[4445].—May I trespass on your valuable space by adding to the suggestions of your correspondent in a recent issue who signed himself "F3140"?

(1.) To my mind, the detail that most of all mars the perfection of the Triumph motor cycle is the method adopted for fitting the small gas and air pistons of the carburetter. The tops of these pistons are screwed in with a very fine thread, and the task of unscrewing and screwing home again every time it is necessary to dismantle the cylinder (or even to clear the gauze of the carburetter) is neither good for the Bowden wires nor yet for the serenity of one's temper; and the smallness of the nut on top of each piston does not improve matters. Why not adopt a bayonet joint fitting? All you then have to do is just to push the piston home, give a quarter turn, and no more trouble!

(2.) Considering also how often it is necessary to remove the valves for grinding purposes, why not supply a proper valve extractor as one of the ordinary tools in the tool roll?

AUSTIN LESTER.

Belts on Lightweights.

[4446].—In answer to your correspondent, P. G. LL. Courts, the jockey pulley had a V groove. This was filled up with copper wire and made solid with solder. The pulley was turned out to 28° to take ½in. Watawata V belt, and a new 28° belt rim fitted on back wheel. On my machine it was not possible to get direct drive, because the back stay would catch the belt, and the pulley (3¼in. diameter) is too small. There is no room to fit a large reducing gear pulley. I have not found that the belt has in any way suffered through using the jockey pulley.

I may say that the alterations to my machine were carried through by Mr. J. Dall, Dalton Road, Barrow-in-Furness.

If your correspondent cares to communicate with me, I shall be very pleased to give him whatever information I can.

EO 194.

[4447].—I should like to reply to Mr. de Lissa's letter in last week's issue of *The Motor Cycle*. I cordially agree with the remarks "Ixion" has made with reference to the round belt drive. The belt on my machine caused me more trouble in the six weeks I had it than one would have thought possible. There was only ½in., or rather less, clearance between the belt and the mudguard; consequently I ripped that aforesaid mudguard out three times. In those six weeks I broke twelve fasteners, and when I sold the machine I had to have a new belt fitted. During dry weather I found it necessary to dress the belt twice a week to keep it in anything like condition.

If Mr. de Lissa thinks the round belt drive and jockey pulley are perfect, I for one humbly beg to differ from him. I am not quite sure that even makers with brains always know the best. If they did, we should have arrived a good deal quicker at the present stage of efficiency.

EX-LIGHTWEIGHT.

Wired-on v. Beaded-edge Covers.

[4448].—I think the letter [4419] about wired-on v. beaded edge tyres is, to use one of Mr. Karlake's own phrases, "irresistibly funny."

Dealing firstly with the list of advantages of wired-on: Do we often hear of beaded tyres blowing off the rim, or when going round corners or skidding? Do wired-on prevent water from entering at the rim any more than beaded tyres? My answer in each case is "I don't think."

Now for the beaded edge: Do the rims rust any more than with wired-on? Are beaded more liable to creep than wired? Are they *really* more difficult to repair? My answer to these questions is the same as before.

Are wired tyres so *very* much lighter than beaded? If so, how many ounces—or grains?

Mr. Karlake says that wired are almost entirely used on pedal cycles. I may say that beaded tyres are very extensively used on pedal cycles, and their use is steadily increasing. Mr. Karlake is, however, kind enough to give beaded tyres one advantage, and for this I thank him. How foolish it is for makers to use beaded tyres almost universally when wired-on are so much better. Can it be due to the Budget? I hope Mr. Karlake knows more about tyres than about lightweights, or it may be that he is mistaken in some of his remarks about tyres. L.C. 4919.

[4449].—Mr. Karlake, in his letter on the above subject, gives publicity to a question that must have often vexed the minds of readers of this paper. At one time I was inclined to share his views, having possessed a lightweight motor cycle, the back wheel of which was shod with a 2in. Dunlop and the front one with a 1½in. Palmer, both of the wired-on type. These covers have travelled some thousands of miles without giving the slightest trouble; in fact, in a season's riding no puncture was experienced. A careful investigation, however, of the matter has convinced me that for medium and heavyweight machines the beaded-edge cover is the most suitable one to fit, and I give the following reasons in justification of my contention.

There is no doubt, however well adapted a wired-on cover may be for pedal cycles and lightweight motors (although I challenge Mr. Karlake's statement that this type is used "almost entirely" on the former), that for motors of 3 h.p. upwards beaded covers cannot be improved upon. I grant that a more satisfactory repair can be effected on a wired-on cover, but emphatically deny that this type prevents water from entering the rim. It will be found in actual practice that the tools employed to fit and remove these covers, however carefully manipulated, soon chafe the coating of the fabric and rubber with which the wire is covered, causing water to enter, when a disastrous burst sooner or later follows. Tools do not affect beaded edges to the same extent, and, besides, when once fitted and sufficiently inflated, covers of this description lie far more snugly in the rims, making an almost waterproof joint. I have yet to learn that the wired-on cover does not creep.

In regard to blowing off, Mr. Karlake perhaps has never experienced a broken wire whilst riding. I can assure him in the event of this happening the advantages of the beaded-edge cover require no championing.

R. WENTWORTH COOK.

Novelties at the Stanley Show.

[4450].—I read with interest in last week's issue of *The Motor Cycle* the summary of the paper that was read by Mr. H. G. Cove before members of the Essex Motor Club, and I consider most of the criticisms very fair. Dealing with the Bradbury motor cycles I notice Mr. Cove remarks, "I was surprised to find that the frame was still made without a tube under the tank." The same thought has doubtless crossed the minds of other readers, and I welcome this opportunity of offering a few words of explanation.

In the first place, had Mr. Cove seen sections of the tubes of which the frame of this machine is built (these were on view at the Bradbury Stand at the Stanley Show), I believe his surprise would probably have evaporated. Again, the down tubes of the diamond frame are actually built into the crank case, giving perfect and permanent alignment, and making so thorough an engineering job of the whole machine that no necessity whatever exists for the auxiliary tube in question. Incidentally, too, the absence of this tube

gives the advantage of a lower frame; in consequence the Bradbury is one of the lowest frames on the market. I have found from experience that the frame is stronger and far more capable of withstanding the strain of a sidecar on bad roads than a great number of frames with the addition of top tube. There are certainly some very good points in favour of motor cycles without the extra top tube, the most significant one being that by merely swinging the tank to one side, the valves may be ground in about one-tenth of the time it usually takes, and without removing the cylinder.

May I be allowed to answer a question which this explanation may prompt a novice to ask, viz., if the down tubes are built into the engine case, how do you get the engine out for replacements, etc? The answer is that it is really a blessing if one can accomplish this without removing the engine bodily from the frame, and this is the case here. By simply removing the aluminium side of the crank case the flywheels may be taken out, a few minutes only being required to perform this operation, which could not possibly be accomplished in the usual way in anything like the time. A. T. STANTON.

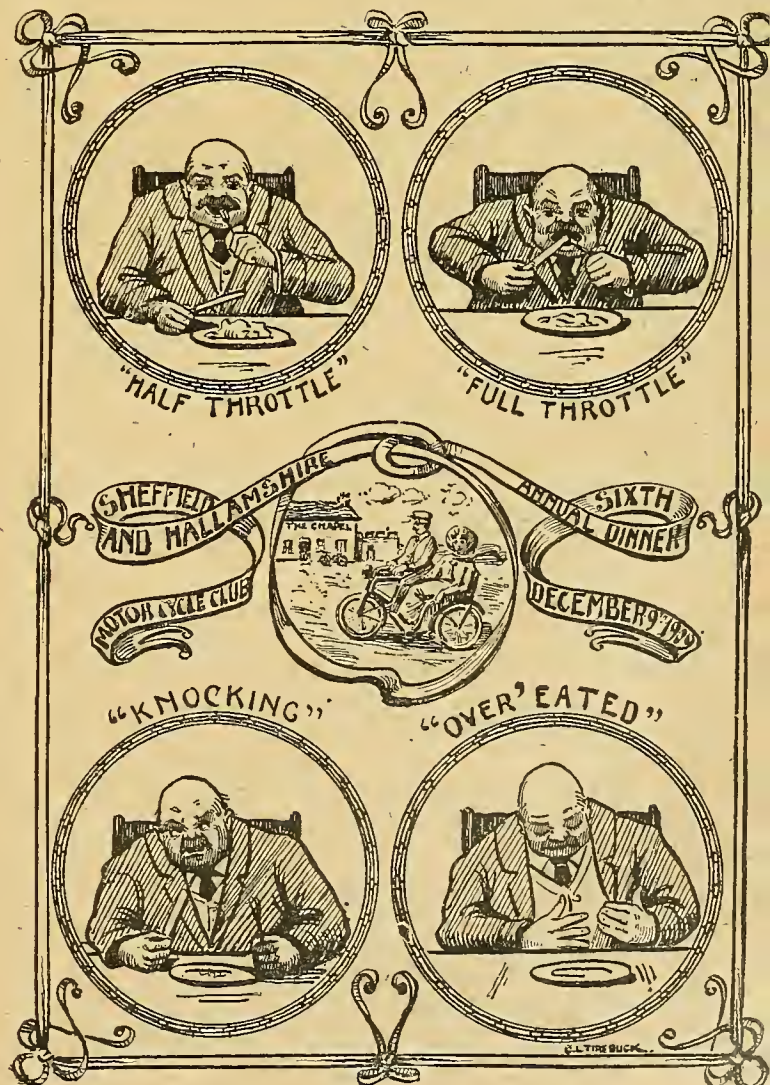
English v. French Measurements.

[4451].—I have no intention of taking part in the metric controversy. Some things are to be said for it, and very much is to be said against it. But I would point out to F. L. Woodroffe that courtesy should be observed in correspondence. Being amused at other correspondents implying they are foolish.

Mr. Woodroffe is in the wrong as far as I see from his letter. I have not the others before me. 85 mm. is not 3¼ in. in working measurements. It is 3½ in. full. The metric system is such that lin. is not an aliquot part of it, whose fault is that? The English system existed first.

It is regrettable that metric measurements have been largely introduced into motor work. Both Continental and English manufacturers work to standard sizes, and the cylinders would, by an English manufacturer, probably have been referred to as 3½ in. As to calculations, the metric system is more unwieldy and cumbersome than the English.

J. STORMONTH.



Design on the menu card of the Sheffield and Hallamshire M.C.C. sixth annual dinner, sketched by a youth of sixteen.

Medium Powered Machines at the Stanley.

[4452.]—May I ask a little space in your correspondence columns to correct a stupid blunder in one of my Stanley now articles? I included the 2½ h.p. Douglas in my report on the tourist machines, and I think anyone who has ridden on the road will agree that it is sufficiently powerful and fit to deserve a place in that class. At the same time its low weight certainly entitles it to a place in the lightweight class. I understand the latest models scale about 105 lbs. all up, with tanks empty. It ought, therefore, to have figured in both my articles, first as a genuine tourist machine, and secondly as a genuine lightweight. B. H. DAVIES.

A Friendly Match.

[4453.]—I should be very sorry if the friendly "scrap" which I had with members of the Western District M.C.C. could be taken as the final result of my challenge. The stance over which we rode was certainly not more than half a mile. The engine of the 2½ h.p. Wanderer is fitted with exceptionally heavy flywheels, and I weigh nearly 14 stones. It will therefore be seen that I was severely handicapped in such a short run. I knew that I had no earthly chance, and simply started as I did not want to disappoint the many spectators. I have never yet been passed by a 3½ h.p. single or a 5 h.p. twin when going all out on the road, and I am sure that there are many motor cyclists in London who will support what I say. To prove what the machine will do I would like to race from ten to 100 miles.

I am not connected with the Wanderer firm in any way. I simply take an interest in the machine, because after seven years' experience of motor cycles I consider it to be the most sporting little mount I have come across.

H. C. TROMP VAN DIGGELEN.

American Records.

[4454.]—I have enjoyed your paper very much, with the exception of one thing. It seems almost incredible to me that British motor cyclists cannot believe that our American racing motor cycles are capable of such wonderful speed as they have made during the past year or so. Possibly it is not taken into consideration that most of the records were made on a very fast board track, where there is practically no power lost by skidding or irregular surfaces.

There are several makes of American motor cycles making marvellous time of late. The Indian, Reading Standard, Merkel, and Harley-Davidsons are all capable of speeds which are apparently beyond the comprehension of our English friends.

Nothing would please me more than to see an International race meet. At such an affair the question of superiority would soon be settled beyond any argument.

The British are really convinced, I believe, that the powerful little 5 h.p. twin Indian which Lee Evans has been singing of late is really a fast piece of machinery, but wait, just wait, my friends, until you see one of the big 7 h.p. racing Indians on one of your fast tracks.

I would like very much to see you credit our American riders with what is really due to them, and the time will come when you will be obliged to do it.

Wishing your splendid paper the best of success,
Milwaukee, Wis. S. LACY CROLIUS.

Lightweights v. Heavyweights.

[4455.]—I am obliged by Mr. Turpin's reply in your issue of December 6th, respecting his 230 miles tour. It is interesting to learn that an engine 50 x 85 mm. twin is over 2 h.p. As a matter of fact, it is over 3.9 h.p. by R.A.C. rating, practically 4 h.p. I think I am right in saying this is the largest engine the Moto-Réve people fit. Why he should presume I have had no experience of riding a lightweight I do not know. As a matter of fact, I rode a most excellent lightweight for three years, and got a good deal of enjoyment out of it. It had a single-cylinder outside flywheel engine, 65 x 65 mm., similar to the Stevens, and could average 14 m.p.h. all day pulling a trailer and passenger. I went many solo tours of 200 to 300 miles during the week-ends, and could average 18 m.p.h. comfortably. My reason for changing to a heavier machine was a desire for more power, comfort, and luggage capacity.

A noticeable feature of the discussion on lightweights is the constant reference to the excellent twin Douglas as a lightweight. The only published weights I have found are on page 679 of Sept. 8th last. The Douglas machines in the

M.C.C. consumption trial are given as weighing respectively 145 lbs., 122 lbs., 124 lbs., and 150 lbs.! And these weights were minus petrol. It has been my pleasure to ride many hundreds of miles in company with these machines in competitions this summer, and their performances in reliability, speed, and hill-climbing power have been splendid. The one or two trifling mishaps they have had are such as any machine is liable to.

The details of cost of running the Douglas given in Mr. B. A. Hill's letter are most instructive and really give us some information worth having except that 1s 1d. per 1,000 miles for depreciation does not seem enough. For a real lightweight, the Motosacoché is in a class of its own. The Edinburgh and Back and Six Days' Trials place it far ahead of any other lightweight in my estimation.

HAROLD KARSLAKE.

Road Dangers at Night.

[4456.]—"J. F. R." in his letter No. 4383 of November 22nd, informs us that public highways were used and maintained by farmers for their predominating business years before self-propelled road vehicles were invented. I quite agree with him; but, surely, he does not think that farmers, simply because they can claim their predominance in this respect, can rule the road?

I should just like to mention the treatment I received from a farmer the other evening. I was riding my motor cycle home from Bristol, and when rounding a curve on the Sandford Road, which is inclined down hill, I suddenly saw half a dozen or so bullocks coming towards me. I was quite on the alert, and riding about twelve miles per hour, but being at a corner I could only see a few yards ahead of me. I was riding on the correct side of the road, and as I was steering for the other side the leading bullock dashed into me, throwing me on to the top of the hedge, the machine falling to the ground. In this position I could hear the farmer swearing at me. When I had extricated myself from the thorny hedge, and got down on to the road (luckily unhurt) no trace of the farmer or his cattle could I find, he having driven his beasts on and left me to look after myself. Picking my machine up I found the front wheel buckled and quite immovable, so I sat down and waited for a good Samaritan to come along, which happened to be in the plural. Three ladies, who were on their way to Winscombe, came to my rescue, and helped me to carry the bicycle into a barn a few hundred yards away, which belonged to the father of one of the ladies.

Now, sir, this might have been a very serious accident, as I might easily have broken some limb. This not being the case, I was able to attend to my few bruises myself, but any inquiry, however, put by the farmer would have been better than none at all and simply taking no notice of me!

The sooner a law is passed for cattle drivers to carry some coloured light at night, as has been mentioned several times in your paper, the better it will be for all those who use the King's highway.

A. P. BOARD.

SUMMARY OF CORRESPONDENCE.

"A Britisher" writes in strong praise of the Stratex leather belt made by J. B. Brooks and Co., Birmingham.

EXPERIENCES WANTED.

"C.L. 359" desires private owners' experiences with the Whittle Link Grip belt.

"E. A." would like to have readers' experiences with the Scott two-stroke engine, especially with regard to its adaptability for colonial use.

"M.R.C.S." would like to have readers' experiences with the A.C. sociable tricar in medical practice.

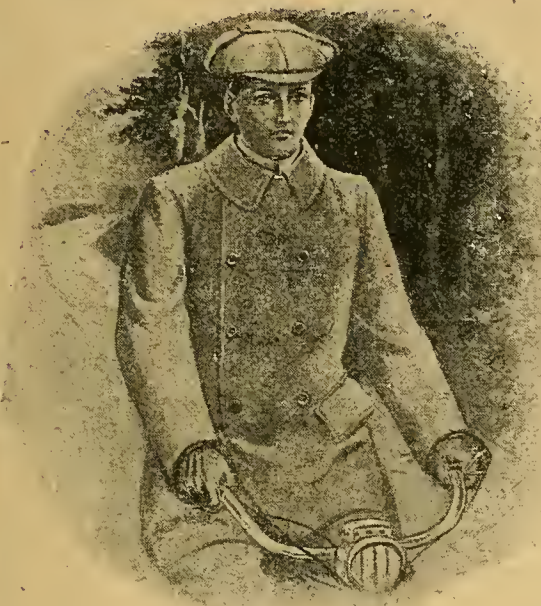
M.B. (Bolton) would like riders' experiences with ladies' lightweight motor bicycles, particularly with regard to hill-climbing power, ease of starting, reliability, and suitability for touring.

NOTICE.

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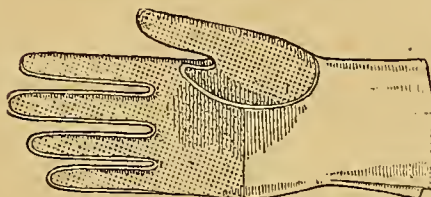
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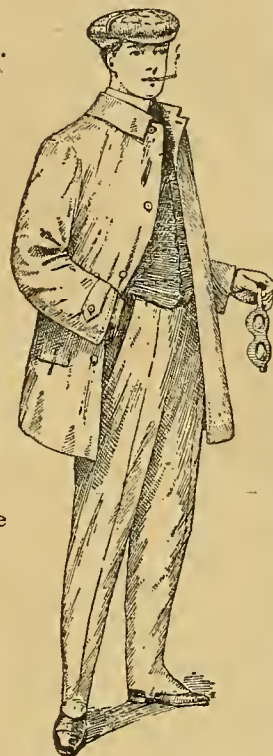
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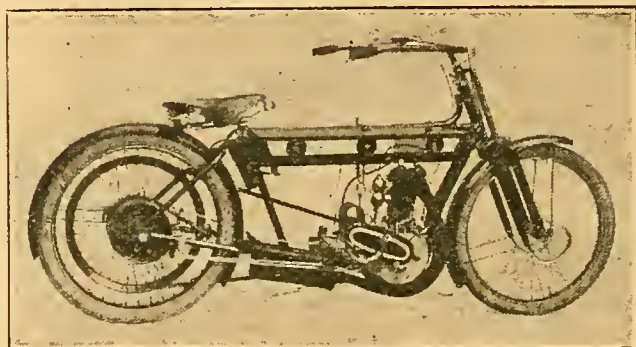
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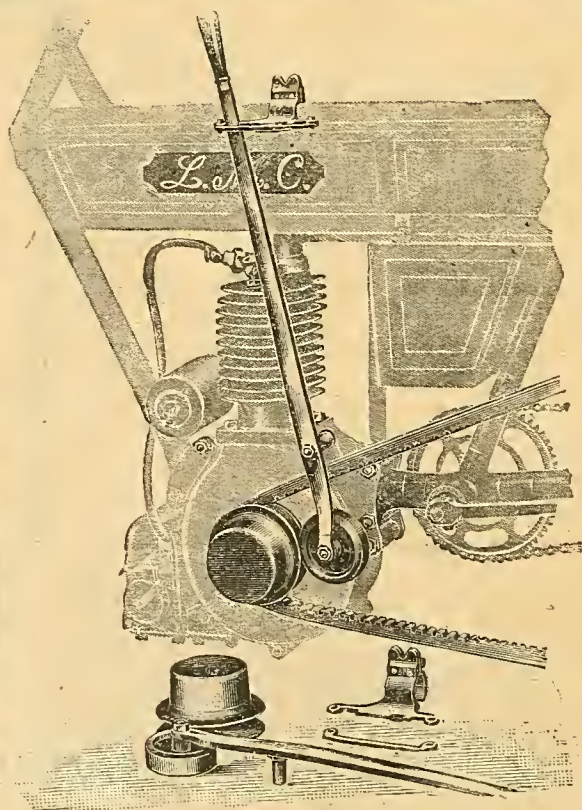
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Hints and Tips for Motor Cyclists.

By Road Rider.

EXHAUST COTTERS.

320. Two main types of exhaust cotter are in vogue. One is a broad flat piece of metal, the other a half inch strip of circular metal or wire, preferably silver steel. Of these types the circular design is infinitely preferable. It is quite as easy to extract or replace as the flat variety, and never becomes "burred." Often when a flat cotter that has run some distance calls for removal, it will be found to be badly burred by the pressure of the spring, so that a good deal of work has to be done with a file in a most inaccessible place before the cotter can be extracted. When ordering a special valve it is well to specify a circular cotter; the hole for these cotteners probably weakens the valve stem less than the much larger slot demanded by the flat variety.

SAFEGUARDING SPRING FORKS.

321. One or two spring fork devices consist of a pair of spindles, one on each side of the front wheel, over which coiled springs are fitted. It will be found that if one of these springs should chance to snap, either the spindle will snap, owing to the eye slipping down the spindle and throwing a heavy cross strain upon it, or else the mudguard will be lowered on to the tyre, and act as a powerful brake, with every probability of a resultant fall. Such a catastrophe may be simply avoided by removing the wheel and threading a short piece of tubing over each spindle inside the spring; when this is done the fracture of a spring can neither snap the spindle nor let the mudguard down on to the tyre.

WATERPROOF GLOVES

322. The purchase of a pair of gloves is fraught with pitfalls for a motor cyclist. It is easy enough to find a pair of gloves which will be warm in dry weather; the difficulty is to find an inexpensive pair of truly waterproof coverings for the hands. The special indiarubber gloves sold for the purpose are rather costly in the first instance, but are most warm and satisfactory in use; they usually deace through too intimate an acquaintance with grease, so they must never be worn while handling greasy parts of the mechanism, nor must they be put on when the hands are oily. Certain expensive furs are waterproof, but the cheaper furs become as hard as boards when once wetted. The cheapest and most durable waterproof gloves I ever possessed came from a small hosier's in a hunting neighbourhood. They cost no more than 3s. 6d., and will wear for ever. They are rather difficult to get, but if the local hosier is informed that a 3s. 6d. pair of waterproof leather driving gloves are procurable he will usually manage to obtain them. The ordinary leather glove stiffens badly when wet, and ever afterwards its seams are knobbly and most unpleasant to the skin.

ADJUSTABLE PULLEYS.

323. In theory all adjustable pulleys function equally well, especially in conjunction with an adjustable

fastener. In practice many of them suffer from one or more drawbacks. If a rod runs close beside the pulley from pedal to rear brake care should be taken not to order a pulley adjusted by slipping washers between the flanges, as the brake rod will require dismounting for each adjustment. A pulley that requires no tools in its adjustment is obviously preferable to a type which requires a hammer and punch, or an enormous spanner to unlock it. Some pulleys, especially badly made samples of the type fitted with right and left-hand threads, have a habit of getting jammed tightly, and great force is occasionally necessary to unlock them.

ROLLED-EDGE BELT RIMS

324. In purchasing a standard machine we have to accept a type of belt-rim fitted by the maker. In assembling a special machine care should be taken to specify a belt rim with a rolled edge to the outside flange. The sharp edge of a common belt rim is apt to gash the side and bottom of a rubber belt when it is forced off the rim, and damp will then enter, rot the fabric, and start the disintegration of the belt.

TRICAR REAR TYRES.

325. A good many old pattern tricars now on the market would be very good little vehicles were it not for the rear tyre. The average 2½ in. motor bicycle tyre is not strong enough for either the weight or the driving strains of a two-speeded passenger machine. It will always pay to have the wheel rebuilt to take a special 2½ in. motor cycle or small car tyre, and I have known several little 1905-8 tricars metamorphosed into very satisfactory mounts by this inexpensive alteration. The small car tyre wears perhaps 5,000 miles, instead of the 1,000 miles which destroyed the former 2½ in. cover, and punctures become extremely rare.

TIMING MAGNETOS.

326. Every rider who keeps a machine long enough to run it a considerable distance will sooner or later be exercised over the timing of his magneto. The points, cams, and roller wear, and the chain stretches. When he essays the operation of re-timing and discovers the dead centre of the piston's compression stroke, he may easily lose the timing again when tightening some portion of the magneto drive on its shaft. He will then have to discover the piston position all over again. Therefore when this dead centre, from which all magnetos are timed, has once been found, it is useful to devise an external means of instantly setting the piston accurately on the dead centre. This is simply done by filing or punching marks on the circumference of the pulley, and at a corresponding point on the crank case. It is then only necessary to pull at the belt till the marks register, when the dead centre has been found in a second. (Note.—The piston, of course comes to the top dead centre position twice in each cycle—first at the top of the exhaust stroke, secondly at the top of the compression stroke. The correct dead centre can be verified by watching the exhaust valve; that upstroke is the correct one during which the exhaust valve remains closed.) A further note of value to novices is that the chain should not be uncoupled. The chain sprocket on the magneto should be loosened instead, which is quickly done, by undoing the nut and gently pressing against a screwdriver held so as to lever the sprocket gently away from the magneto, and simultaneously tapping the end of the shaft lightly. A few of the very latest pattern magneto machines are provided with a device which automatically loosens the sprocket when the nut is undone; this greatly simplifies matters.



Many riders prefer motor cycle subjects in connection with their Christmas greeting cards, and we annually receive very tasteful specimens from our readers. The picture postcard illustrated is one sent by F. H. Mullett, hon. sec. of the Western District M.C. (London).

Sydney R. Jones

Questions & Replies

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Accumulator Charging.

? Can I charge an accumulator on a circuit which has one lamp (16 c.p.) always burning? The voltage is 50, reduced from 100, for Osram lamps by a transformer. I can get bubbles of gas when the wires are immersed in acidulated water.—A. WHITE.

The current would be suitable if it is a continuous current, and the connections are properly made. The best way to find this out is by writing to the company whence the electricity is produced.

Two-speed Gears and Belt Slipping.

? I have a 5 h.p. twin motor bicycle and sidecar, and am thinking of having it fitted with a two-speed gear. I have always been troubled with belt slipping with both leather and rubber belts. Will belt slip more when using the low gear? If so, should you advise a new belt rim and lin. belt? The present one is $\frac{3}{4}$ in.—A. I. T., Taunton.

We should certainly advise a new belt rim and lin. belt if any serious touring with sidecar is contemplated.

Various Interesting Queries.

? (1.) Kindly let me know where I can procure double-pole plugs for multi-point ignition as described in your columns. (2.) What is the objection to adjustable valve tappets? They seem to be very uncommon. (3.) Does gumming-up of the engine take place principally on the piston rings or on flywheels? (4.) What is the criterion of compression on a pedalless machine? Ought one to be able to turn the engine over by means of a rope wound round the pulley?—I. C.

(1.) Lodge Bros. and Co., 14, New Street, Birmingham, supply double pole-plugs for multi-point ignition. (2.) Increased complication and extra cost of manufacture are the only objections we can see. The advantages are many. (3.) Gumming takes place chiefly on the piston, except in the case of some engines where there is very little clearance between the flywheels and crankcase. (4.) The best way is to jack up the machine and feel the compression by turning the back wheel against it by hand. Pulling on a rope wound round the pulley should gradually overcome the compression.

The Furze n fith Magneto Co. de scr.

? Is the condenser on a 1909 Bosch magneto for the purpose of storing electricity until wanted, or is its function to reduce the force of sparking at the points of the contact breaker? If the latter, what is the theory of it?—F.B.S.

It would take too long to enter into the theory of the condenser here. One of its functions is to reduce the sparking at the contact breaker points. For further information on this subject we should advise you to apply to the Bosch Magneto Co., 23, Store Street, Tottenham Court Road, W., who are always ready to answer queries of this nature.

Warm Hands when Riding in Cold Weather.

? Can you inform me where to get some handle-bar muffs, as I have tried the very best gloves and cannot keep my hands warm in cold weather? In fact, it is absolute agony to ride on very cold days. Can you help me? Also perhaps readers of *The Motor Cycle* would say what devices they have fitted to their machines?—S.J.S.

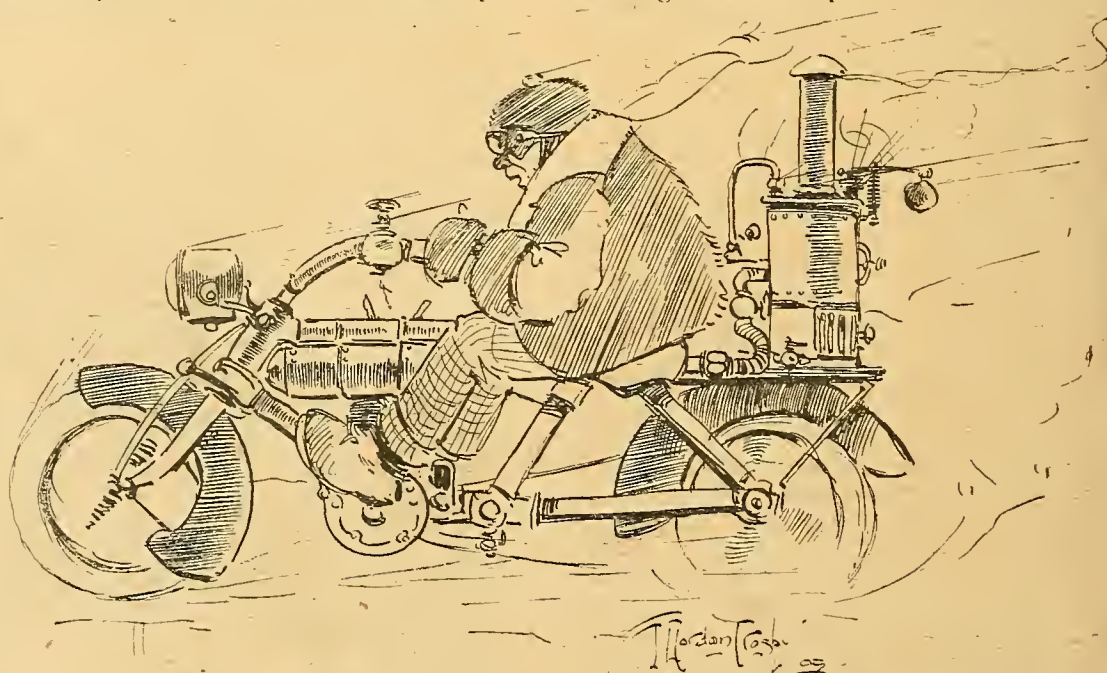
Handle-bar muffs in question can be obtained from the Service Co. or Gamage's. We also refer you to the correspondence now appearing in *The Motor Cycle* anent "Cold Fingers." Personally, we have never found any-

thing better than thick woollen gauntlet gloves, together with leather gloves above them, or handle-bar muffs. Hedger's gloves lined with lambs wool are recommended by readers. They cost 1s. 6d. to 2s. per pair.

Rigid and Flexible Pattern Sidecars.

? I drive a 6 h.p. N.S.U. and Millford rigid sidecar. I must say the combination is perfection on the level, but I had the steering completely thrown out the other day merely through wheel of sidecar passing over a lump in the road. I also find it rather awkward to drive when sidecar is upon camber of the road. I was wondering whether a flexible sidecar would put the matter right, or is it really more practice that is required?—J. S.

We think if you will persevere a little longer you will have no further trouble, as it is merely a matter of practice. All kinds of sidecars we have tried are somewhat awkward to steer on cambered roads. A lump in the road, however, should not upset the steering. Are you sure the attachment has been fitted in the correct manner, and are the wheels in proper alignment? This is important. As regards a flexible sidecar, these adapt themselves to rough roads better and are easier to steer on straight roads, but cambered roads, especially at corners, affect the steering considerably.



Why not? The Hot Water motor bike for winter riding. It will be noticed that hot water circulation is carried throughout the frame tubes, and the cold finger problem has been given especial attention.

Making Crank Case Joints Oiltight.

?

I have a 1909 standard machine which persists in leaking round the joint between cylinder and crank case. I use thick air-cooled oil. (1.) Will fish glue stop it? (2.) Will it be difficult afterwards to remove the cylinder? (3.) How do I apply it?—H.E.S., Canterbury.

We do not think it is necessary or advisable to use fish glue. See that the surfaces are clean and true, and insert one or two washers of clean smooth brown paper free from bits and soaked in boiled linseed oil. Cut the washer by placing the cylinder (mouth downwards) on a sheet of dry brown paper, mark the positions of the bolt holes and cut out the ring for cylinder. Soak the paper in the oil, drop it over the bolt holes, and replace the cylinder. Screw down all four nuts carefully one turn at a time, and afterwards trim off superfluous paper with a sharp knife.

Renovating Frame and Wheels.

?

I am about to renovate my motor bicycle by painting with Robbialac (French grey). I wish to know if it will be necessary to dismantle it completely in order to make a satisfactory job of it. Will you kindly inform me the best way to go about it? The machine is enamelled black at present. Should I have to remove all the old enamel before coating with the new? Please inform me the proper way to make a job of it?—J. F.

To make a really good job of the machine, the old enamel, especially if it is chipped, should all be removed with the aid of a blunt knife. The enamel is applied with one of the brushes specially supplied by the vendors of "Robbialac," and three or four coats should be given. Great care should be taken to lay on the enamel as evenly as possible. Also, allow each coat to dry thoroughly before applying the next one.

Changing from Plain to Trembler Coil.

?

I have a 2½ h.p. Kerry fitted with plain coil and make and break contact. I am about to fit a trembler coil. (1.) Would this work successfully without a wipe contact? (2.) Would the current consumption be greater? (3.) Would any alteration in the wiring be necessary?—K. S. T.

By fitting a trembler coil you will lose largely in general efficiency. The current consumption will also be much greater. The only advantages you will derive are slightly easier starting and a simple method of testing whether the ignition is in order by the buzz of the coil. No alteration in the wiring will be necessary, but you will have to alter the timing of the make and break contact breaker, as you must remember that the spark takes place at the moment of contact, and not at the moment of break, as with a plain coil. A blunt-nosed cam will also be necessary to enable the contacts to remain longer together.

Weak Compression. Faulty Carburettor Adjustment.

?

(1.) I had my 3 h.p. Raleigh motor taken to pieces by a good motor engineer recently, and he fitted new piston rings, two new bushes on the crank, cleaned the engine, and overhauled the Longuemare carburettor. I have done 150 miles since, and the compression is still very poor, and it does not develop its full power. The inlet and exhaust valves springs are good. The accumulators are fully charged. I use Price's oil. (2.) It misfires occasionally on the road in the daytime, and at night it runs all right. The points are two Jebron tips. Can you tell me the reasons for this misfiring and loss of power?—VOLVESTRE.

(1.) Probably the cylinder requires re-boring and a new piston. You can easily ascertain whether the escape of compression is past the valve caps or plug by spreading lubricating oil over all the joints, and standing on the pedal against compression. Tiny bubbles will denote the leakage. If no leakage can be traced, the only alternative is to have the engine doctored by a firm of specialists. You will never obtain full power until full compression is restored. (2.) The misfiring in the daytime points to faulty carburettor adjustment. We should say that too much air is admitted. Try as an experiment stopping up one of the holes at the base of the spray chamber. If this improves the running it indicates that a smaller air adapter is needed.

Improving an Old Pattern Machine.

?

I have an old pattern 3½ h.p. bicycle, and have been thinking of making the following improvements: (1.) Buying adjustable pulley; present gear is 5½ to 1. (2.) Having pedalling gear taken off and fitting footboards. I am unable to reach footrests on down tube on account of seat being a long way back. (3.) Do you think having the N.A.B. seat-pillar would stop vibration, or any other fitment? What do you recommend? (4.) Would dry battery be best for winter riding, seeing I only ride when roads are dry? (5.) Can I fix handle-bar control to existing carburettor? (6.) If I had gear about 7 to 1, would it climb the Derbyshire hills with footboards and minus pedalling gear?—B. W.

(1 and 2.) We quite agree with your suggested improvements. An adjustable pulley is not only useful for altering the gear ratio, but for quickly taking up slack in the belt. (3.) The seat-pillar mentioned would suit your purpose well, and should render the machine much more comfortable to ride, especially if you have spring forks in addition. (4.) Dry batteries would suit your machine well, especially if you use a plain coil. There is no acid to spill, and one battery should last right through the winter months. (5.) Yes, E. M. Bowden's Patents Syndicate, Ltd., would supply you with the fittings for converting your existing carburettor to handle-bar control. (6.) The gear

you suggest is too low, even if it were possible to get such a low ratio with ordinary pulleys. A very low gear causes excessive consumption overheating, and unnecessary wear of engine parts. 5½ or 6 to 1 would be better depending on your weight.

Selecting a Passenger Motor Cycle.

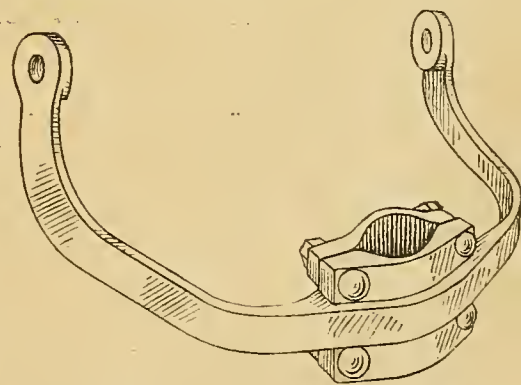
?

Being rather inexperienced kindly advise—(1.) Is a tricar a better form of passenger machine than a sidecar? (2.) Would a 4½ h.p. water-cooled two-speed tricar be powerful enough to propel twenty-five stones up a fairly steep hill? (3.) Would the running expenses be much more than a powerful twin motor cycle and sidecar? (4.) Would the 4½ h.p. tricar average 18-20 miles per hour on the roads in Essex, Suffolk, and Hertford? (5.) As I intend buying one or the other, which do you advise?—H.W.M.

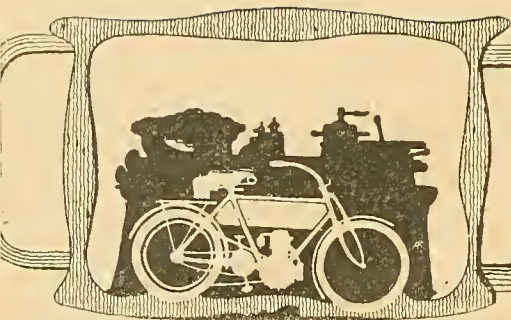
(1.) It entirely depends upon what you desire. If you want a machine from which you can occasionally detach the bicycle and use it as a solo mount, the sidecar is better. If, however, you want a fixed type of machine for use with and without a passenger, the tricar is better. We should, however, recommend you to specify a spring frame if you decide on a tricar. (2.) A good make of tricar such as you describe fitted with a two-speed gear would do what you require. (3.) The running expenses would be a trifle more than a powerful twin-cylinder bicycle and sidecar. (4.) It should average the speed mentioned. (5.) Which type you purchase is for you to decide. Moreover, we should require more particulars before expressing an opinion.

The F.R.S. Lamp Carrier.

A fortnight ago we illustrated the new pattern Mangin lens F.R.S. lamp, and detailed its many original features, which are sure to appeal to the practical rider. We have since received a sample of the latest adjustable forked carrier, which has been designed to obviate any necessity to alter the position of the handle-bar or brakework



of Triumph motor cycles, the F.R.S. lamp being popular with riders of these machines. As will be observed from the sketch, the carrier proper extends around the back of the handle-bar stem, the clamp and its nuts being affixed to the front of the stem. This new carrier is made of a patent non-rusting metal.



SILENCER DESIGN.

By ERYTH.

CONTROVERSIES on the subject of silencers which have appeared from time to time in *The Motor Cycle* confirm my opinion that the design of this important unit, at any rate as regards motor cycle engines, is not understood, a successful silencer being often more the result of good luck than good judgment.

To be successful a silencer, according to "Ixion" and others, should silence an engine without causing loss of power; but I go further than this, and would aim for the successful silencer an actual increase of power. I propose to show how this is possible, and to indicate on what lines the designer should proceed to secure such results.

The Role of the Long Exhaust Pipe.

Years ago gas engine makers found that a long exhaust pipe gave them increased power, the reason for this being that each discharge of exhaust gas pushing through the long pipe acted as a piston, and, instead of causing a back pressure, tended to produce its rear a vacuum. Under such circumstances no residue of burnt gas would remain in the cylinder to dilute the incoming charge, and the latter would be of the greatest possible volume. Experiments on these lines were carried out by a firm of automobile engineers with whom the writer is connected, and making use both of long inlet and exhaust pipes the power of an engine was increased by as much as 10 per cent. at high speeds.

But length of exhaust pipe, *per se*, is not the determining factor, for it is obvious that if a certain length of pipe produced a complete vacuum in the cylinder clearance space (not, of course, to be expected in practice), any further length would be a source of loss. Another effect of length must not be forgotten, and that is that it governs the period of the waves of pressure that are set up in the exhaust system, and it is only when, at certain critical speeds, the engine speed is in resonance with these waves that the maximum exhausting effect is attained.

This may be better understood when one recalls how, when splashing about in a bath, if one's body happens to move in tune with the waves already created, an extra big wave is the result, to the detriment of the carpet! If it is desired, therefore, to

have maximum power at a certain speed, a little experimenting with exhaust pipes of different lengths will probably materially assist.

The Ejector Action.

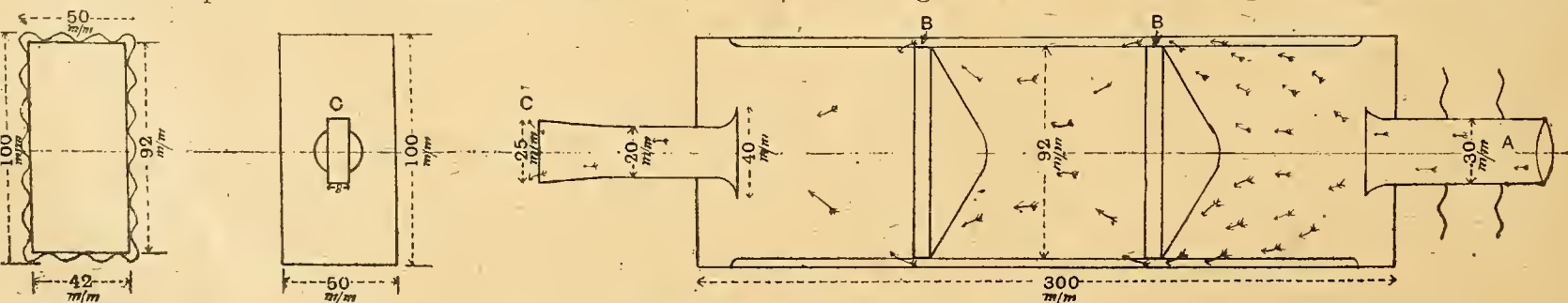
There is a third action that should be remembered when designing the exhaust arrangements, and that is the "ejector" action of a gas discharging through a nozzle. This has been taken advantage of on the four-cylinder F.N. to maintain a slight vacuum in the crank case, thus preventing leakage of oil and tending to keep the interior of the crank case cool; but it is probable that even greater efficiency would be obtained in the case of a multi-cylinder engine by causing the emission of exhaust from one cylinder to suck out, as it were, the exhaust from the cylinder next in order of firing.

There are, therefore, as regards the exhaust system, three favourable effects which it should be the aim of the designer to utilise: (1) Gaseous inertia, obtained by relatively long pipes; (2) synchronisation of the exhaust beat with the speed of the engine, obtained by the suitable proportions of the system as a whole; (3) utilisation of the energy of the issuing gases to either draw air into the silencer (preferably from the crank case) or to accelerate subsequent emissions of exhaust gas.

Little, if any, noise is made by the actual explosions in an internal combustion engine, provided the ignition is not unduly retarded. What is heard is the vibratory motion given to the atmosphere by the exhaust, and its intensity depends directly on the magnitude of this disturbance. Now if this dissipation of energy could be spread over the whole of one cycle; instead of occurring during one-fourth of the cycle only, *i.e.*, the exhaust stroke, the engine would be most effectively silenced.

The Advantage of Cooling the Gases.

Cooling the gases is quite the simplest way of steadily dissipating their energy, and is one that involves no corresponding dynamic disadvantage; indeed, if one could afford the space to cool the exhaust gas right down to atmospheric temperature, its emission would be as silent as is now the case when an engine is run with the spark switched off. Un-



Eryth's suggested silencer.

Approximate dimensions for a 500 c.c. engine. Exhaust valve 40 mm. diar. \times 7 mm. lift; area of opening, 880 sq. mm.

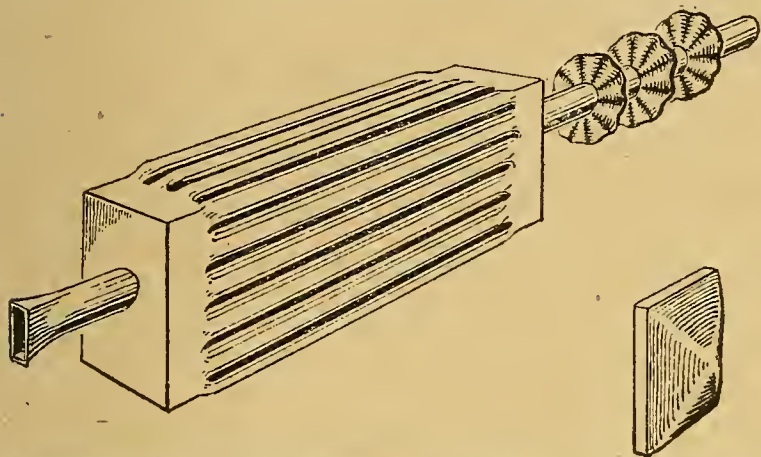
Exhaust pipe 30 mm. diar.; cross sectional area, 707 sq. mm. B. Openings past baffle plates, 600 sq. mm. C. Opening to atmosphere, 8×25 mm., 200 sq. mm.

Silencer Design.—

fortunately, on a motor bicycle one cannot spare either the weight or the room to do this, but in modern car practice this method of silencing is frequently adopted, and carried, literally, to a very satisfactory conclusion.

Much can be done, however, by using very thin elliptical steel tubing for the exhaust pipes and thin steel for the silencer, and by fixing radiator fins to the former similar to those fitted to some cars for water cooling.

Energy that cannot be dissipated by cooling must be "damped by another method, such as "wire draw-



Finished appearance of an exhaust box and pipe which cool and silence the gases before they meet the atmosphere.

ing" the gases by passing them through numerous small holes, breaking up the flow by directing it against internal baffle plates or varying the velocity by alternately enlarging and contracting the area of the gas passage.

The danger with, at any rate, the first two of the above methods is the production of back pressure by throttling the flow and the loss of all gaseous inertia. To retain the latter feature the direction of flow should never be violently changed. When a silencer depends for its action on forcing the exhaust to flow through a number of small holes, unless the aggregate area of such holes is about twice that of the exhaust pipes back pressure will be produced. (The coefficient of friction for the flow of gas through a circular hole in a thin plate has been found to be .597.)

A Cooling rather than a Throttling Effect.

Considerations of weight, space, and accessibility for cleaning will, of course, modify any design and render it difficult to make full use of the possibilities otherwise present. The sketches, however, represent a silencer for a 500 cc. engine that embodies most of the points touched on without being too heavy.

It will be noticed that a cooling rather than a throttling effect has been sought for, and to this end the exhaust box is corrugated and rectangular in section, presenting as large a surface as possible both to the hot gases and the outside air.

Constructional details are omitted, but should present no difficulties. The sides, top, and bottom would be of one piece of 22 gauge steel plate, the corrugations being pressed in before bending, and the joint a "grooved seam." The ends should be of rather stouter material, say 20 gauge, one of the ends riveted in place and the other secured by screws. The baffle plates would be pressed out in one piece and secured in position by screws.

A convenient position for this silencer would be horizontal and depending from the chain stays.

THE A.C.U. AND PROVINCIAL CLUBS.

WE have received a letter and long article from Mr. R. Vernon C. Brook, the hon. secretary of the Birmingham M.C.C., regarding the question of the A.C.U. and provincial clubs. Pressure on our space prevents the publication of the article *in extenso*, but we publish below Mr. Brook's letter, which gives the gist of his proposals.

Birmingham, December 14th, 1909.

To the Editor of *The Motor Cycle*.

Dear Sir,—I am glad to see you have taken up the question of the A.C.U. and the provincial clubs in your columns again.

Mr. Howard Smith was at the last meeting of the council, and he no doubt, like myself, thought some hard things about the London members of the council when they brought up such feeble arguments against the proposal from the Midland Centre, and yet managed to oppose it when put to the vote simply because they predominated. All the provincial delegates were in favour of the proposal.

However, I do not hold such strong views against the A.C.U. as a whole as Mr. Smith, nevertheless I do think there is considerable room for improvement in its method of working. I am sure that unless something is speedily done to give the provincial clubs a fair share in the management, and a fair opportunity of taking part in its doings, there soon will be a split. I should like to see the A.C.U. strengthened so that it will ultimately control a far greater percentage of the motor cyclists in the kingdom than at present—about 3% only according to the latest returns—and it is with this end in view that I make the following proposals:

1. Adequate representation on the council.
2. The Quarterly Trials to be held in various districts throughout the country.

3. The local centres to be the only mediums through which competitions are held.

4. All permits to be obtained from headquarters, all disputes which cannot be settled by the centres to be referred to headquarters for arbitration.

5. The centres to have full power to issue permits to clubs in their territory.

6. Council meetings to be held consecutively, say, in London, Gloucester, Manchester, and Newcastle-on-Tyne.

R. VERNON C. BROOK.

PNEUMATIC SPRINGS FOR ROAD VEHICLES.

At a meeting of the Incorporated Institution of Automobile Engineers on the 8th inst., Mr. Archibald Sharp, B.Sc., A.M.I.C.E., read a paper entitled "Pneumatic Springs for Road Vehicles," which dealt, among other items, with the springs fitted to the A.S.L. motor cycles.

In the discussion which followed, the president, Dr. Hele-Shaw, said he had tried the effect of riding a motor cycle fitted with the springs and rode the machine up a high kerbstone and could scarcely feel any jump. It was a most amazing experience, the pneumatic springs simply blotted out everything in the way of violent oscillation and gave a straight line path. The combination of a pneumatic tyre with air springs enabled one to ride over an ordinary kerbstone and not really know that one had gone over it. He wished to congratulate the lecturer who had, he thought, after years of labour at last reached a practical result.

Mr. G. D. Leechman said it must be getting on for nearly ten or eleven years since he had the first introduction to Mr. Sharp's invention. His recollection was that it was comfortable when he tried it over baulks of timber, and the effect was most surprising.

Mr. Mark Barr said he had ridden a machine fitted with the springs over bricks and things and experienced nothing in the way of trouble. He shut his eyes when riding over a kerbstone, and did not know when he had ridden over it.

MOTOR BICYCLES FOR SALE.

TRIUMPH. 1907, magneto, 1908 cylinders fitted, and only run 1,700 miles. steel studded back tyre, etc.; £25.—H. Blease, Avon Villa, Melksham, Wilts.

TRIUMPH. 3½ h.p., magneto, new Stanley belt, Dunlop tyres, perfect condition; lowest £25; giving up cycling.—H. Young, 47, Andover Rd., Winchester.

09 3½ h.p. Humber, two-speed, with Mills and Fulford castor wheel sidecar, B. and B. carburetter, used more than 300 miles. £42 10s.—T. Baker and Motor Works, Reading.

09 Triumph Model, used eight weeks, brand new Clincher studded cover on back, unused, horn, faultless condition; £38, no offers.—T. Baker and Motor Works, Reading.

h.p. Rex, Whittle, B. and B., h.b. control, new rubber studded back, Albion adjustable pulley, 10s.; Montgomery sidecar, fit same, £4 10s.—Mr. Alder's Garage Trowbridge

h.p. Minerva, magneto, spring forks, Dermatine, one leather spare, good tyres, studded back, green and finish, low built, just done up as new; bargain.—Carlie, Abergeldie, Priory Av., High Wycombe.

5-6 h.p. 4-Cyl. Motor Cycle, magneto, spring forks, footrests, lamp, horn, watch, complete, 1909 model, little used; owner going abroad; very moderate price.—Norton, 6, Bath Rd., Cheltenham

QUADRANT, 3 h.p., two accumulators, Longuemare long handles, spring forks, tyres perfect, two-way horn, on handles, large P. and H. lamp, perfect condition; £11.—Kidd, Acton Turville, Glos.

BEAT Bargain—3 h.p. Auto Motor engine, Longuemare carburetter, Chater-Lea frame, 26in. by 2½in. op tyres, splendid hill-climber, in good order; £10 spot cash.—Park Villa, Bath Rd., Stroud, Glos.

NETTE, 3½ h.p., J.A.P. engine, Bosch magneto, Gradua gear, spring frame, new last October, Auto lamp, speedometer, horn, spare tube, tools, etc.;—Methuen, Naval Motor Club, Wickham St., Portsmouth.

EMIER, twin-cyl., 3½ h.p., not run 250 miles, machine without a scratch, and the smallest part painted perfect, horn, headlight, and generator; what offers?—Write full particulars, Joubert, 31, Vic Rd., Swindon.

ORRIS, Holywell, Oxford, agent for Triumphs, Douglas, and Phelon and Moores; largest stock in district of second-hand bargains in Triumphs, Hum-L.M.C.'s, F.N.'s, and Douglas lightweights; large of others; list post free on application. Tel.: No.

SECTION VIII.

ford, Essex, Middlesex, Surrey, Kent, and Sussex.

09 No. 6 Chater-Lea, 4½ h.p. Bat, sidecar; £20, offers.—Hammond, Falcon Hotel, Wivenhoe, Essex.

h.p. De Dion, low, fast, accessories, numbers; £8 10s., or cash offers.—138, Lever St., City Rd., London.

09 Triumph, little ridden, as new, winner Dashwood Hill-climb; £39.—Mullett, Kingsley Av., West Wight.

08 Triumph, new October, in good condition; £33; owner going abroad.—Master, Meeanee Barrack, Wexford.

TRIUMPH (1908), magneto, all latest improvements, nearly new; £35, or offer.—38, Romilly Rd., Fins Park.

h.p. Fleet, Brown and Barlow, Dermatine, good condition; £10 10s., offers.—28, Bertram Rd., Hen London.

TRIUMPH, 3 h.p., perfect, spring forks, Brooks, lamps, spares, and tools; £12, bargain.—Brown, 36, Huram Rd., Fulham.

p. Twin and Sidecar, R.O.M. tyres and contact, Amac, two belts; £23.—Write, Walker, 1, Overd Mansions, S.W.

ANTON'S Great Clearance Sale to make room for 1910 Bradburys. Call, write, or wire.—Below.

ANTON'S (26)—3 h.p. Quadrant, spring forks, perfect running order; also (26) 2½ h.p. light Scout, Chater-Lea.

ANTON.—1908 Minerva, 3½ h.p., magneto, spring forks, adjustable pulley, studded tyres, not done miles, almost as new; £21 to clear.—Below.

ANTON.—1908 N.S.U., 3 h.p., magneto, M.O.I.V., splendid condition, thoroughly reliable, very fast; to clear.—Below.

ANTON.—4-cyl. F.N., 4½ h.p., and nearly new sidecar, powerful, reliable combination; £32, absolute sacrifice.—Below.

ANTON.—Moto-Reve lightweight, magneto, spring forks, handle-bar control, footrests, very low frame; 10s.—Below.

ANTON.—Roc and sidecar, 6 h.p. twin J.A.P. engine, magneto, two speeds, handle starting, thoroughly overhauled; £30 for quick sale; smart, reliable combination.—Below.

ANTON.—A few new 1909 Bradburys to clear; great bargains.—619, Lea Bridge Rd., Leyton, London.

38.

No. 1926. 3½ h.p. VINDEC SPECIAL, magneto, Truffault forks, Peugeot engine; guaranteed .. £25 0

No. 1924. 8 h.p. J.A.P., M.O.V. low No. 6 Chater-Lea frame, 1909 model, Palmer Cord tyres, drip feed, and force pump lubrication; fast as new, too powerful for solo; guaranteed .. £38 0

No. 1922. 4½ h.p. TWIN MINERVA, powerful M.O.V. engine; guaranteed. First cheque ... £15 0

No. 1923. MONTGOMERY SIDECAR, cane seat, flexible; as new £8 10

No. 1921. MILLFORD CASTOR WHEEL SIDECAR, wicker seat; nice condition; complete with apron, guaranteed £8 10

No. 1920. 4 h.p. N.S.U., 1909 model, spring forks, and magneto; complete with Castor Wheel Sidecar (or can be sold separate); guaranteed £32 10

No. 1917. 3½ h.p. 1909 TRIUMPH, Palmer Cord tyres, condition like new; guaranteed. Lowest price £35 0

No. 1925. 3 h.p. BRADBURY, low frame, magneto ignition, horn, carrier, stand, etc.; guaranteed £16 10

Two 1½ h.p. MOTOSACOCHEs, low frame models, magneto ignition, late 1909 machines, condition as new; guaranteed each £23 10

Three 1½ h.p. Lightweight F.N., complete with magneto and spring forks; up to date; all guaranteed from £15 0

Eight 1909 3½ h.p. Standard REX Tourist models, brand new, complete with stand, carrier, tools, no plates; ready for the road; usual price £42. To clear each £35 0

No. 1887. 3½ h.p. QUADRANT, magneto, spring forks, Birmingham make, smart, and good sound roadster; guaranteed £17 10

2½ h.p. 1909 DOUGLAS, new last May, in excellent condition; guaranteed. Lowest price £25 0

Six 1½ h.p. MOTOSACOCHE Lightweight Motor Cyclese; all guaranteed from £12 10

Two 3½ h.p. HUMBERS, two speeds, 1909 models, magnetos, and spring forks from, each £28 10

No. 1898. 3½ h.p. 1908 TRIUMPH, condition better than new, guaranteed at Wauchope's .. £32 0

No. 1894 & 1895. 9 h.p. BAT, and sidecar. Offers

No. 1896. 9 h.p. RILEY Tricar, nice condition, side doors, three speeds & reverse, guaranteed £35 0

No. 1881. 3½ h.p. QUADRANT, magneto, low frame, splendid machine, guaranteed 19 Gns.

No. 1853. 4½ h.p. HUMBER Tricar, water-cooled coach-built front seat, first cash 10 Gns.

No. 1874. 1½ h.p. MOTOSACOCHE, 1907 model, in nice condition; guaranteed £15 15

No. 1873. 2 h.p. 1908 MOTO-REVE, grey finish, smart machine; guaranteed 21 Gns.

No. 1867. 3½ h.p. ARNO, two-speed gear and free-engine clutch, up-to-date machine, in new condition; guaranteed £32 10

No. 1861. 3½ h.p. BAT, sound machine, fit for the road; guaranteed £12 10

No. 1855. 1½ h.p. MOTOSACOCHE, perfect order, ready for the road; guaranteed 15 Gns.

No. 1847. 2 h.p. 1908 MOTO-REVE, twin-cylinder engine, spring forks, magneto ignition, splendid condition, direct V belt drive; guaranteed .. 19 Gns.

No. 1845. 3½ h.p. brand new PHELOM & MOORE, 1909 model, two-speed gear and free engine. Offers.

No. 1842. 3 h.p. TRIUMPH, spring forks, 1906 model, nice condition throughout; guaranteed £16 10

No. 1837. 3½ h.p. 1907 MINERVA, smart machine; guaranteed £13 10

No. 1836. 2½ h.p. MINERVA, 1907 machine, nice condition; guaranteed £12 10

No. 1835. 1½ h.p. MOTOSACOCHE, magneto ignition, 1909 model, spring forks, as new; guaranteed £23 10

No. 1834. 3½ h.p. TRIUMPH, 1909 model, magnificent machine; guaranteed £35 0

No. 1829. 3 h.p. SCOTT-JOWETT Two-stroke Motor Cycle £25 0

No. 1828. 3½ h.p. 1909 TRIUMPH, all accessories, magnificent machine; guaranteed £35 0

No. 1826. Sidecar, rigid type, second-hand £4 0

No. 1814. 3½ h.p. MATCHLESS, magneto in tank, Druid spring forks, nice machine; guaranteed 20 Gns.

No. 1813. 3½ h.p. FAFNIR, nice condition, accumulator ignition, sound machine; guaranteed 9 Gns.

No. 1810. 3½ h.p. PEUGEOT in No. 6 Chater-Lea frame, low frame, torpedo copper tank, good, sound machine; guaranteed 17 Gns.

No. 1808. 2½ h.p. 1908 Featherweight REX, nice condition, magneto ignition; guaranteed £17 0

No. 1764. 5-6 h.p. Four-cylinder F.N., 1908 model, good, sound condition; guaranteed. Price .. £25 0

Second-hand and New Bargains quoted in this column are offered for sale by WAUCHOPE'S. Dozens of bargains besides those quoted can be inspected on the premises at 9, SHOE LANE. Inspection is cordially invited.

WAUCHOPE'S,

9, Shoe Lane, Fleet Street

(off Ludgate Circus), LONDON, E.C.

Telephone, 5777 Holborn. Telegrams, "Opificer, London."

MOTOR BICYCLES FOR SALE.

ELEPHANT.—Sole London agents for 1910 Arno, the all-British Coventry machine, at £45; liberal allowances.

ELEPHANT.—1907 twin Rex, ideal sidecar machine; £15.

ELEPHANT.—Twin Berkeley, H.B. control, powerful £14.

ELEPHANT.—2½ h.p. Norton lightweight, fast; £8.

ELEPHANT.—Clearance lines. 2½ h.p. Brown, £10s.; 2½ h.p. Ormonde, £4; 2½ h.p. Singer, £3; 2 h.p. Minerva, £4; torpedo tank, 5s. 6d.; 28 by 2 Clincher cover, 4s. 6d.; tube, 3s.; trembler coil, 6s.; non-trembler 4s. 6d.; heaps of accessories; state requirements.—Elephant Motor Mart, 10 and 12, Elephant Rd., S.E.

2½ h.p. F.N., spring forks, perfect; bargain, £9, or near offer.—58, Ferme Park Rd., Stroud Green.

TRIUMPH, 1907, good condition, has been carefully used, Palmers; £24 10s.—2, Radcliffe Rd., Winchester Hill, N.

3½ h.p. Minerva, 1907, spring forks, enamelled grey used, £10; excellent condition, little used.—57, Oglander Rd., Peckham.

1909 Phelon and Moore, chain drive, two-speed, a new, guaranteed, also sidecar; £48; appointment.—84, Kingsgate Rd., West Hampstead.

2½ h.p. Chater-Lea Motor Cycle, £7 10s.; 2½ h.p. Minerva, £9 10s.; 4 h.p. Automotor, Chater-Lea, £11 12s.—1, Townley Rd., Dulwich, S.E.

MOTOSACOCHE, 1909 model, low frame, spring forks, magneto, in perfect order, condition as new £25.—Colonel Wardrop, R.A.M. College, Grosvenor Rd. S.W.

QUADRANT, 3½ h.p., new Clincher front, Palmer cord back, engine and magneto re-done up as new, spare; good hill-climber, guaranteed; £23.—Robinson, chemist, Sittingbourne.

1908 Vindec, 5-6 h.p., magneto, enamel cream, spring forks, new condition, Palmer cords, guaranteed throughout perfect, suit S.C.; bargain, £25.—41, Ashford Rd., Cricklewood.

THE Eastern Garage Company are sole district agents for Rex, Douglas, Triumph, Phelon and Moore, and Kerry-Abingdon, and have these machines in stock, together with a good range of second-hand machines, at below.

REX, 1909, 3½ h.p., Tourist, new, J.A.P. lubrication £38.—Below.

REXES, 1909, 3½ h.p., with all accessories; £29 each.—Below.

REX, 1907, 3½ h.p., overhauled and guaranteed; £12.—Below.

TRIUMPHS, 1909, complete with lamps, horns, tools, etc.; £35 each.—Below.

TRIUMPHS, 1908, guaranteed perfect; £28 each.—Below.

MINERVA, 1909, 3½ h.p., like new, many special fittings; £26.—Below.

NORTON, 1908, 3½ h.p., Peugeot engine, Bosch magneto, Druid forks, fine machine; £19.—Below.

J.A.P.-CHATER, 1909, 4 h.p., M.O.I.V., Bosch magneto, Chater spring forks, Palmer tyres, nearly new; £35.—Below.

PEUGEOT-CHATER, 1909, 5 h.p., R.O.M. contact footboards, Brooks saddle, 2½in. Palmer and R.O.M. combination, F.R.S. lamps, spares; £20.—Below.

ZENITH, 1909, 4 h.p. J.A.P. engine, M.O.I.V., Gradua gear, Bosch, Druid forks, Brown and Barlow, handle-bar control, perfect condition; £33.—Below.

F.N., 1909, 4-cyl., only few months old, new condition F.N. footrests, all accessories, many spares, with rigid sidecar fitted; absolutely cheap. £35.—Below.

DE DION, 2½ h.p., spring forks, footrests, handle-bar control, rubber studded tyres, Price's stand, accessories, very neat and low built, perfect; £11.—Below.

THE Eastern Garage Company, 418, Romford Rd. Forest Gate, have, in addition to the above, a good stock of motor cycles at prices ranging from £7.—Tel. Stratford 10.

£6.—2 h.p. Minerva lightweight, splendid condition any trial; exchange higher power.—14a, Maple Rd., Surbiton.

3½ h.p. Minerva, Brown and Barlow, handle-bar control, fine condition, £14; 3½ h.p. twin Werner, £10.—Cooper, Workhouse, Lewisham.

If You Want Bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

£6.—Lightweight, good order, new belt, first order, secures; also signal cyclometer, Boys and Ruckers offers, as new.—Motor, White Lion; Hitchin.

1909 Triumph, also T.T. model, both in first-class condition, little used; £38 each; any trial; see any time.—8, Oppidans Mews, Chalk Farm.

3½ h.p. Triumph, guaranteed perfect condition, like new, tyres excellent, spares, tools; £32 10s.—Surridge, 69, Loughborough Park, Brixton, London.

BARGAIN Hunters.—2-cyl. 5 h.p. Peugeot, 2½ Palmer new 2½ h.p. Griffon; 2 h.p. Minerva; two best quality sidecars; accept £35 the lot.—39, East St., Bakers St. W.

MOTOR BICYCLES FOR SALE.

HELON and Moore, Ltd., 12, Mortimer St., W. have a few second-hand machines for sale as below.

and M. 1909 Model, brand new; offers wanted.

and M. 1909 Model, used in 1,000 Miles Trials, gained gold medal, in perfect condition; price 10s.

TRIUMPH, 1909, in good order; bargain, £33 10s.

N. 1910 Model, two-speed, as new, only used once; bargain, £33 10s.

N. 1½ h.p., splendid condition; £20.

and M. 1910 Models—Place your orders now for delivery for Whitsun.

p. M.M.C., perfect running order, new Dunlop on back, footboards, Chater-Lea frame; £10.—Gilder and Newman, Wembley.

h.p. Kerry, in good order, new Michelin cover on back, long bars; £9.—Above.

p. Humber, chain drive, free engine, new Dunlop on back; £7 10s.—Above.

WHITTLE'S.—Triumph, 3½ h.p., 1907, M.O.V., magneto, spring forks, H.B. control, beautiful order; at bargain, £26, offers.

WHITTLE'S.—F.N., 4½ h.p., 4-cyl., magneto, spring forks, R.O.M. rear tyre, like new; £25.

WHITTLE'S.—F.N., 1908, 1½ h.p., lightweight, magneto, spring forks, powerful on hills; going cheap, 15s. to clear.

WHITTLE'S.—Minerva, 2h.p., M.O.V., Chater-Lea, 26 wheels, splendid running order; only wants seeing; 15s.

WHITTLE'S.—Quadrant, 3h.p., vertical engine, runs well; £5 15s.—Whittle's Motor Exchange, Earlsfield, Phone, 711, Post, Wimbledon.

ODFREY, Applebee, and Micklewood.—Immediate delivery of 1910 Rex and Triumphs. Cash, exchange, or gradual payments.

A.M., the recognised firm for reasonable prices. Send us particulars of your old machine, and let quote you exchange price for any make of machine, or second-hand.

A.M.—3½ h.p. 1909 Rex, excellent condition, R.O.M. tyres; £28.

A.M.—Write for list of second-hand machines. We have a large selection.

A.M.—Make a note of the address, we may be useful to you.—The Broadway, Muswell Hill. Phone, 933 unsey.

CAMPSTEAD for great bargains, new and second-hand, gradual payments taken on any machine, changes.—Only address, 5, Heath St., Hampstead; 2678 P.O.

CAMPSTEAD.—Humber, 1909, two-speed, almost new, Druid spring forks, all accessories and spares; at bargain, £32.

CAMPSTEAD.—2½ h.p. Douglas, magneto, and spring forks, splendid condition; £28, with accessories; p. N.S.U., £13.

CAMPSTEAD (£25).—F.N., 4-cyl., 4½ h.p., splendid condition, with all accessories, late model.

CAMPSTEAD (£27).—F.N., new condition, 4-cyl., 1908 model, 4½ h.p., magneto, spring forks, all accessories.

CAMPSTEAD.—Sole London and district agents for Lincoln Elks, all models in stock; special price for.

CAMPSTEAD (£26).—Genuine 1908 V.S., latest model, 5h.p., magneto, and spring forks, all accessories.

CAMPSTEAD.—Are now showing all the leading 1910 machines; exchanges entertained; delivery from stock, no waiting.

CAMPSTEAD (£12).—Lincoln Elk, 3h.p., 1909 model, new condition, with accessories, all bars, guaranteed.

CAMPSTEAD.—Triumphs, 1910, in stock; Rexes, Douglas, Moto-Reves, F.N.'s, no waiting; gradual payments taken, five per cent. extra.

CAMPSTEAD.—Triumph, 1907, new tyres, splendid condition, £27; Rex, 1909, new condition, £26; Douglas, 1909, £27.

CAMPSTEAD.—Minerva, 2h.p., good order, £4 15s.; Humber, 2h.p., £4 10s.; Humber, 2½ h.p., splendid condition, £5 10s. Tel.: 2678, P.O.

1909 Minerva, new September, done 250 miles; what offers?—8, Hatherley Gardens, East Ham.

3h.p. F.N., Chater-Lea fittings, Reflex-Clipper tyres; £11 10s.; approval.—Eagles and Co., High St., Acton.

TRIUMPH, 1908, Clincher studded tyres, guaranteed perfect condition; £31; approval.—Eagles and Co., High St., Acton.

1h.p. N.S.U., magneto, spring forks, excellent condition; £18 10s.; approval.—Eagles and Co., 275, High St., Acton.

1h.p. 1907 Triumph, new May, 1908, 1908 carburettor, saddle, etc., perfect condition throughout; 7.—Down, Harpenden.

MAUDES' MOTOR MART

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We supply on best terms

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PRICES:	Maker's price.	Our price.	Deferred payments.
3 h.p.	£37	£25	—
3½ h.p.	£40	£31	£33
3¾ h.p.	£42	£32	£34
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Deferred payment terms: One-third down, and balance in monthly payments of £2.

We treat foreign and colonial readers on most liberal terms, for either new or second-hand machines.

Second-hand Machines in stock.

1909 HUMBER, magneto, two speeds, like new	£37
1908 VINDEC, 3½ h.p., free engine, magneto	£22
1908 REX, 3½ h.p., two speeds, magneto	£26
1908 FAFNIR, 3 h.p., Roc, two speeds	£17
1909 TRIUMPH, 3½ h.p., magneto, as new	£37
1909 TRIUMPH, 3½ h.p., brand new, £48 machine, clear at	£44
BROWN, 2½ h.p., magneto, low built	£16
CLYDE, 2½ h.p., magneto, B. and B. carburettor	£15
SINGER, 3 h.p., magneto, Long, good tyres	£15
N.S.U., 3½ h.p., magneto, low built	£16
LINCOLN ELK, 3 h.p., 1908 model, good order	£13
ZENITH, 3 h.p., Fafair engine, two speeds	£22
MINERVA, 3½ h.p., 26in. wheels, vertical engine	£14
MINERVA, 3½ h.p., 26in. wheels, free engine	£15

50/- deposit secures:

2 h.p. BROWN	£8	HUMBER, 2½ h.p.	£8
2½ h.p. KERRY	£10	QUADRANT, 2½ h.p.	£9
2½ h.p. MINERVA	£10	W. and P., 3½ h.p.	£12

Balance 5/- weekly. All in good running order.

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136, GREAT PORTLAND ST.,
LONDON, W.

TEL.: 552 MAYFAIR.

MOTOR BICYCLES FOR SALE.

ROC, 4h.p., two speeds, free engine magneto, spring forks, Whittle belt, accessories, excellent order; £28.—Lane, 26, Penge Rd., South Norwood, S.E.

4-CYL. F.N., 4½ h.p., magneto, spring forks, just tho' roughly overhauled, most reliable, crawls in traffic; £18, sacrifice.—17, Kenmore Rd., Mara St. Hackney, London.

1909 T.T. Triumph, three pulleys, various, three handle-bars two spare wheels, new tyres, spare and tools; £38.—Write, J. T. Bashall Elm Grove Ockham, Surrey.

4 h.p. Roc (1908), clutch, gear magneto, Druid fork, non-skid back, Chater-Lea sidecar, spares complete equipment, perfect condition; £35.—73, Onslow Garden Muswell Hill.

3 h.p. Kerry, Longuemare, spray, low, long bars, 26in. plated wheels, enamelled French grey, lined red, splendid condition throughout; £10 5s.—426, Hoe St. Walthamstow.

2½ h.p. J.A.P., low, light, H.B. control, splendid condition, climb anything, lamp, spare lamp; £11 10s., or near offer.—Aitchison, 59 Church Hill Rd. Walthamstow.

1909 T.T. Triumph, brand new, perfect condition, on ridden 20 miles; owner unable to ride; tri given; a bargain for £42 (cost £53).—G. o/o Smith Library, Craven Rd., London, W.

IMMEDIATE Sale!—1909 3½ h.p. Minerva, magneto, spring forks, 26 by 2½ Continentals, torpedo tank, enamelled French grey; a bargain, £25.—R. Nye, 8 Drewstead Rd., Streatham.

1910 Speed King Twin Rex, beautiful machine, bought at Show, not been ridden 10 miles; unforeseen circumstances only reason for selling; price £42 10s. Apply, W.H.B., Elm Grove, Ockham, Surrey.

LIGHTWEIGHT Minerva, vertical, Dunlops, 26 wheels, Amac carburettor, handle-bar control, Brooks saddle, low-built, perfect condition, accessories; £12. 23, Lyndhurst Rd., Thornton Heath.

VINDEC, 5h.p., magneto, Mabon clutch, handle-bar control, rubber covered footboards, in perfect condition; owner buying higher power same make; a bargain, £27 10s.—North London Garage, Corsica St. N.

6 h.p. N.S.U., twin, new last March, Bosch magneto, 1½ in. Shamrock belt, 26 by 2½ tyres, two-speed gear, free engine, and Millford sidecar; £40; any trial. Eagles and Co., N.S.U. Agency, Acton.

4½ h.p. F.N., 4-cyl., with sidecar, not run 900 miles, guaranteed perfect condition, 2½ R.O.M. back, Dunlop front, both new, £8 worth of spares and accessories; £35.—Apply after 5, P. Lambert, 87, Beaufort Mansions, Chelsea, S.W.

TRIUMPH, July, 1909, condition as new, perfect order, not ridden 500 miles, Palmer cords, magneto shield, horn, numbers, tools, spare valve; absolute bargain, £36 cash.—Write, M.T., 28, Wellesley Rd. Gunnersbury, W.

PHELON and Moore, two-speed, Bosch magneto, handle-bar control, Rich's detachable tube, bar wheel, spares, splendid condition, never ridden so reliable machine; selling solely because buying 1910 model; £37 10s.—Taunton, Feliskirk, Ashtead, Surrey.

3½ h.p. Triumph, November, 1907, recently overhauled by makers, new tyres, belt, brass headlight, separate generator, mirror, spares, perfect condition, with Oakleigh sidecar, special wheel; bargain, £35.—Garage, Lacey's, High Rd., Streatham.

STANTON'S Bradbury, 1909, winner numerous gold medals, including London-Edinburgh-London, general condition as new, unpunctured R.O.M. tyre, fully equipped with all spares and accessories, tuned concert pitch; nearest to £34 secures.—619, Lea Bridge Rd., Leyton, London.

1908 T.T. Triumph, spring forks, Bosch magneto, a justable pulley, carrier, mirror lamp, stand, horn, rubber studded tyres, spare valves, pulley, belt, inn tube, and steel studded non-skid, low, extremely fast; £29; would entertain exchange; appointment only.—22, Bardett Rd., London, E.

MESSRS. PULLMAN Bros., Motor Engineers, Norbury, London, beg to offer gentlemen the following machines, bargains in the truest sense of the word: 1 h.p. twin Minerva, with sidecar, £18; 2½ h.p. magneto, £12; 2½ h.p. F.N. (accumulator), £10; twin Pripps, 5h.p., £14; many other bargains, including tri-cars, quadrics, etc.; write for lists.

3 h.p. Imperial Rover Motor Bicycle, Clincher tyres, Lithos spring forks, N.A.B. spring pillars, Acetylene lamp, new Lithanoid unspillable accumulator, numerous spares and tools, most reliable machine, in perfect working order, condition good as new; cost me over £55, accept £20.—Bates, Estate Agent, Quarry Cottage, Guildford.

CLEARANCE.—2½ h.p. Kerry, £8 10s.; 6h.p. twin A. toine, £17 10s.; 2½ h.p. Brown, £8 10s.; 2½ h.p. Quadrant, £4 10s.; 2½ h.p. J.A.P., £8 10s.; 2½ h.p. Phoenix, magneto, two speeds, £14 10s.; Rex de Luxe, clutch magneto, twin, £20; ditto, £25; ditto, £30; exchanges please call, or write; trials.—128, High Rd., Tottenham, Phone, 1982, Tottenham.

GENTLEMAN is selling 5-6h.p. twin Peugeot-Chater 1908 model, little used, low frame, finished grey, B. and B. h.b.c. carb., Brooks B105, Davison tanks, De Matine, new non-skid back, stand, carrier, pedals, footrests, Fuller coil, 5-50 m.p.h., guaranteed sound; nearest £24; view by appointment.—Write, Owen, Buckmaster, 1, Porchester Terrace, W. Phone, 4559 Padd.

MOTOR BICYCLES FOR SALE.

COND-HAND Swift Two-speed Motor Bicycle, free engine, worm drive, one chain only, mechanical s, spray carburetter, 2½h.p., accumulators, and trem-coil, two powerful rim brakes, Brooks motor saddle, 3, 22in. frame, Dunlops, 28 by 2in., in good riding condition; £15.—3,717, The Motor Cycle Offices, Coventry.

SECTION IX.

Derby, Devon, Dorset, and Cornwall.

10 Triumphs can be supplied from stock; cash, exchange, or extended payments.—Guy's, Cycle Dept., Weymouth.

PHILON and Moore, very little used, new October 1909, two-speed gear, magneto, splendid machine; —Saunders, 73, Howell Rd., Exeter.

SECTION X.

Edinburgh.

Gift.—1907 5h.p. Twin Rex, in good condition and running order; £18.—Unwin, Glengarnock.

8.—3½h.p. magneto Rex, 1909 engine, Brown and Barlow, adjustable pulley, ½ Whittle, new Clincher, stand, spare tube.—2, St. Bernard's Crescent, Edinburgh.

h.p. F.N., late 1908, magneto, handle-bar control, new tyres, £18 10s.; 4h.p. Wolf, Palmers, accumulator ignition, in good condition, £15 10s. — Miller, Merry St., Motherwell.

TRIUMPH, 1909, ordinary and Tourist Trophy cylinders, and handle-bars, guaranteed perfect, winner of medals, do 50 m.p.h.; bargain, £36.—Bostock and Sons' Union, University, Glasgow.

h.p. 1908 Brown, magneto, spring forks, Mabon clutch, with 12 guinea Montgomery flexible sidecar, everything complete, and perfect; sacrifice 25 guineas, 1, Lothian Rd., Edinburgh.

OTLAND'S Largest Motor Cycle Firm.—Rex, V.S., Indian, Moto-Reve, Philon and Moore, Zenith, Glas, Roe, Griffin; we stock all these, and can supply other make.—Alexander's Motor Exchange, Lothian Edinburgh.

SECTION XI.

and and Isle of Man.

UMBER 3½h.p. Motor Cycle, in good order; any trial given; £10.—David Pedlow, Lurgan, Ireland.

09 Triumph, run 500 miles, splendid condition, free engine, Palmer tyres, new September; cost £60, £50; 1909 Motosacoche, run 100 miles, magneto, ignition, new August, condition perfect, £21.—Nichamp, Portarlinton, Ireland.

TRICARS FOR SALE.

p. Twin Riley, three speeds, reverse, spares, perfect condition, smart; £43.—147, High Rd., Wood Green.

p. Tricar, coach-built, minus engine, and gears as new; £8, or exchange.—Reynolds Bros., Barnsley.

p. Quadrant Tricar, coach-built, open frame, wheel steering; £25; very smart.—20, Potternewton Lane, Leeds.

p. Twin, air-cooled, open frame, coach seats, three speeds, wheel steering; bargain, £17.—E. J. Giff-Oswestry.

ADRANT Tricar, twin, 5h.p., coach-built seat, perfect condition; £10 10s., no offers.—37, Searle St., Lorton, Cambs.

h.p. Lagonda Tricar, three speeds, all in good condition, two lamps, tyres nearly new; £35.—Sharwood, Ashford, Middlesex.

ENIX Trimo, coach-built, 3½h.p., new belt, good tyres, non-skid back, splendid condition; bought £15.—94, St. Alban's Rd., Watford.

p. Riley, three speeds and reverse, non-skid on back, splendid order; any trial; 58 guineas; Triumph exchange.—785, High Rd., Leytonstone.

ICAR, tubular chassis, with Oppermann two-speed gear box, two seats, wheel steering, three good; what offers?—Gildersleeve and Newman, Wembley.

EX Litette, water-cooled, twin, two speeds, handle starting, magneto, latest type, as new, guaranteed winner; £47 10s.—128, High Rd., Tottenham. Phone, 3, Tottenham.

EXETTE, 10h.p., twin-cyl., 1907 model, water-cooled, two speeds and reverse, twin tyres on back, Dunlop tyres throughout; open any trial; price £35.—Louis Davis, 3, New St., Birmingham.

h.p. Humber Tricar, water-cooled, two speeds, free engine, coach-built front seat, chain drive, in excellent condition and going order; must be sold; giving price £15; any trial here.—Playford, St. Huberts, market.

p. J.A.P., water-cooled, Chater-Lea built throughout, three-speed Chater gearbox, wheel steering, built all in first-class condition, including tyres, of lamps, spare tyre, valves, etc.; £35.—Below.

h.p. Humber, water-cooled, coach-built, wheel steering, Lucas lamps, in very nice condition; £24.—Eastern Garage Co., 418, Romford Rd., Forest

h.p. Lagonda, water-cooled, mechanically equal to new, absolutely the best tricar produced, lamps, spares, complete; cost £145, sacrifice £50; any take motor cycle part.—R. Else, Leawood, near

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1909 3½ h.p. Magneto REX, like new..	£32 10
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Race	£35 0
1908 3½ h.p. Magneto REX, spring forks	£24 10
1908 3½ h.p. N.S.U., two speed, like new	£26 10
3½ h.p. competition magneto REX, used by Mr. Jacobs, London	£29 10
3½ h.p. competition magneto REX, used by Mr. O. C. Godfrey	£29 10
4 h.p. ROC, magneto, clutch, handle-bar control	£24 0
3½ h.p. Magneto N.S.U., spring forks ..	£18 10
4 h.p. ANTOINE, high tension magneto	£18 18
3 h.p. Magneto SIMMS, 2½in. Palmers	£17 10
1907 3½ h.p. BRADBURY, 26in. wheels	£13 10
1907 3½ h.p. QUADRANT, spring forks	£17 10
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3 h.p. HUMBER, spray, free engine ..	£10 10
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3 h.p. RALEIGH, spray, vertical	£12 0
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3½ h.p. ROVER, spray, Palmers, 26x2½	£13 10
4 h.p. STEVENS, H.B. control, band b.	£13 10
3 h.p. CLYDE, magneto ignition	£15 0
3½ h.p. WERNER, used with passenger	£13 10
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2½ h.p. WHITLEY, spray	£4 5
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2½ h.p. Magneto SINGER	£4 5

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1909 3½ h.p. Tourist REX	£38
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1907 Twin Magneto REX	£20 0
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Sidecar, very smart lot	£29 0
Twin WERNER Lightweight, spg. forks	£12 10
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5½ h.p. REX, spring forks, fitted with new Sidecar, art cane body, 2½in. Clincher A Won tyre, special detachable fittings....

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DE DION Quad Chassis, complete (less engine), perfect; what offers? two-speed gear.—Particulars, Lee, 45, Kirkland St., New City Rd., Glasgow.

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TRAILER, excellent condition, Dunlops, apron; 6d.—68, Wellington Rd. N., Stockport.

MOTOR TRICYCLES.

2-SEATER Motor Tricycle, magneto, two speeds, £21; photo.—Details from 21, Lime St., Southampton.

CARS FOR SALE.

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PALMER.—15-20h.p. Mors, closed body, pressed steel frame, fine hire car; bargain, £100.

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PALMER.—16-24h.p. De Dietrich, side entrance, hood, screen, magneto ignition; any trial; £75.

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PALMER.—15-20h.p. Panhard Chassis, with 10 body, 4-cyl., good running order; £55.

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PALMER.—16-22h.p. Gladiator, side entrance, 1 chassis, disc clutch, roomy body; £125.

PALMER.—9h.p. Jackson, 2-seater, bucket body, general condition like new; £85.

PALMER.—12h.p. M.M.C., tonneau, 2-cyl., good running order; clearance price, £35.

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5 8 Twin REX, magneto, very low	£25 0
VINDEC, magneto, Nala two speeds ..	£19 0
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h.p. low REX, H.B. control	£11 0
h.p. Twin REX, and sidecar	£20 0
h.p. N.S.U., magneto, and sidecar	£27 0

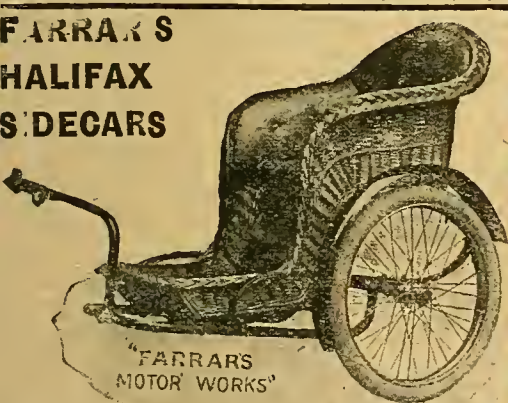
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4 17s. 6d. complete with best tyres. Guaranteed 12 months. An ideal winter attachment, quite rigid. Good, stylish, and comfortable. No deshp. Beautifully sprung on double C spring. Approval anywhere. Don't buy till you have seen ours.

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Old carburettor accepted in part payment, premier High-tension Magneto, new	59/6
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GOVERNESS Car (nearly new), exchange motor cycle (reliable), Triumph, Rex, or Brown preferred.—Haper, Carlton, Beds.

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HALIFAX.—Brand new single-cyl. 100 bore 110 stroke O.T.A.V. voiturette, lamps, hood, spares, etc.; £60, usual price 102 guineas; exchanges.—Motor Exchange, Westgate, Halifax.

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8 1 h.p. Decauville, 2 or 4-seater, engine overhauled, and new gear fitted recently, used daily by commercial; any examination; £25, worth double; seen any evening.—52, Muirkirk Rd., Catford.

15 h.p. Ariel, 4 cyls., side entrance, four speeds, hood, screen, 810 by 90 tyres; back non-skids, spare tyre, full set lamps, etc.; photo; £150; smaller car or good motor cycle entertained in part exchange.—24, Woodford Rd., Forest Gate, London, E.

SMALL Racing Car, 6-7h.p. J.A.P. engine, two speeds, raked steering, 2-seater body, very light, fast, sporting little car, all Chater-Lea parts, except engine and carburettor; may be seen and tried any evening after 5 p.m.; price £35; no time for correspondence; if you want a genuine bargain, call and try it, and bring a deposit to secure it.—11, East Harding St., Fetter Lane, London.

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ENGINEER, and keen motorist, travelling sections 3 and 4, is open to represent as riding agent a good motor cycle.—Box 3,734, The Motor Cycle Offices, Coventry.

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BED, sitting; every accommodation for motorists; rent 6s. 6d., inclusive; board optional.—17, Milton Rd., Herne Hill.

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1909 TRIUMPH, brand new	£45 0
1909 Twin REX DE LUXE, SOILED ..	£49 10
4 h.p. ROC, 1907, magneto, H.B. control ..	£23 0
MOTO-REVE, Druid forks, magneto, V belt ..	£25 0
MOTOSACOCHE, 1908	£22 10
TRIUMPH, spring forks, magneto	£22 0
3 h.p. N.S.U., magneto, low, long bars	£18 0
SINGLE, 3 h.p., late model	£18 0
ANTOINE, 4 h.p., magneto	£18 0
3½ h.p. QUADRANT, a gem	£17 10
3½ h.p. ARIEL, M.O.V., 26in. wheels	£15 15
REX, 3½, 1906, spring forks, M.O.V.	£14 10
4 h.p. CORONET, Roc type frame, 26in. wheels	£14 10
ALLDAYS, 2½, 26in. wheels, spring forks ..	£11 0

FAITHFUL SLAVES.

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REX, 3½, John-o'-Groat's model, 22in. frame	£9 10
KERRY, 2½, spray, 26in. wheels	£10 10
3 h.p. HUMBER, spray, clutch	£7 10
2 h.p. HUMBER, good value	£6 10
TRIUMPH, 2 h.p. Minerva engine, spray ..	£9 0
MINERVA, 2 h.p., mechanical	£8 15
QUADRANT, 2 h.p., low, 26in. wheels	£8 10
REX, 3 h.p., long bars, dropped seat	£7 10
RALEIGH, 2 h.p., vertical	£7 5
REX, 3 h.p., good value, vertical engine	£5 19
1½ h.p. MINERVA, splendid value	£5 18
TRIUMPH-MINERVA, good order	£5 19

"BIRDLIP" BEATERS.

EXCHANGES.

1909 Twin REX DE LUXE, NEW	£51 0
1909 3½ h.p. REX Speed King	£37 10
REX RACER 24in. wheel	£30 0
1908 Twin REX DE LUXE, H.B. control ..	£32 10
5½ h.p. Twin REX, spring forks	£16 16
7-8 h.p. MINERVA, 1908	£27 10

MISCELLANEOUS.

The "COLYTE" Headlight, large separate generator, MIRROR LENS

Largest size THREE-NOTE HORNS

New and Second-hand Accessory List on receipt of postcard. GET THIS—IT'LL PAY YOU.

HANDLE-BAR CONTROL CARBURETTORS.

1909 Models B. & B., complete

1909 Models Amac

Large Stock of 1910 models. 10% discount for cash Exchanges at list prices.

NOTE TYRES. PRICES.

ALL NEW, PERFECT, AND BEST MARKS.

24 x 2½ 13/6; 26 x 2½ 18/6; other sizes 13/6 each.

WIRED, 28 x 2, 12/6; 28 x 2½, 14/6.

Send for Lists (free). Exchanges made.

£3 DEPOSIT, and balance 5/- weekly for any machine up to £12 value. OTHERS, terms on application.

- SIDECARS. -

On APPRO. on receipt of Cash.

£6 COMPLETE, with 2½in. tyre, well made and elegant art cane body, wide mudguard, 3-bolt fastening (MY SPECIALITY).
THEY'RE WORTH DOUBLE.
Most easily detached sidecar on the market.
A MARVEL OF VALUE.

Collier's Motorcycles,
37, Park Cross Street, LEEDS.
(Facing Town Hall.)

I LEAD!!!

Others follow, but a long way behind.
Don't you think so? I do.

I have introduced the **free carriage and approval** system of business. I have introduced some originality into the trade. I am trying to get the public to believe that I am not in business with the sole aim of **having them**, as many seem to think.

I wish you to believe **I do as I say in my advertisements**, and don't advertise things I cannot do.

I do not claim to be the oldest dealer, nor yet do I claim to know everything there is to know.

I am quite satisfied to know how to mind my own business, and the 500 to 600 letters I get each week keeps me busy enough.

I am this week delivering the Lincoln Elk Lamps, Hooters, Plugs, etc., to the different winners of my prizes as advertised by me in the issue of Sept. 1st, and shall publish fuller particulars when I receive word that all have received their prizes.

Before closing: If you want something **really cheap and nasty**, don't write me. I get 100 letters each week from people who are inviting me to rob them.

The magneto models with spring forks, M.O.V., H.B. control, two-speed gear, and free engine for £7 10s. are not hanging around this county. I cannot say anything about the next. I am always pleased to hear from motor cyclists, but the above sample letter is either meant as a joke, or the sender has more time to waste than I have.

My motto is "Honesty is the best policy," and what you buy from me is **right**, as I don't sell it if I know it's wrong. You **may** buy cheaper stuff, but you **cannot** buy better value for your money—only 20/- to the £.

I send all and everything **carriage paid**, and am the **only man** to do it. **Everything on approval.** Note! **Reliability** is what a motor cyclist wants, **not cheapness**. Take my tip, and let someone else have the **very low priced** crocks, and you have something that will bring you home in the saddle, not something that you will have to cart or train home.

Remember, boys! I hold the entire stock of 1909 Moto-Reves, listed at **39 gs.**; my price, **27 gs.**, carriage paid.

I also bought all the 1909 Montgomery Sidecars, flexible and spring wheels, listed 12 guineas; my price, **£8**, carriage paid. If you want one hurry up, as stock is moving fast, and cannot be replaced. **Absolutely New.**

Look for further particulars in "Motor Cycling." Also send for Special Lists and state what you want. I never miss replying to any correspondence, however trivial, the same day I receive it. Good bye, boys, while Monday next.

NOTE ADDRESS:

C. H. HITCHEN,
The Reliability Motor Dealer, Lancashire
Motor Exchange, Euston Road.

MORECAMBE.

Tele.: 112. Telegrams.: "Motor, Morecambe."

COUPLINGS.

FORECAR Attachment, coach-built, Phoenix type, tyres, hubs, band brakes, without wheels, mudguards, needs repair; 40s.—Hetherington, Moffat.

FORECAR Attachment, fine coach-built body, less tyres; £3 10s.—Utopian Works Co., Myrtle Rd., Leicester.

ENGINES.

5 6-h.p. Panhard, horizontal motor, complete; £8.—Smith, plumber, Wivenhoe Essex.

2 1-h.p. Humber Engine, run hundred miles only; bargain, £3 15s.—25, St. Andrew St., Cambridge.

8 h.p. De Dion w.c. engine, just overhauled, good condition; £10.—Dr. Pooley, Nettlebed, Henley-on-Thames.

4 1-h.p. Water-cooled De Dion Engine, with B22 Longuemare carburetter; £9.—Lime Villa, Essex Rd., Enfield.

19 08 2-h.p. Rex engine and Amac carburetter, practically new; accept 4 guineas.—Alec Bain, Ashlea, Dulmellington.

3 1-h.p. Antoine Engine, aluminium crankcase, complete, new condition; lowest cash, £2 18s.—426, Hoe St., Watnamstow.

3 3-h.p. M.M.C. Engine, cost £3 re-ground, re-bushed; want 6-h.p. water-cooled; price £6 6s.—Reeves, Bamfurlong, Wigan.

FAFNIR Engines.—Your old engine taken part payment for 1910 model; 80 by 90.—Genn, Motor Engineer, Wimbledon.

4 h.p. M.M.C. and silencer, £3 17s. 6d.; De Dion carburetter, 17s. 6d.; perfect condition.—59, Cranfield Rd., Brockley, S.E.

NEARLY new 3-h.p. Minerva Engine (1908), magneto, carburetter, silencer, complete; £3 10s.—A. B. Venning, Western Buildings, Launceston.

FAFNIR Engine, 3-h.p., 80 by 80, complete with Fafnir two-speed gear, as new; £10 10s.—Peel 22, Bournemouth Terrace, Newcastle-on-Tyne.

8 1 by 81 mm. water-cooled 4-h.p. Coronet, M.O.I.V., wipe contact, absolutely new and up-to-date; £7 10s.; ideal for a light tri-car.—620, Barnsley Rd., Sheffield.

5 7-h.p. Peugeot Engine, carburetter, silencer, in good condition; offers wanted, or exchange for 4-h.p. single, magneto, cash adjustment.—H. G. Forster, Newham, near Sittingbourne, Kent.

MADISON Dynamo and Motor Wks., Littleover Derby.—Model aerial petrol motors, model aerial petrol motors; the finest model made for aerial work; 4-h.p., air or water-cooled type; 9s. 9d., machined sets; see full list, 4d.; twin and single-cyl. motors speciality.

IGNITION APPLIANCES.

IT is a fact.—Pure platinum is best for contact tips.—Meredit, G.O.M., Summer Lane, Birmingham.

TREMBLERS for all makes of engines, with solid pure platinum tips, 1s. 3d. each.—Meredit, G.O.M., Birmingham.

JEBRON, Registered 291-289, vastly superior to platinum, cures misfiring; best contacts for blades, screws, rockers, magnetos, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmers, 9d.; Jebron screws fit Bosch magnetos DA2, DAV, contact breakers; 5a, 5b, 5c, 5d, pair; old screws Jebronised, 2s. 6d. each. Over 10,000 fitted. Try it.

JEBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent. Liberal trade terms.

JEBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Harry Martin, when making their recent world's records.

IRIIDIUM Champion Contacts.—Any parts fitted returned same day, 1s. 3d. each, warranted pure, special iridium trimmers, 9d.; magneto screws refitted, 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.

50 Magnetos, high tension, best make; your coil and accumulator taken in exchange.—Booth's Motories, Halifax.

FULLERS Accumulators, large stock, all sizes; old accumulators taken in exchange; magnetos, 59s. 6d.—Booth's Motories, Halifax.

500 Fullers Midget Plain Coils, 10s. 6d.; 200 Fuller Midget trembler coils, 17s. 6d.; liberal allowance for old coil in part payment.—Booth's Motories, Halifax.

MAGNETO Repairs.—Bosch magnetos repaired in two days at half makers' prices; work guaranteed; accumulator and coil repairs a speciality; Mayfair accumulators, 15 amp., 10s. 6d.; guaranteed.—Fellows, 49, Hertford St., Mayfair.

MOTORISTS, we are experts on ignition; send your coils, accumulators, and magnetos to us for overhauling and repairs; all work guaranteed; promptness and dispatch.—The Victoria Garage and Electrical Co., Ltd., Coventry.

TYRES.

CLINCHER, 28in.-24in., K., shop-soiled, new motor cover, beaded.—Best offer to Ireland's, Sankey, Warrington.

STUDDER Leather Cover, 26in. by 24in., used last winter only; 28s.—Coldman, 110, Kedleston Rd., Derby.

"CHEMICO" CARBIDE.



Of all users Carbide the Motor Cyclist should be the most particular in his selection. There is every reason why the rider of an engine-driven machine should have a light not only strong in brilliance, but steady in its supply of gas. This is only possible where

"CHEMICO" CARBIDE

is used, because it is free from dust and foreign matter, and gives an absolute maximum gas yield, with a slow consumption.

1 lb. Tins, 7d.

1/2 lb. Tins, 4d.

"CHEMICO" TYRE STOPPING.



The following testimonial speaks for itself.

Nov. 16/09.
Gentlemen,
Thanks for sample Tyre Stopping. Tried it on back motor cycle 26 x 2 cover. Cut 1 in. long and right through to tube. Result was a perfect repair, and quite equal to vulcanising, and it's there to stop, that is evident, as after a ride through wet and mud, the repair is still first-rate. I am glad to have found out your capital preparation. I hope to find out some more good things at the Show on your stand. Yours faithfully,
P. DYER,
Croydon.

Price, 6d. and 1/-

The County Chemical Co. Ltd.
BIRMINGHAM.

THE MOTOR CYCLE SUPPLEMENT

PRESENTATIONS TO WELL-KNOWN RIDERS.

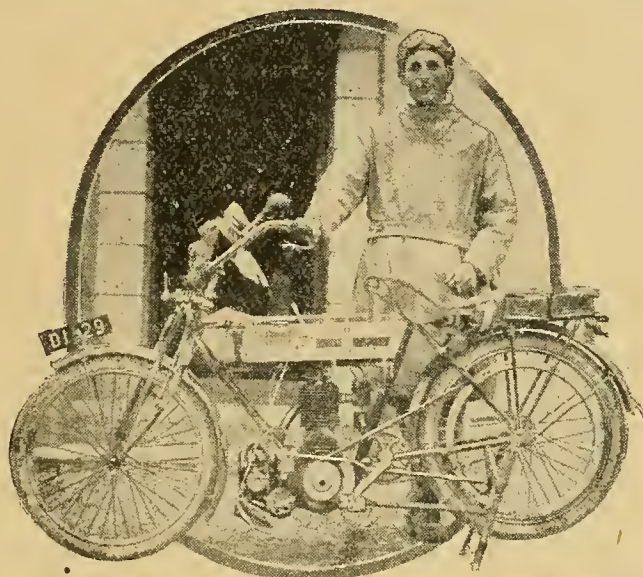
AT a complimentary dinner given by the Triumph Cycle Co., Ltd., on Saturday evening, at the Queen's Hotel, Coventry, an interesting presentation of a silver cup was made to Mr. Ivan B.

Hart-Davies, in honour of his unparalleled ride from John-o'-Groat's to Land's End in 33h. 22m. on a $3\frac{1}{2}$ h.p. Triumph. The presentation was made by Mr. M. J. Schulte, who referred to the stupendous performance of riding 886 miles uphill and downdale in so short a time. There is no need for us to dwell further upon the record, for full details appeared in these columns at the time the record was made, and Mr. Hart-Davies related his own experiences in *The Motor Cycle* of September 1st.

Three well-known exponents of the motor cycle employed by the Triumph Cycle Co., Ltd., were honoured on the same occasion. Messrs. J. Marshall and W. F. Newsome were the recipients of gold watches, the former for his success on 1909 Triumph

motor cycles, and the latter for being the first rider of a single-cylinder machine in the last Tourist Trophy Race. Mr. W. Creyton was presented with a gold medal for his performance in the T.T. Race of riding 158 miles in 3h. 55m. All the trophies were suitably inscribed.

Motor cyclists attended the function from all parts, a number having checked and assisted the End-to-end record holder at various points on the route. *The Motor Cycle* was represented by Messrs. W. F. Grew and Geoffrey Smith.



Ivan B. Hart-Davies,
of Rugby,

the motor cycle End-to-
end record holder.



The handsome silver cup presented to Hart-Davies by the Triumph Cycle Co., Ltd., at a complimentary dinner on Saturday evening last.



Land's End Hotel, the finishing point, reached 33 hours 22 minutes later.



John-o'-Groat's House Hotel, the starting point of the existing record, 886 miles distant from Land's End.

World's Motor Cycle Records.

The following records have been passed and confirmed by the Auto Cycle Union: Class C—G. Lee Evans, 100 miles and two hours, October 9th, 1909. Class C—F. A. McNab, 50 and 100 miles and two hours, November 11th, 1909. Class C—G. Lee Evans, 50 and 100 miles and two hours, November 13th, 1909. Class C—O. C. Godfrey, 50 miles and one hour, November 24th, 1909. Class E—H. Martin, three hours, November 22nd, 1909. Class E—H. V. Colver, 50 and 100 miles and two hours, October 9th, 1909.

Motor Cycle Records.

Arthur G. Chapple, the writer of the article "American Records and their Making," in the last issue, is one of the few members of the Auto Cycle Union in the States. He has ridden motor cycles for four years, and is the present holder of several records. He is British born, but has spent the greater part of his life in America. Mr. Chapple's object in writing the article for *The Motor Cycle* is to see the conditions improved between the A.C.U. and the F.A.M. Every motor cycle record created in England is recognised in America, he says, and no questions are asked.

Auto Cycle Union Fixture List for 1910.

January 29th, Quarterly Trial. April 20th (Wednesday), Quarterly Trial. May 28th, open hill-climb. May or September, International Motor Cycle Tourist Trophy Race. July 4th, Six Days' (Land's End to John-o'-Groat's) Trial. July 23rd, Quarterly Trial. August 20th, race meeting at Canning Town. September 3rd, final inter-club efficiency test (petrol consumption), held in the provinces. October 12th (Wednesday), Quarterly Trial. Note: Where not otherwise stated, the above events take place on Saturdays.

The Recent Motor Cycling Club Annual Dinner.

Unfortunately, an error occurred in our report of the M.C.C. dinner. The sentence under consideration gave one to understand that Mr. Maitland had suggested giving his prize for aviation. The meaning meant to be conveyed was that the speaker, Mr. Candler, suggested that a prize should be awarded to a holder of a London to Edinburgh medal who accomplished the journey on an aeroplane—an event which he prophesied would take place in three years' time. Mr. Maitland's prize, a silver rose bowl, now on its way from Ceylon, has been awarded to Mr. F. G. Smith.



ING A BLIZZARD.



A.C.U. Membership.

At a recent meeting of the Auto Cycle Union, nineteen new members were elected.

Cattle on the Highway at Night.

In view of the resolution passed at the A.C.U. Council meeting on November 27th, to the effect that cattle or sheep on the highways should be preceded by a man carrying a coloured light, it was decided that a joint letter should be sent from the A.C.U. and the R.A.C. to the Local Government Board and the various local district councils.

The 1910 Tourist Trophy Race.

The organising committee has decided that the limit of capacity for multi-cylinder machines shall be 670 cc. It will be remembered that at the Stanley Show meeting of the trade and T.T. competitors, it was resolved to recommend the A.C.U. committee to adopt a limit of 650 cc. After full consideration, the A.C.U. committee has increased the capacity recommended by 20 cc.

The first entries for the Tourist Trophy Race are two Indian motor bicycles.

The feeling among two prominent firms in the motor cycle trade is that the race should take place in May. We have already urged manufacturers in general to lose no time in preparing their T.T. racers, as it is more than likely that May will eventually be decided upon.

Motor Cycle Racing in New South Wales.

A motor cycle scratch race took place on the Sydney Sports Ground asphalt track on October 27th, distance three miles. Two heats and a final were decided, the winner being W. Tormey (5 h.p. Rex), N. Saunders (3½ h.p. Bradbury) being second, and S. L. Bailey (3½ h.p. Triumph) third. The race was under the auspices of the Auto Cycle Union of N.S.W., and was promoted by the Eight Hour Demonstration Committee.

The Sydney (N.S.W.) Motor Cycle Club held a hill-climb open to members of the N.S.W. Cyclists' Union on Hughes' Hill, Eastwood, on November 6th. There were eighteen entries and eleven starters, competitors ascending in "match style" in pairs. J. W. Empson (3 h.p. Lewis, an Australian manufactured machine) was first, with E. N. Fyson (5 h.p. Rex) second, and F. Flew (5 h.p. Vindee) third. In the final Fyson broke his belt, and the signal recalling the riders was given, but the others did not hear it and completed the course, Empson winning. However, they agreed to re-run, the order being as stated.

CLUB NEWS.

North-west London M.C.C.

At a fully-attended committee meeting held at headquarters on Wednesday last, several new departures for the furtherance of the club's sphere of usefulness were discussed, particulars of which will be communicated to members shortly. Six new members were elected.

Birmingham M.C.C.

The second smoking concert of the winter session was held on the 11th inst. This was the most successful and enjoyable evening the club has ever had on an occasion of this sort, there being close on a hundred members and friends present. Another smoking concert will be held in March. In the meantime the seventh annual dinner will be held on the 29th prox., when it is hoped there will be a still larger gathering than there was at the concert. On February 26th a whist party will be held at headquarters, to which members are asked to give their utmost support.

Sheffield and Hallamshire M.C.C.

The sixth annual dinner of the above club took place on the 9th inst., when almost a hundred members and friends gathered down to an excellent menu ably served by Messrs. Hudsons at the Palace Restaurant. Mr. F. Dover, the president, occupied the chair. Mr. F. Straight, secretary of the A.C.U., attended, and presented the club prizes, totalling in value close on £45. The membership of the club has now reached the record figure of 125.

During the evening Mr. Straight enlightened those present as to the amount of work done by the A.C.U., and concluded by urging the Sheffield and Hallamshire M.C.C. to again come within the fold.

An excellent musical programme was given during the evening, contributed to by Messrs. Johnny Watson, W. H. Barton, T. L. Tirebuck, Allan Morton, E. Cooper, E. Harwood, and E. Burch.

Nottingham and District M.C.C.

The second annual dinner was held at headquarters, Velbeck Hotel, on Friday, the 10th inst. In the absence of the president (who was confined to his bed with influenza), the chair was occupied by J. H. Scothern; vice-chair, Mr. Councillor R. A. Young. About forty attended, amongst whom were Captain R. H. Bagnall-Wild, Captain J. Archibald Morison, H. Bircumshaw, M. Ross Browne, J. Elliot Littlewood, and G. Claude Cuthbert.

The toasts were: "The King," proposed by the Chairman. "The Club," proposed by the Vice-chairman, responded to by Captain Bagnall-Wild. "The Visitors," proposed by Mr. Claude Cuthbert, responded to by Captain J. A. Morison. During the evening the prizes won in the 1909 com-

petitions were handed to their respective winners, George Brough securing the major portion.

The following gentlemen signified their intention of presenting medals to the club for the 1910 trials: Captain Morison, J. Elliot Littlewood, M. Ross Browne, H. Bircumshaw, F. P., F. B., and C. H. Johnson (jointly), Messrs. Cuthbert, Sewell, and another (jointly)—in all eleven medals.

The Harrogate and District M.C.C.

On Thursday evening last Mr. W. Fawcett read a paper upon the recent Stanley Show. The lecturer stated that, in his opinion, motor cycles as a whole were now so nearly perfect that improvements were mainly noticed in detail work. He was pleased to see that rapid strides were being made with new forms of oiling apparatus, such as J.A.P., Rex, Indian, etc. Then he proceeded to enumerate the variable gears, and considered them absolutely necessary, unless an engine could be made which would climb a steep hill with ease at any speed between 5 and 35 m.p.h. Various machines such as the Scott, James, and T.A.C. were discussed. Mr. Eric Myers, having ridden over from Bradford on a $3\frac{1}{2}$ h.p. Scott, was plied with innumerable questions, all of which he answered satisfactorily.

York County M.C.C.

The A.G.M. was held on the 10th inst., the president, Dr. Norman Hughes (Calverley) in the chair. The secretary, Mr. W. Asquith, gave a very satisfactory report of the year's working. Mr. H. Wilkinson was again elected hon. trials secretary, and Mr. Asquith accepted the double responsibility of hon. treasurer and secretary. Last year's committee was practically re-elected.

Arrangements are being made for a dinner early in January, 1910, when the trophies and medals won during 1909 will be presented. It is hoped that all members will make an effort to be present, and bring as many friends as possible. Any reader wishing to become a member should send his (or her) name to Mr. Asquith, 11, Moorland Street, Leeds.

Western District M.C. (London).

The annual supper was held on the 8th inst. at the Milford Hotel, Isleworth, under the able chairmanship of Mr. Wilson Prosser, sixty-two members and friends being present. The presentation of prizes was kindly undertaken by Mrs. H. Vowler, after which the toast of "The King" was given by the Chairman. The toast of "The Club and Officers," also by the Chairman, was responded to by the hon. secretary, Mr. F. H. Mullett. The increase of forty-seven in the membership during the year, he said, had been contributed to by nineteen different members of the club. The club possessed three valuable challenge cups and a challenge shield. As members were aware, the club had given notice of termination of its affiliation agreement to the Auto Cycle Union, but he hoped that every member would at the annual general meeting on January 7th vote for re-affiliation. The 2s. fee per member was surely a very small item, considering the benefits received, apart from the fact that it was the duty of a club to affiliate to the governing body. Mr. P. H. Snelling, in a humorous speech, then proposed the toast of "The Chairman." The latter, in responding, said he hoped that next year the room would not be large enough to hold them all, and thanked the committee for the hard work they had done during the year. In responding to the toast of "The Auto Cycle Union," given by Mr. I. J. G. Babbage, Mr. F. Straight said he was very pleased to be amongst the members of the Western District M.C. again, and congratulated the club upon the progress it had made this year, which, he said, reflected great credit on all the officials. The club now qualified for the R.A.C. gold medal, and he hoped an application would be made for it. The last toast, "The Ladies and Visitors," was proposed by Mr. A. R. Canham, to which Mr. A. J. Ayler replied.



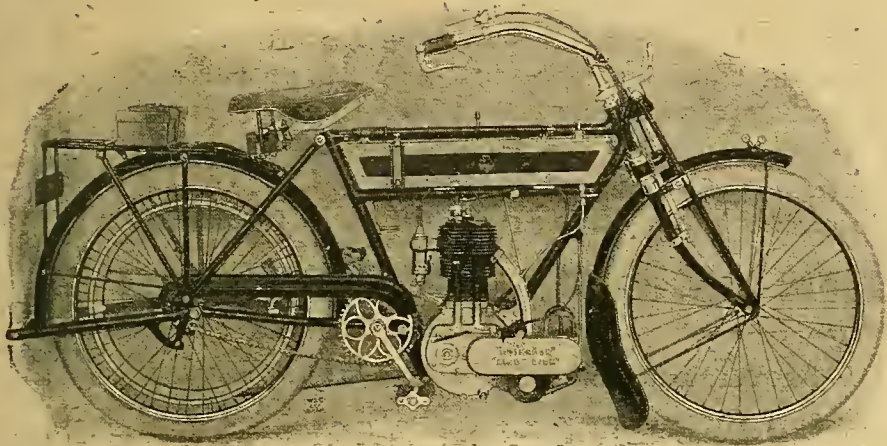
The silver shield offered by the Sheffield and Hallamshire M.C.C. for annual competition. It was won for the first time this year by John Haslam (the hon. sec.) in the Sheffield to Holyhead and back and subsequent reliability trials, the latter being necessitated in consequence of a tie.

CHRISTMAS HOLIDAYS.

Next week's issue of "The Motor Cycle" will be published on Tuesday, one day later than usual.

KERRY-ABINGDON

MOTOR-CYCLES



**The Ideal Motor Cycle
for GOOD VALUE.**

A FINE EXAMPLE OF GOOD
WORKMANSHIP AND PER-
FECTION OF DETAIL. :: ::

3½ h.p. - - - £43.

Write for
Price List.

KERRY ACCESSORIES
are the best that money
can buy.

EAST LONDON RUBBER Co., 29-31, Gt. Eastern St., LONDON, E.C.

Branch Depots :
101 & 102, Thomas St., BRISTOL
and 57, Arundel St., SHEFFIELD.

"Worthy of the firm's long record."—DAILY MAIL.

EXCELSIOR

1910 3½ H.P. MODEL.

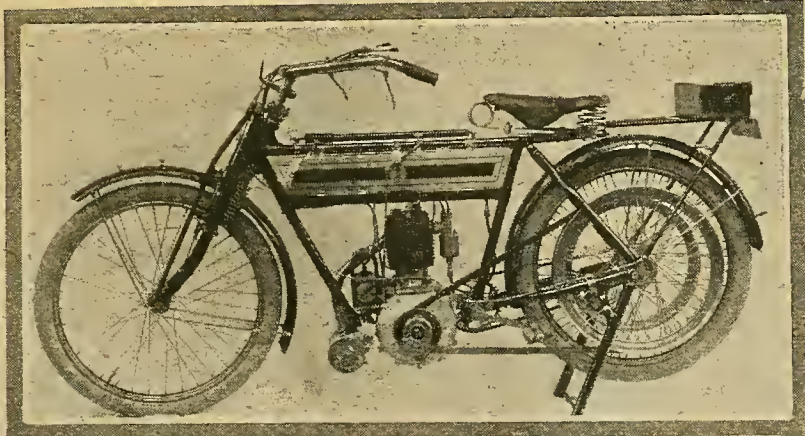
PRACTICAL POINTS :

Spring Front
Forks.

Mechanically
Operated Valves.

Bosch Magneto.

B. and B.
Carburetter.



PRACTICAL POINTS :

Flexible Pipe to
Carburetter.

Stand and
Carrier.

Hinged Stoppers
to Tank..

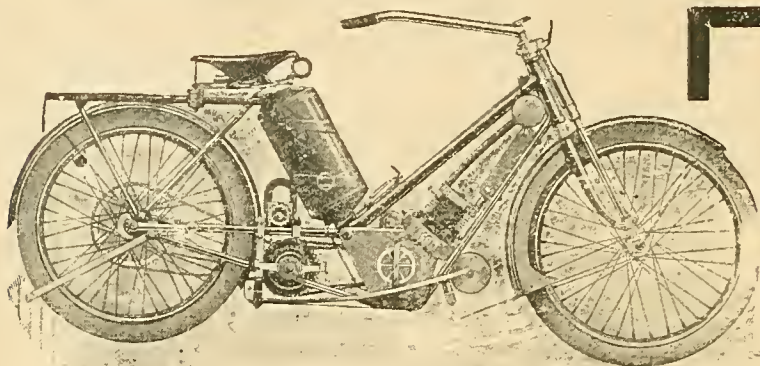
Wide Mudguards.

The "Excelsior" 1910 Model is as far in advance of others as was our original "Excelsior" Motor Bicycle in 1901. We not only make Motor Cycles; we use them. Every detail is designed to meet the requirements of the rider. Every improvement is thoroughly tested by us before final adoption. When you buy an "Excelsior" you are availing yourself of all the many advantages of long experience combined with the most modern up-to-date methods.

Let us Send you our Latest Catalogue
With Name and Address of Nearest Agent.

BAYLISS, THOMAS & CO. (Founded 1874), Excelsior Works, COVENTRY.

E.H.G.



SCOTT

"THE ALL WEATHER MACHINE."

Accessibility of the "Scott" is a great feature and one of its many advances upon previous design is the unique method of accessibility to the crank cases by the simple removal of a wing nut, which enables the rider to see at a glance—(1.) The quantity of oil held in the crank cases, (2.) The condition of the oil. (3.) Engine bearings and connecting rods.

This feature offers the additional advantage of the rider being able to see how his lubrication is going on, and is also designed so the connecting rods can be easily detached from the engine without disturbing the crank case, Further—The design gives perfect lubrication.

Get to know all about the "Scott" which is being ordered by the leading motor cyclists of the day.

THE SCOTT ENGINEERING CO., LTD.,

Mornington Works, BRADFORD.

London Agents:

Service Co., Ltd., High Holborn.

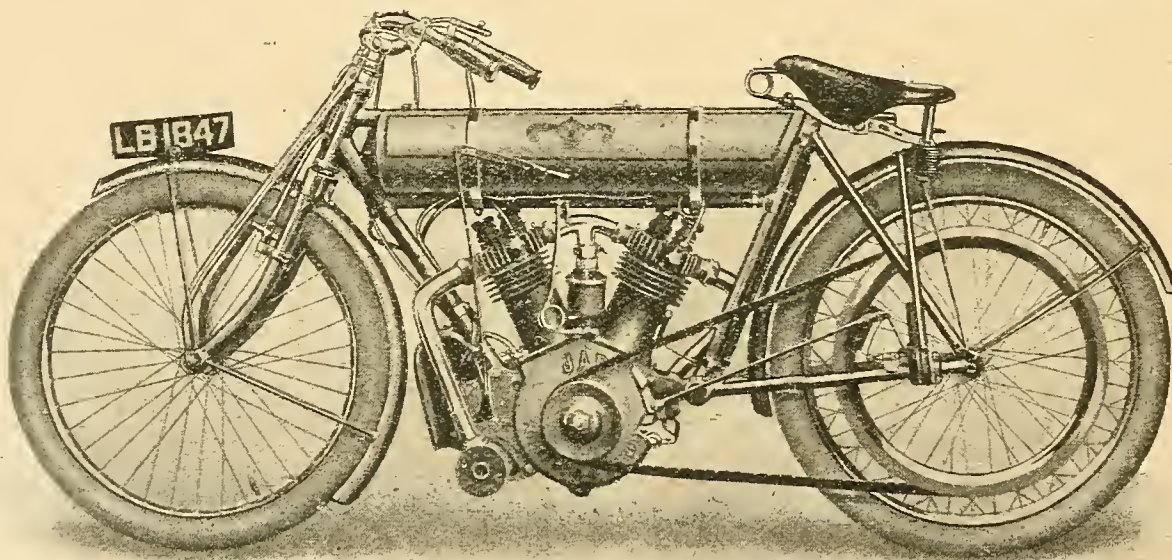
TWO-STROKE ENGINE
WATER-COOLED
TWO CYLINDERS . . .
STARTS FROM SEAT
TWO-SPEED GEAR . .
FREE ENGINE
IMPROVED SPRING . .
FORKS & FOOTBOARDS
LOW CENTRE OF
GRAVITY

3½ h.p.—PRICE 55 GUINEAS.

The Famous "MATCHLESS" Motors

FAR AHEAD OF ALL OTHERS.

International Tourist Trophy { 1st in 1907
2nd in 1908
1st in 1909 } Against all comers.



Gold Medals for
Reliability—End
to End—London
to Edinburgh.

Hill Climbs—
Snaefell, I. of M.
15 secs. faster than
all others.

Amulree Hill
Climb, 4 firsts,
1 second.
Etc., etc.

Hold more
recognised World's
Records than all
others combined.

Models from 2½ h.p.
to 9 h.p.

May we send you our
latest catalogue of
Britain's Best
Motor Cycle.

H. COLLIER & SONS, LTD., Herbert Road, Plumstead, S.E.

Telephone—232 Woolwich.

Telegrams—"Matchless, Woolwich."

In answering these advertisements it is desirable to mention "The Motor Cycle."

1909 LAURELS

To those motor cyclists who can realise the worth of a motor cycle which consistently scores in open competition, the successes of the "V.S." during the year now passing must convincingly appeal.

What the

"V.S."

has done

in the past—with the new and improved models it can and will do again in the future. Watch 1910! "V.S." owners have won 4 RECORDS, 8 GOLD MEDALS, 5 SILVER MEDALS, 1 BRONZE MEDAL, 4 CUPS and SHIELDS, in all over 50 AWARDS THIS YEAR on standard machines.

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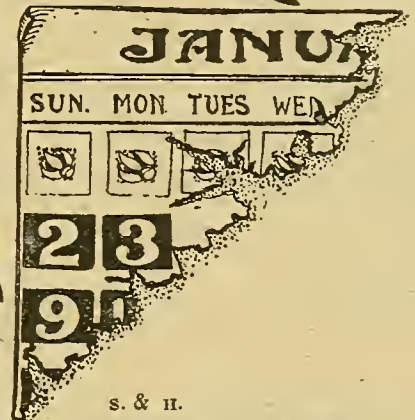
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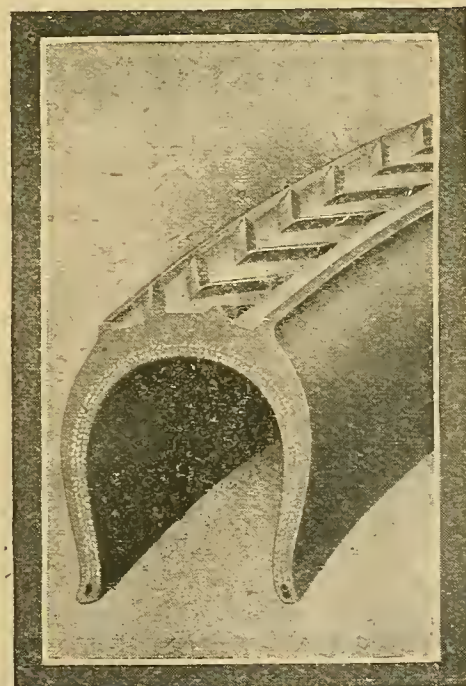
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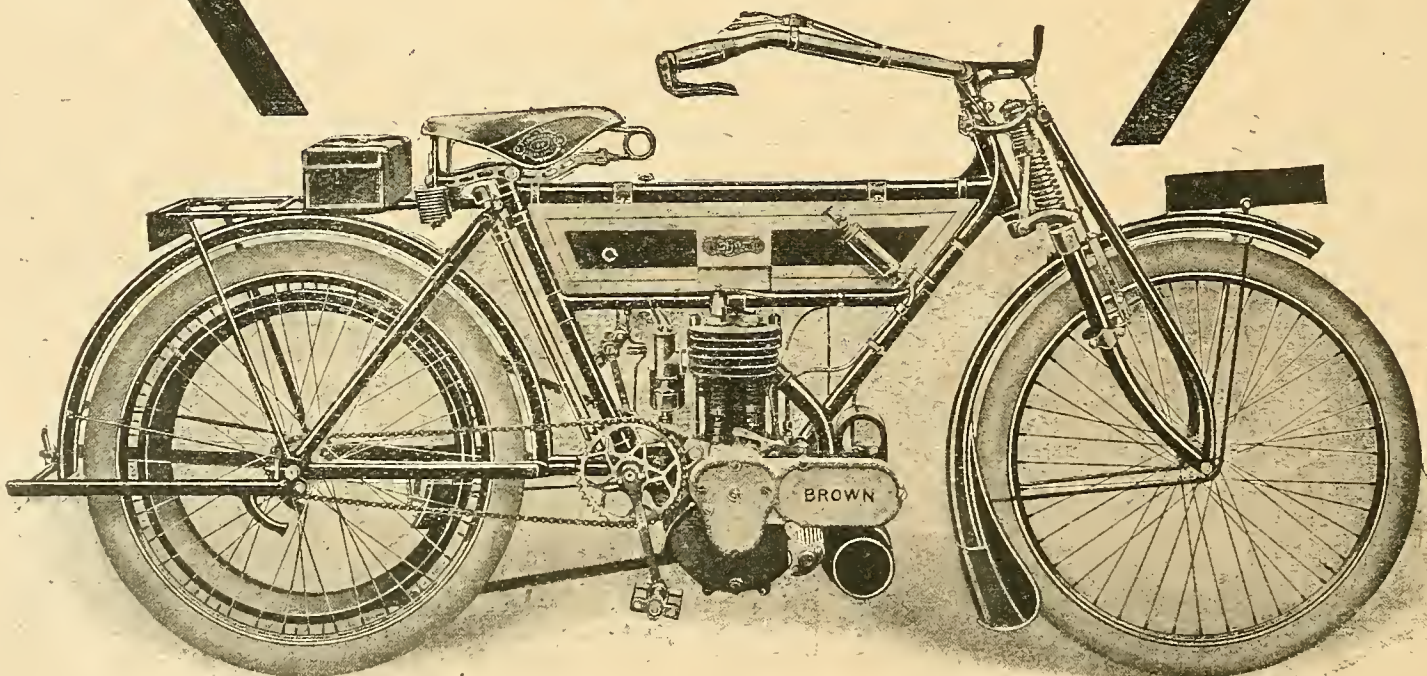
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THE MOTOR CYCLE

Vol. 7. No. 353. CONTENTS. Dec. 27th, 1909.

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Long v. Short Stroke.

IN our last issue we published an article on "Bore-stroke Ratio and Efficiency," contributed by a well-known motor cycle engineer. The writer is an advocate of and firm believer in the long stroke engine, and considers that an increase in efficiency would be obtained by lengthening the stroke and suitably amending the design of engines of approximately equal bore-stroke ratio. Coming from such an authority, the article has aroused a considerable amount of interest, as a continued discussion on the same subject has taken place recently in the correspondence columns. The consensus of opinion among motor cyclists appears to be that, leaving efficiency out of the question, and considering comfort combined with power, an engine which is neither excessively long or ultra-short in the stroke is the one most suitable for general touring requirements. We may point out that one of the chief reasons why a very long stroke is seldom exploited on a motor bicycle fitted with a single-cylinder vertical motor on accepted lines is because it entails more head room and consequent reduction in tank capacity, that is if the height of the frame is to be kept normally low, which is desirable in the case of all motor bicycles. Mr. Norton's lucid views in favour of the long stroke engine admit of few other arguments. Turning to ultra-short stroke engines, these are seldom encountered on the road. We know it to be a fact that some of the very short stroke engines which have figured in track races have not been designed in the first instance with a short stroke, but have been more in the nature of a compromise to enable manufacturers in some cases to comply with the regu-

lations governing cubical capacity without the expense of making an entirely new set of patterns and tools. In other words, restrictions are usually placed on the size of engines in track races, and to save designing a new engine, makers adopt the comparatively easy alternative of shortening the stroke until the limit of capacity is met.

Motor cyclists are so keen to recognise any improvement in design and take advantage of any slight gain in efficiency that it is only reasonable to suppose that if the ultra-short stroke engine were any advantage it would soon be common on touring engines as well as on track racers.

We recall our experiences with a short stroke engined motor bicycle we once owned. This machine had a very high compression (short stroke engines usually have), and we found it lacking in power, particularly on hills, and, moreover, it was not comfortable to ride, on account of the unusual amount of engine vibration. All the motor cycles we have owned since have had a stroke measuring slightly in excess of the bore, and have been quite comfortable to ride, and the engine vibration has been practically negligible. This tends to confirm the opinion of the writer of the article in question, as he especially points out that he is firmly convinced that it is possible to make a long stroke single-cylinder engine as free from vibration as the short stroke, provided every moving part is carefully balanced. We must, however, admit that our experience with *unusually* long stroke engines, although limited, has not been altogether satisfactory. Vibration was undoubtedly more pronounced, and knocking soon manifested itself. Mr. Norton considers this due to bad

design, and not to any inherent defect of the long stroke engine.

Probably the short stroke engine we have referred to was not faulty on account of the short-stroke alone, and could have been improved by correcting the balance or lowering the compression, but the fact remains that, although suitably geared, it was extremely prone to overheating, and on steep hills the pulling power died away in a remarkable degree. It is significant to observe that ninety per cent. of 1910 model engines have strokes equal to or slightly in excess of the bore.

The 1910 End-to-end Trials.

LAST week we announced that, among the list of Auto Cycle Union fixtures, the End-to-end route had been chosen for the 1910 trials, and in another paragraph that the Competitions Committee intend to amend or extend the course, so as to make the trials more arduous. A competitor who completed the trials last year and obtained an award has sent us an interesting contribution (which we publish elsewhere) suggesting several much-needed reforms in connection with the system of awarding marks. It is questionable if anyone sees as much of these trials as a competitor, particularly one who is a keen observer of the system of making awards.

Officials cannot see all that is going on, for the simple reason that they cannot be in more than one place at a time, and as they are naturally very busy in working out results and attending to the multitudinous details of organisation, they may easily have overlooked the methods suggested by our contributor to render the trials more arduous and at the same time fairer to all. The reduction of the usual hour allowed for filling up, repairs, and adjustments each morning to half an hour would be welcomed by owners of reliable machines. The decrease of maximum time from sixteen to eighteen miles an hour would only affect the light-weight machines, and an allowance might be made for them. Waiting outside controls or anywhere on the route is a matter we have referred to on several previous occasions. It is difficult to prevent this practice of loitering, but by adopting stronger measures to put a stop to it the A.C.U. would improve the nature of the trials as a dependable record of the capabilities of the various machines engaged in competition. Previous years' rules were such that a really expert rider could have gained an award on an old pattern motor cycle, simply because there were numerous ways and means of making adjustments without being penalised, and catching up time by "scorching" after experiencing a delay.

THE 1910 T.T. RACE REGULATIONS.

AS they stand at present, the rules for next year's International Tourist Trophy Race for motor cycles, to be held in the Isle of Man in May, June, or September, are as follows:

Cylinder Capacity Limit.

—Single-cylinder engines must not exceed 500 cubic centimetres capacity, and multi-cylinder engines must not exceed a total capacity of 670 c.c. (Last year's limits were

500 and 750 c.c. respectively, or a 50% allowance for multi-cylinders.) The formula used to determine the volume swept out by the piston per stroke is:

$$D^2 \times .7854 \times S \times N.$$

D = Diameter of piston in centimetres.

S = Stroke in centimetres.

N = Number of cylinders.

Twin-cylinder engines of the under-mentioned dimensions come within the 1910 limit of 670 c.c.:

Bore and stroke.	Cylinders.	Capacity.
70 × 87 mm.	... 2 ...	670 c.c.
72 × 82 mm.	... 2 ...	668 c.c.
74 × 78 mm.	... 2 ...	670 c.c.
75 × 75 mm.	... 2 ...	662 c.c.
77 × 72 mm.	... 2 ...	670 c.c.
79 × 68 mm.	... 2 ...	666 c.c.
81 × 65 mm.	... 2 ...	670 c.c.

Date of the Race.

No announcement as to the date can be made at present. By a majority of ten to seven votes, the meeting at the Stanley Show decided in favour of September, but the Manx Highway Board suggested that May or June would be a more convenient time.

The A.C.U. is at present trying to arrange for the meeting in September.

The day before the next race for the trophy, the frames of the motor cycles and the vital parts of the mechanism will be sealed by A.C.U. officials. The sealing and weighing operations will be carried out at the same time.

Next year, practising will be limited to seven days.

Equipment of the T.T. Racers.

As to silencers, handle-bars, and saddles, competitors are not to be troubled with regulations governing these parts. The organising committee has recognised that the questions are so difficult to render the conditions fair to all that no rules will be issued respecting these parts. Competitors may therefore select any shape of handle-bar they wish, and any type of saddle. With regard to silencers these must be fitted during practice, but need not be used on the day of the race.

The Course.

The race will take place over the same course as before, starting from St. John's to Ballacrine, and thence to Kirk Michael and by the coast road to Peel, and back to St. John's. Distance 15 miles 1,430 yards. This year, the competitors completed ten laps. No decision has yet been come to with regard to the distance of the 1910 race; the committee has power to decide on a distance of not less than 150 and not more than 300 miles. This year's distance was 158 miles 220 yards.

Any machine entered must be a touring machine, without pedalling gear, fitted with two brakes, tool bag, weighing with contents not less than 4 lbs., motor cycle tyres (not less than 2¼ in.), metal mudguards (not less than 3½ in.), and tank to carry not less than 1¼ gallons of petrol.

A Holiday with a Five Year Old

by Philip Bedingfeld.



The Author.

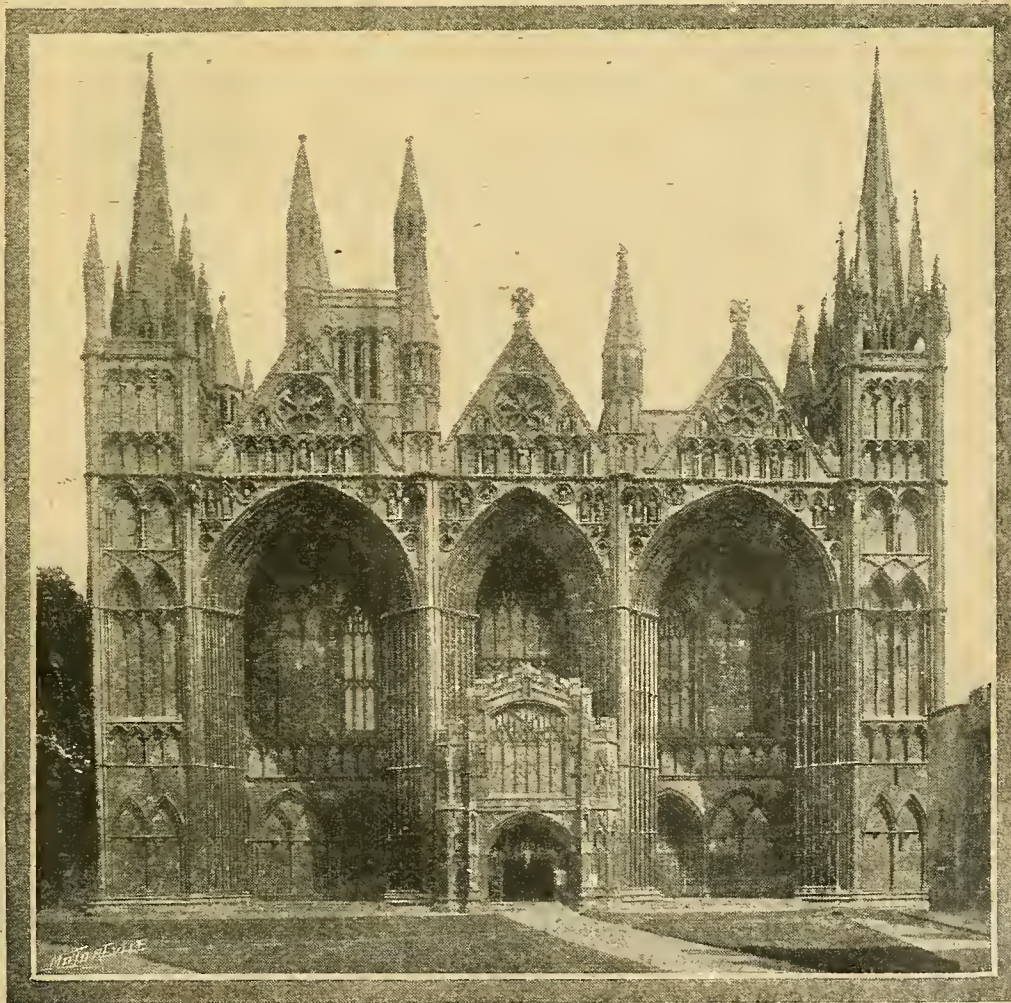
The Devil's Punchbowl,
Hindhead, Surrey.

I STARTED from home on one of the few fine days we had during last summer (so-called), my mount being a $2\frac{3}{4}$ h.p. F.N.—a machine which, though only of medium power, has proved itself a very trusty and excellent steed. Though the time of year was perhaps rather late to undertake such an ambitious tour, I left filled with hopes of good weather and for the success of the trip. My troubles began early—in fact, before I started. I had decided to fit a new tyre on the back wheel to ensure against difficulties with a well-worn cover. The day before my departure no tyre arrived, and I thought I should have to use the old one for the first day; however, much to my surprise, it turned up just before I was leaving, and it was with joyful heart that I speedily fitted it to the machine. My objective for the first day was a pretty little village called Souldern, about eight miles from Banbury—a place referred to by Wordsworth in his “Visit to an Oxford Parsonage.” I left with hearty good wishes for a successful journey, but when I had gone only two miles I thought I was in for a bad time, for the engine gave out through loss of compression, and I at once thought I had broken a valve, but fortunately it was only the collar holding the spring. I soon inserted another, and started making up the time I had lost through the delay.

Running to a Schedule.

I decided to draw up a schedule for the first day to see how nearly I could run to it, with extraordinary results. I had arranged to reach Peterborough at 10 a.m., but was five minutes late in a distance of forty-eight miles. The roads were fair and very flat; they then improved considerably, and became, in fact, quite excellent. Some few miles from Peterborough, but off the main road, lies the site of Fotheringhay Castle, famous as the place where Mary Queen of Scots was imprisoned and beheaded. Then on through undulating country to Oundle, Thrapston,

Wellingborough, and Northampton (noted as a boot manufacturing centre). I halted here for lunch, arriving strictly to schedule. So far I had no difficulty in climbing the hills that had been encountered with my little engine. Being within thirty miles of my destination, I was in no hurry to continue my journey, so after a good rest, and a saunter through the town, I thought it was time the motor required refreshment. Having fitted up my tank and looked over the machine to see that no nuts were loose, I pushed on and faced the hill on the way to Towcester; this the machine



West Front, Peterborough Cathedral.

Holiday with a Five Year Old.—

in Hertfordshire, and the speed I touched according to my speedometer was—well, “x miles an hour”! I took the right-hand road at Welwyn, and after a few miles stopped and rested by the wayside for a short time and had lunch. On restarting I found the motor was misfiring slightly, which I discovered was owing to a cracked sparking plug, but being in rather a black mood, I thought I would ride on to the next village and let someone else burn his fingers in changing it, which he did!

A Kindly Hint from a Gentleman in Blue.

Leaving Knebworth (Lord Lytton's place) on the left, I rode on to Stevenage and Baldock, where I stopped to have my number plate fixed, as I had lost a nut. While it was being put right a “gentleman in blue” came up, and we had a long chat. He very kindly informed me that they had done their police-trapping the day before, so I was free to go my untrammelled way. From here I branched off to the right to Royston, and was very careful in going through that town. I then took a sharp turn to the left and went down what looked like nothing more than an alley, but which eventually broadened out. Passing the station, I went over the bridge, and in a few minutes entered the county of Cambridgeshire. In about half an hour I came to a picturesque village called Bourne, which was to be my stopping place for the next few days. At the conclusion of my visit I steered the motor homeward with mixed feelings of regret (as the tour was drawing to a close) and also of gladness to be home again. I left in cloudy weather, and reached Cambridge in about half an hour, the roads being poor. From there to Ely, with its beautiful cathedral, and for about five miles beyond, the roads greatly improved, but afterwards they deteriorated again, and were bad the remainder of the journey.

We are in receipt of the latest catalogue of the Kempshall Tyre Co., Ltd., 1, Trafalgar Buildings, Northumberland Avenue, W.C. This firm has of late devoted a considerable amount of attention to the manufacture of motor cycle tyres. Kempshall tyres are made in two patterns and three qualities, the sizes being $26 \times 2\frac{1}{4}$ and $26 \times 2\frac{1}{2}$. The walls of the ribbed non-skid are reinforced by buttresses extending from the tread practically to the beading. These buttresses perform a double purpose, for they not only strengthen

Considerably more rain had fallen here than in Cambridge, and my average speed also fell in consequence. Just outside King's Lynn the machine swayed from side to side in an alarming fashion, but by a great effort I managed to right it, though it was by no means a pleasant sensation. It was a kind of prolonged side-slip without the final consequences. I was now in my own country once more, and I soon covered the remaining fourteen miles in the gathering dusk, reaching home at 5.30 p.m.

Summary of Running Expenses.

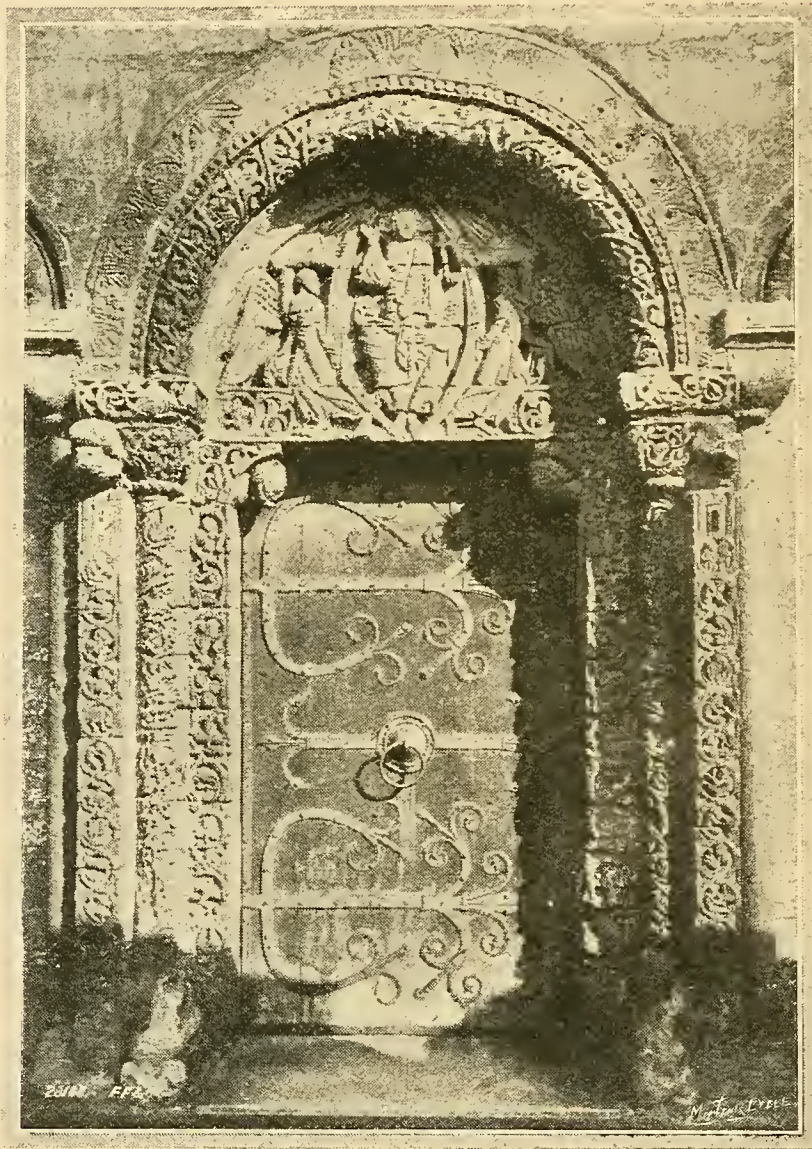
A short summary of the tour may be of some interest. The total distance covered, as nearly as I could calculate it, was 620 miles. I find that the average speed for the daily runs was between 15 and 18 m.p.h. The cost with regard to the motor was £2 — a considerable portion of which I could have saved had I felt inclined to do the work myself. I experienced no difficulty in arranging to have my luggage sent on, and it relieved me of the trouble of taking a bag on the motor bicycle.

September and October are hardly suitable months to undertake a tour spread over three or four weeks, so I must consider myself lucky in only getting wet through once.

With regard to the motor, I did not expect it to climb all the hills unaided, and, considering the country which I traversed, I think the machine performed splendidly. I only replaced a plug and a collar for the inlet valve, and this was the extent of my troubles on the tour.

Thanks to an extra thick cover on the back wheel and a good one on the front wheel, I went through the tour without a single puncture! I have always con-

sidered myself unlucky in this respect, but perhaps my luck has changed, and were I staying in England I should make a point of always taking my holidays on my trusty F.N.—but I am leaving for sunnier climes.



Ely Cathedral. Prior's Door.

the wall considerably, so acting as a protection against bursts, but they have the same effect as the gills of a radiator, and disseminate the heat generated by friction with the road. The Kempshall Co. has just introduced a liner for motor bicycle tyres, known as the “Fear-nought.” It consists of a wrapping of fabric and rubber, which prevents the air tube bursting in the event of the outer cover being cut. It is really an auxiliary cover, and not only should it reduce trouble, but also lengthen the life of the average cover.



Needed Reforms in Big Trials.

The following article has been sent us by a competitor in the last Six Days' Trials who prefers for obvious reasons to be anonymous. He was inspired to write suggesting the alterations to the rules after reading the paragraph in the last issue pointing out that the organisers probably intend to extend or amend the course of the 1910 End-to-end trial to render it more arduous.

WE motor cyclists are very persistent in asserting that our two-wheeled vehicles are more than the equals of good cars in point of reliability. We meet with fewer stops and shorter stops. The average motor cyclist gets through a year's riding with a few stoppages to adjust his belt, to mend a puncture or two, and to clean his ignition; his year's work at home often includes nothing more serious than valve grinding. The man in charge of a car usually has sundry very lengthy road stoppages for tyres, and spends a great many hours in the garage, cleaning, lubricating, and adjusting, not to mention a probable week's work during the year for a general overhaul. This being so, the regulations for a motor cycle reliability trial ought to be as severe as the regulations for a motor car reliability trial, and yet allow the percentage of successes to be as good in the one as in the other.

Observing Single-seated Machines.

Unfortunately, this ideal is in practice impossible, owing to the difficulty of keeping a single-seated machine under continuous observation. Failing the ideal, we may well claim that the regulations for a motor cycle reliability trial should be as severe as possible. Contrasting the ideal with the facts, we find that—to mention a notorious example—a certain make of motor cycle has on paper performed very creditably in several thousand miles trials; but that its riders (who are trade men) assert that no private owner could possibly get one of these machines through a six days' trial at all; that the luncheon hour is a sixty minutes period of doubt for them, because they do not know whether they will ever be able to restart when lunch is over; and that every single morning of the trial they have to dismount a portion of the mechanism, clean and replace it—a job which only a man who is thoroughly conversant with the machine can possibly get through in an hour.

I do not mention the name of this machine, because I believe the faulty detail has by now been amended. I simply use the machine as a convenient illustration of the loopholes which the present regulations offer to unsatisfactory machines; it is not too much to say that they allow a machine which no private owner could coax through the trials to appear as a gold medal winner when bestridden by a mechanic from its makers' works.

A paragraph in *The Motor Cycle* of August 4th showed that a rider in an A.C.U. trial could spend upwards of thirty hours in repairs and adjustments in the course of a six days' trial, and yet appear in the final report as a gold medal winner, who had not lost a single mark. In practice this actually occurs. Jones has an absolute picnic; he loafs through the entire 1,000 miles, well up to minimum time the whole way, without opening his toolbag; gold medal, full marks. Robinson, on the contrary, spends each hour before breakfast in performing important repairs with great skill and in record time; on the road he is alternately repairing and riding fast all day to get into each control before maximum time; he finishes the week in a state of exhaustion, but is credited with as good a performance as Jones—gold medal, full marks. Had the two been driving cars in the Scottish A.C. Trial, Jones would appear as a gold medal and special prize non-stop winner—Robinson would be way down the list, minus about 1,800 marks.

The Reforms Needed.

I would suggest in the interest of the potential buyer that the following reforms are necessary and possible:

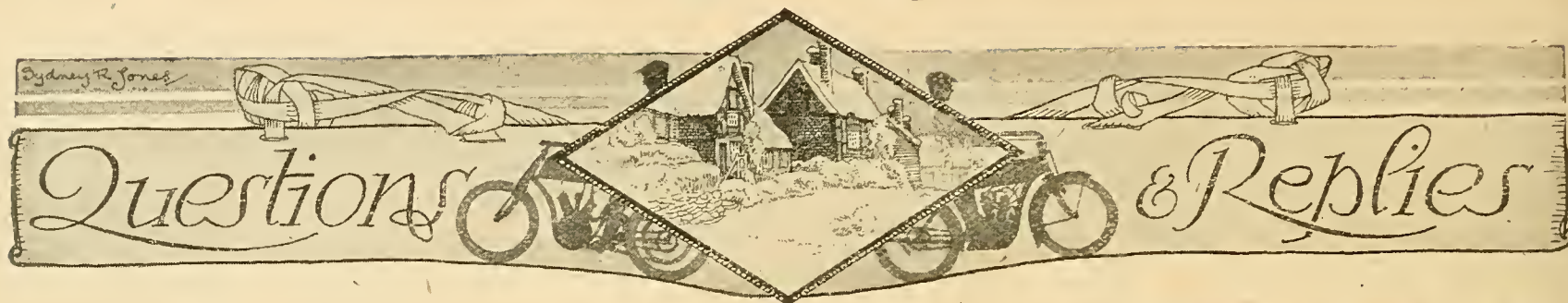
(a.) Reduction of the hour allowed for repairs each morning to half an hour (extended to an hour after a pouring wet day possibly).

(b.) Decrease of maximum time from 16 m.p.h. to 18 m.p.h.

(c.) Severe measures to stop waiting outside controls, e.g., constant vigilance by two timekeepers on motor bicycles, who shall take times at unknown points on each section, any rider being caught more than 15m. ahead of minimum time at any point to be disqualified.

My proposed reforms would only be really hard on a good machine which met with tyre troubles. I believe the quarter of an hour margin I suggest would cover this objection. Butt-ended tubes are reliable nowadays, and can be exchanged in ten minutes.

Two types of rubber studded motor cycle tyres are made by the East London Rubber Co., 29-31, Great Eastern Street, E.C. One is for light machines and the other a heavier pattern for 3 h.p. machines and over. These tyres are called the Kerry rubber studded motor cycle tyres, and, we are informed, are giving great satisfaction to riders.



A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not, must be accompanied by a stamped addressed envelope for reply.

Where to Renew Licences.

? Is it possible to get licences and registration for a motor cycle in any county other than that in which you live? If so, would you mind telling me of a county in which the police are less troublesome than in Surrey. I should also prefer one in which I could get a small number.—G. G. B.

You may take out your registration and Inland Revenue licence wherever you please, but you must apply for the driving licence to the council of the county or county borough in which you reside. We should suggest Bedfordshire for the Inland Revenue licence, and as you wish for a small number, the County of Sligo, Ireland.

Under-powered for Passenger Work.

? I have a Singer motor cycle, stated to be $3\frac{3}{8}$ h.p., made in 1906. It has not had any excessive wear, and the engine is in good order. The gear ratio is 5 to 1. Would you kindly inform me if the machine is powerful enough to pull a light sidecar in the Northumberland district? My weight is $10\frac{1}{2}$ stones and passenger's weight $7\frac{1}{2}$ stones. The machine takes myself up any hill in the county with ease, the gas never being more than half on at most.—C. H.

Your machine, if geared fairly low, is capable of taking a sidecar and light passenger on level roads, but you must not expect very great things from it on hills, and you will frequently be called upon to assist with the pedals. It is a 3 h.p. engine, and $3\frac{1}{2}$ h.p. is the lowest we recommend for passenger work of any kind.

Fitting a Magneto to an existing Machine.

? (1.) Can I fit a high-tension magneto to a $3\frac{1}{2}$ h.p. Brown motor bicycle, which at present has coil and accumulators, with good results? What make is most suitable with chain drive? (2.) Would $\frac{1}{2} \times \frac{1}{8}$ cycle chain be suitable? If not, what size? (3.) Must the magnets be kept clear from touching frame? What is the weight of the average magneto, and will it work properly if fitted upside down?—H. T.

(1.) You can fit a high-tension magneto to your machine without very much difficulty, and the result would be perfectly satisfactory. Most makes are suitable for chain drive, but it

would be best to have the fitting done by a reputable firm, as it must be done carefully to ensure satisfaction. (2.) A $\frac{1}{2}$ in. pitch by $\frac{1}{16}$ in. wide chain drive would be quite suitable, preferably enclosed in a dustproof and oil-tight casing. (3.) It is advisable to keep the magnets from touching anything. The usual type of magneto will only work in an upright position on account of the lubricating arrangements. Certain types, however, can be obtained which will work horizontally or upside down. The most common type of magneto weighs about 7 lbs.

Slowing Down on Opening the Throttle.

? I have a $1\frac{1}{2}$ h.p. Clément-Garrard motor cycle, which runs very well on about half throttle on level roads and slight inclines, but when I open the throttle on a hill the engine seems to lose power instead of gaining, and I frequently come to a standstill. The compression is good, and the inlet valve works quite freely. Can you explain the trouble? Also, what gear ratio would be right for this machine? It weighs about 84 lbs. My weight is about 10 stones.—F. W. W.

The trouble may be due to the carburetter. Probably too little air is admitted, so that when the throttle is opened too strong a mixture is obtained. Another likely cause of the trouble is wear of the exhaust valve cam having reduced the lift of the exhaust valve, thus preventing the burnt gases from escaping, and consequently choking the engine. Note that the clearance between valve stem and tappet rod only admits of a visiting card being inserted. Also try new valve springs.

Too Large a Jet or Insufficient Air Supply.

? I have a $3\frac{1}{2}$ h.p. motor cycle with Longuemare old-pattern carburetter with air intake on slot principle. My first action on starting is to open the air lever to its utmost, and there it remains for the whole ride, although I can almost shut the throttle on the level and still attain fair speed. Should this be so? It seems to me that, with throttle open for hills or speed, if I could give more air I should get more power, or, as an alternative, greater mileage to the gallon.—A. W. R.

Your carburetter is certainly not adjusted correctly at present, and by carrying out one of the three following

suggestions you will increase the speed and power, and reduce the petrol consumption of your engine. One is to increase the size of the extra air slots so that you can just make the engine misfire when the lever is fully open; (2) fit a size larger choke tube or air adapter around the jet (N.B.—This may render the machine more difficult to start in cold weather); or, thirdly, preserve the present jet carefully, and get a new one with fewer slots. In this case you will probably find that when the speed slows down on hills you will have to close the air lever slightly. You will run more economically this way. Of course, if the new jet is not a success you can easily go back to the old one, and increase the air supply.

Loss of Power.

? Last June I bought a new magneto model $1\frac{1}{2}$ h.p. Moto-sacoché. Till the end of September it ran very well indeed, and would take me up considerable hills on the South Downs. I was also able to tow my wife along on her pedal cycle at quite a good pace even up rises. Even when thus hampered the motor seemed to have plenty of power, and opening the throttle caused it to go up most hills with a rush. Lately, however, it has lost all power. It will take me along the flat at a fair pace, but against a head wind, or up a gentle rise, it requires constant pedalling, and it simply refuses to look at a hill at all. I have had to give up towing, as even on the flat it has only just power enough to move itself. The valves have been ground, piston rings examined, carburetter and magneto adjusted, but with no improvement. Everything seems to be in order, but this strange loss of power still asserts itself. Can you suggest any means of dealing with the trouble?—REV. K.

It is quite impossible for us to accurately tell the cause of the trouble without seeing the machine, which is, of course, impossible, but we suspect that it is due to the exhaust valve spring having lost its strength. Loss of power often occurs in this way. It is also probable that owing to wear of the small parts the amount of the opening of the inlet valve has increased, which would considerably affect the running. Try a new inlet valve complete; also a new exhaust valve spring, and if you still cannot locate the trouble it would be advisable to send the machine to the makers in London.

A Suitable Motor Cycle for a Medical Man.

I am thinking of taking up motor cycling as a means of doing my professional work (I am a doctor), and since my work involves frequent stops, night travelling, and travelling in all kinds of weather, I am wondering what machine will best fill the bill. I want one easy to start, not requiring much attention, reliable, and capable of throttling down to a low speed in traffic or at night. Very high speed is not a desideratum. What make of motor cycle would suit my wants? Also is it important to get a second-hand machine to learn on? I mean, is a beginner, with ordinary intelligence and no mechanical knowledge, likely to spoil a new one?—E. L. B.

As your work involves frequent stopping and restarting you require a light and handy motor cycle fitted with magneto ignition. Most up to date motor cycles answer your requirements as to reliability and capability of slow running. It is a matter for you to decide as to which make of machine will suit your purpose best. It is not absolutely necessary to start with a second-hand machine nowadays, as the driving and handle control have been rendered so simple. It would perhaps be advisable for you to have one or two runs on a hired machine as practise before you regularly use your new one.

A Complete Loss of Power.

I should be obliged if you can suggest a possible fault with my 6 h.p. twin J.A.P., with automatic inlet valves and accumulator ignition. This machine ran splendidly for over eighteen months, but in the summer I had the cylinders rebored by the makers. For a few days after this the machine went well, but suddenly it had a tendency to overheat and lost all its power. Every effort to trace the cause of this has failed. When running on the stand the engine fires as evenly as can be desired, but the slightest touch on the Bowden brake will pull the engine up, whereas formerly it would stand the application of this and the pedal brake on the driving rim belt, almost without slowing down.—H.A.S.

Without actually seeing the machine it is difficult to say what is the matter with it. We should recommend you to look to your exhaust valve springs and see if the tension is sufficiently strong. Also note if the compression is good, check the opening and closing of the exhaust valves (see "Motor Cycles and How to Manage Them"), also make sure that the rear wheel revolves freely when the belt is removed. Occasionally the cones have a habit of tightening themselves up. Your trouble seems to be absence of compression, and probably when the new rings are properly run in the power will return. We take it that you have tested the even firing of the cylinders by cutting out one of them alternately. They should run at approximately the same speed, and each of them answer to the spark advance.

Failure to Climb Hills.

My $3\frac{1}{2}$ h.p. 1907 machine runs very satisfactorily on the level road, and will climb short steep hills first-rate, but when I run it fast for a mile or so and then take a hill half a mile long, gradient about 1 in 20, the engine will pull up and stop within a few lengths about three parts of the way up, the engine pulling well to this point. I start the machine again at once and jumping on, it can climb the hill without any further trouble. I ride this hill twice a week, and the same thing takes place each time. The compression is good. Have tried all gears having an adjustable pulley, and have just had a new Amac 1910 carburetter with variable jet fitted, but with the same result. If you can give me a reason for this unaccountable trouble I should be obliged.—A. G. L.

Probably the cause is one of over-heating pure and simple, due either to

THE JARROTT CUP.



Won by F. G. Smith ($3\frac{1}{2}$ h.p. Triumph) in the M.C.C. London to Land's End and back trial, July 31st and Aug. 2nd. The distance covered was 555 miles, approximate time 31 hours. The competitor who adhered closest to his schedule time at the different controls was declared the winner.

failure of the lubricating system or carbonaceous deposits. We should recommend you to take down the cylinder and remove the carbon from cylinder head and piston, and if you still experience the trouble we should advise you to drill a couple of holes in the walls of the piston about $\frac{3}{16}$ in. diameter (below the rings, of course), to allow lubricating oil to reach the cylinder walls. If an improvement is noticeable four holes might be advisable. We shall be interested to hear from you again when you have tried the above remedies.

Improving Speed.

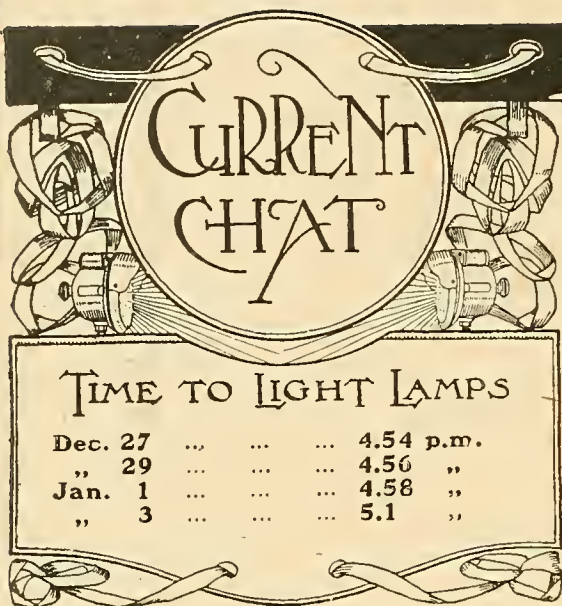
I have a $3\frac{1}{2}$ h.p. 82×82 mm. machine, geared about 5 to 1. Compression is excellent, but I find I cannot get more than about twenty-five miles per hour out of it on the level road, and slight hills seem to baffle it. I have footboards, so cannot help it on hills. I contend that an engine of this h.p. should take me up practically any hill (I weigh about 10 stones)—say Riverhill, Sevenoaks, for instance. My carburetter is rather old and chipped about. I had handle-bar control fitted and air inlets enlarged, but even now I do not seem to get enough air. I have a No. 6 jet. Do you advise a latest type carburetter with handle-bar control, or what do you suggest? I have lately had the engine overhauled and rebushed, so I think there is nothing the matter there. About what speed should I be able to get on the level with my machine geared as it is?—H. B. J.

From what you say, the engine appears to be in good order, and we are inclined to think that a new handle-bar controlled carburetter would greatly assist the machine to develop its full power. We should also recommend you to pay attention to the strength of the exhaust valve spring, as if this is old and weak you will lose power in an apparently unaccountable way. The machine should certainly take Riverhill at a telling speed if in good order. You mention nothing about the ignition. The correct adjustment of the contact points is important for speed.

READERS' REPLIES.

Peculiar Case of Misfiring.

Re "J.N.'s" query on page 975 of *The Motor Cycle*, it is possible I may be able to help him as I had a similar trouble with a $1\frac{1}{2}$ h.p. Minerva last year. You do not in your reply say anything about the valves. It is quite possible that the trouble is there. If "J.N." will carefully examine his valve gear he may find that the exhaust valve guide is worn, and if this is the case he has probably been grinding his valve seating gradually over to one side (I am presuming that it is an old engine with a.o.i.v.) When this has gone on for some time, although the valve may seat perfectly gastight, and compression seem good if tried by standing on the pedal, it will not do so when running at speed. The result is that the engine is always sucking back a half burnt charge through the faulty exhaust valve, and never gets a proper mixture. If "J.N." finds when on the road that his engine misfires on the level and on every little rise but will run like mad with less frequent misfiring on down grades he may be fairly sure the trouble is as I have stated. Of course, any leakage in the induction pipe would have the same effect. In my own case I had to fit a new valve guide, rebore the seating, and fit new valves. I also fitted new tappet and bushed the tappet guide. If "J.N." has a good lathe and can turn metal well it is a job he can do himself.—H. L. DURANT.



TIME TO LIGHT LAMPS

Dec. 27	...	...	4.54 p.m.
" 29	...	...	4.56 "
Jan. 1	...	...	4.58 "
" 3	...	...	5.1 "

Proposed New Club.

A motor cycle club for Streatham and district is on the tapis. Readers in the locality interested in its formation are referred to a notice in this week's "Club News."

Two Well-known Competition Riders.

The brothers Bashall are forsaking power-propelled bicycles, for the time being at any rate. W. H. Bashall is selling off his motor bicycles and buying a car for 1910, whilst J. T. Bashall is getting "A Mighty Atom" A.C. tri-car, which he intends to drive in the Quarterly Trials.

Motor Union Activities.

The Highways Protection Committee has supplied two mirrors for erection at a dangerous corner in Huntingdon, with a view to minimising the risk of accident at this spot.

Last week the Motor Union moved into its new offices at Caxton House, Westminster.

The Tourist Trophy Race Rules.

We have heard several expressions of approval of the new capacity for multi-cylinder engines in the T.T. race. 670 c.c. includes a good portion of the 5 h.p. twins at present on the road, so that many existing twins owned by sporting amateurs are eligible for the trophy. Moreover, the general feeling seemed to be that a single of 500 c.c. would be more than a match for a twin of 650 c.c., but the extra allowance of 20 c.c. brings the two types to as satisfactory a level as is possible.

A Trolley Propelled by a Motor Cycle Engine.

J. P. Thorne, a ganger on the Queensland Railway, has adapted to a light railway trolley a 4 h.p. Roc engine and its vital parts, and gives a splendid account of its working. The trolley is illustrated herewith. Mr. Thorne says he has a trolley second to none for lightness, strength, speed, safety, and cheapness. He goes on to say that this trolley will take five or six men anywhere. The Queensland railways have a 3ft. 6in. gauge, and the gradients are from 1 in 30 to 1 in 75. On a trial trip of over eighty miles, the engine took all the gradients and curves on the top gear. The speed of the trolley, Mr. Thorne states, is anything from four to forty miles per hour.

SPECIAL FEATURE

A HOLIDAY WITH A FIVE YEAR OLD.

NEEDED REFORMS IN BIG TRIALS.

SOME ENGLISH SNOW SCENES.

Full Page Illustration.

A Wise Precaution.

To prevent accidents the highway authorities of the county of Cheshire make a practice of placing two red lamps one at each end of a patch of unrolled stones. The words "Beware of the Stones" are also displayed in white letters. This is a commendable example, which should appeal to all highway authorities wishing to avoid accidents and subsequent county court proceedings.

Proposed Motor Cycle and Cycle Show at Olympia.

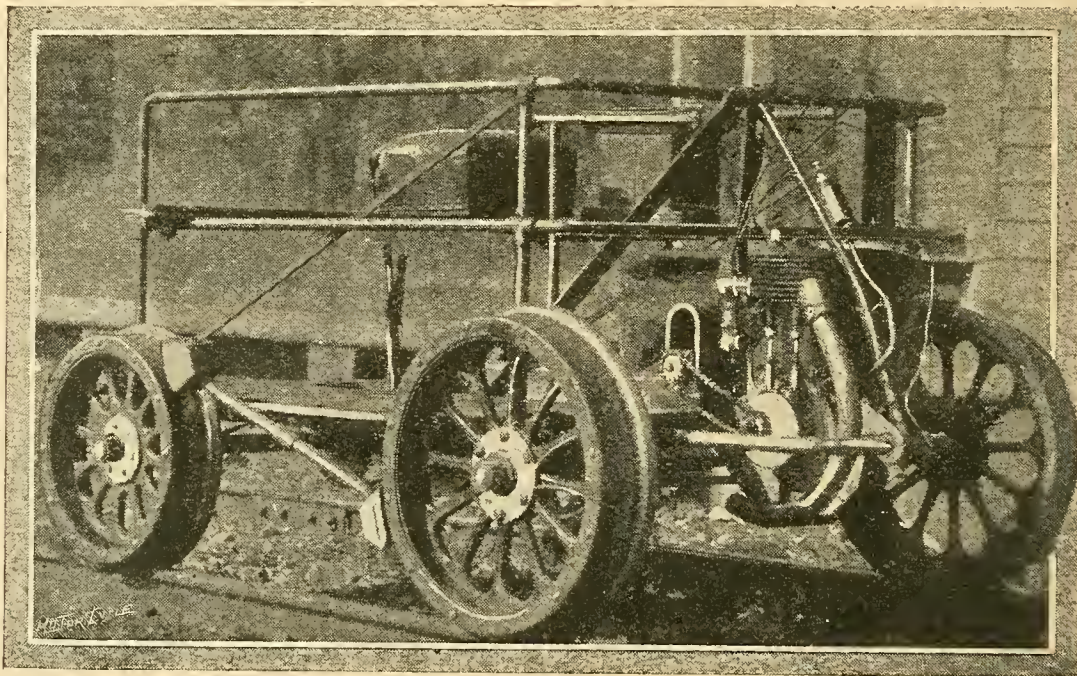
The sub-committee appointed by the council of the Society of Motor Manufacturers and Traders to meet the committee of the Cycle and Motor Trades Association at the request of the latter, held a sitting on the 14th inst. at Maxwell House. Mr. S. F. Edge in the chair. Also present Messrs. D. Citroen, A. F. Ilsley, C. Sangster, F. W. Shorland, and H. Smith. The representatives of the C.M.T.A. were received, and the points which they put forward with reference to their proposal (which was that the society should assist the cycle, motor cycle, proprietary articles and allied trades by organising an exhibition at Olympia in November, 1910, on certain lines) were fully discussed, and a complete understanding was arrived at as to the points which should be recommended to the councils of the respective bodies. The decision of the council of the society to be subject to the approval of members in general meeting.

Meeting of the Council.

Two days later, the meeting of the sub-committee of the C.M.T.A. was reported to the council. The views of the sub-committee on the question of the exhibition at Olympia suggested by the C.M.T.A. were approved, and it was resolved to place the matter before an extraordinary general meeting of members of the society on Thursday next, the 30th inst., in order to obtain their sanction to carry out the proposal.

M. Maeterlinck on the Motor Cycle.

The great poet's opinion of the motor cycle is sure to be of interest to our readers, and for the benefit of those who did not read his remarks in the course of an interview, as recorded in a recent issue of the *Daily Mail*, we repeat the paragraph containing the reference: "And then the poet plunged into a description of the little town perched up near the Mediterranean shore, where all spring and summer the air is perfumed by flowers grown for scent. On his motor bicycle he makes many excursions among the mountains at the back. 'Some people laugh at me,' he says; 'a poet on a motor bicycle! They think it incongruous. But consider how much more convenient it is than a motor car. You are near the road, you see all that there is to be seen. You can go along little paths, delightful, quiet woodways, where no motor car can pass.'"



A railway motor trolley, propelled by a 4 h.p. air-cooled Roc motor cycle engine, in use on the Queensland lines. The engine is fitted with Bosch magneto and Amac carburetter, and the drive is through a two-speed gear and clutch.

Six Days' Trials.

Next year, to make the End-to-end trial more severe, the route will be extended from John-o'-Groat's to Edinburgh.

Inter-club Competition.

During 1910 the Auto Cycle Union has decided to promote an inter-club trial of consumption in the provinces, the final of which will be run on September 3rd. The Competitions Sub-committee is now busy drafting the details of the competition.

Lecture before the Surrey M.C.C.

A lecture before the Surrey Motor C., given by Mr. Van Hooydonk, was most enjoyable. There was a very good attendance in spite of bad weather. The chairman (Mr. Bryett) was supported by his Worship the Mayor of Guildford (Mr. Triggs Pinner).

Enquiry for One Hundred Motor Bicycles.

We have an enquiry from Boston, U.S.A., for the name of a manufacturer in England who could make 100 two-stroke, shaft drive, Bosch ignition motor bicycles and ship them to the States before March 1st. Any firm proposed to accept such a contract will be put in touch with the right quarter communicating with us.

Enquiry for the Tourist Trophy.

It was decided at a committee meeting last week that no practising will be allowed on Sundays or on the morning of the race. Competitors must in practice drive round the course (left-hand side) in which direction the race will be run. No one may leave Ballaline corner after 7.45 a.m. on any day on which practising is allowed, and after 8 a.m. the legal limit must not be exceeded, while the same direction must be maintained until the course is left. Beyond the above mentioned points the conditions remain unaltered. They are given in detail on page 1020 of this issue.

Brooklands in Christmas Week.

One of the new 7 h.p. twin Indians has been delivered, and was seen last week practising at Brooklands. Save in all details, the machine is a larger replica of the 5 h.p., but from its appearance it looks as if it will put up some startling times.

F. W. Barnes was also at Brooklands last Tuesday, busily engaged in putting the new Zenith-Gradua through its paces. Several members of the M.C.R.C. were watching the two motor bicycles and the Vauxhall-Star race match.

Control of Dogs.

Mr. G. Aldington, 59, Haydon's Park Road, Wimbledon, S.W., whom our readers will remember as a fairly regular competitor in A.C.U. and other events year or two back, was thrown from his machine and severely injured one day last month owing to a dog rushing at him while he was riding through Wyford, Berks. The dog was in charge of a nurse from Wargrave, and is alleged to have rushed at other motor cyclists. Mr. Aldington would be glad if any motor cyclist residing in the neighbourhood who has suffered inconvenience from this dog will communicate with him.

Long v. Short Stroke Engines.

Mr. Alfred A. Scott, the designer of the two-stroke machine bearing his name, is writing a criticism of Mr. James L. Norton's article, "Bore-Stroke Ratio and Efficiency," published in the last issue of this journal. Mr. Norton has given his views in favour of the long stroke engine, and Mr. Scott will bring the other side of the question fairly before our readers.

The Quarterly Trials.

As was announced in our issue of last week, the next A.C.U. Quarterly Trials will take place on Saturday, January 29th, starting from Uxbridge at 9 a.m. and following the usual course to Banbury. The popularity of these trials has been little short of extraordinary, and further to encourage entries the special silver cup will be awarded to the rider who makes the best aggregate performance in all four, as was the case last year. Several alterations have been made in the rules, the most important of which are the following: Entries will close

FUTURE EVENTS.

- Jan. 6—Essex M.C. Paper on "Magnetos," by Mr. A. Bennett, Great Eastern Hotel, Liverpool Street, E.C.
- " 7—Western District M.C. Annual General Meeting.
- " 13—A.C.U. "The Problem of the Private Owner." A paper to be read by Mr. P. W. Bischoff, before members of the Auto Cycle Union.
- " 20—A.C.U. Annual Dinner, Waldorf Hotel, H.S.H. Prince Francis of Teck, G.C.V.O., D.S.O., presiding.
- " 29—A.C.U. Quarterly Trial, Uxbridge to Banbury and Back.
- " 29 to Feb. 5—Scottish Cycle and Motor Cycle Show, Promenade Hall, Edinburgh Marine Gardens.
- Mar. 25—General Meeting of Northern Motor Cycle Clubs at Richmond, Yorkshire.
- " 28—Brooklands A.R.C. Easter Meeting.

on the previous Saturday, if the trial is held on a Saturday, and on the previous Wednesday if held on a Wednesday. After this entries will only be received on payment of double fees up to within three days before the competition. During the trial a competitor may not leave the course under any pretext whatever. A participant in the trials may not stop under any circumstances except at the bottom of Dashwood Hill and Rectory Hill, Amersham. All machines must be fitted with two brakes, and a machine fitted with an efficient front brake will receive more marks than one not so equipped. Marks will be awarded as follows: Reliability 100, cleanliness of machine and rider 20, brakes 15, silence 10, ease of starting 5, hill-climbing 20, stand and carrier 10, and general excellence of design 20. Total, 200.

Scottish Motor Cycle Show.

For three years no open show of cycles and motor cycles has been held in Edinburgh, or in Scotland. In these circumstances the Scottish representatives of a number of English and Scottish manufacturing firms, feeling the necessity for such a show, formed themselves into an association called

the "Scottish Cycle and Motor Cycle Show Syndicate," and obtained an option to lease halls in St. Andrew Square, Edinburgh, with the view of holding an exhibition of cycles, motor cycles, and accessories there, during the currency of the Edinburgh Motor Show, viz., from Saturday, January 29th, to Saturday, February 5th, 1910. Since then, enquiries for space have been so numerous that the option for the lease of the halls in St. Andrew Square has had to be abandoned, and the Promenade Hall of the Edinburgh Marine Gardens (the favourite rendezvous of Edinburgh citizens and visitors) has been engaged instead.

Nineteen Miles of Motor Cycle Chain.

The Hendee Mfg. Co., of Springfield, Mass., U.S.A., makers of the Indian motor bicycle, has just placed an order with an English firm (Hans Renold, Ltd.) for 100,000 feet, or approximately nineteen miles, of motor bicycle chain. This is something like an order, and what one might call reciprocation. The Hendee Co. has for years used Brooks's saddles, and a certain manufacturer of valves in England has received orders for nearly 30,000 valves this year, and there are possibilities that in the near future a very large order will be placed for English tubing. This despite the fact that American importers have to pay a tariff of 45%. Taking it altogether, there will be very little of the material in the machine apart from the engine which is not of British production, so even the most patriotic motor cyclists will join us in applauding the Hendee Co. for its first year's success in England.

Motor Cycle Racing in New South Wales.

The Auto Cycle Union of New South Wales held a gymkhana at the Victoria Park Racecourse on Monday, Nov. 15th, which was kept up in New South Wales at the King's Birthday. The racing was held on the cinder track, which was rather loose, but notwithstanding this some fairly fast times were established. Details are as follow:

Three Miles Scratch Race (for machines 2½ h.p. and under).—Final: W. Foulis, 1; A. W. Keen (2½ h.p. Minerva), 2; S. Baldwin (2 h.p. Moto-Rêve), 3. Baldwin, in the last lap, when leading, fell, but was not injured. Time, 7m. 39s.

Three Miles Scratch Race (up to 4 h.p.)—J. E. Yee (3½ h.p. Triumph), 1; N. Saunders (3½ h.p. Bradbury), 2; S. L. Bailey (3½ h.p. Triumph), 3. Yee rode well, and scored a good win in the speedy time—considering the track—of 4m. 48s.

Three Miles Handicap.—Final: J. Holloway (5 h.p. Sarolea), 1½m., 1; W. W. Reynolds (3½ h.p. Triumph), 45s., 2; J. E. Yee (3½ h.p. Triumph), 6s., 3. Eight others started. Time, 6m. 8s.

Two Miles Team Race (open to teams of three).—S. Baldwin (2 h.p. Moto-Rêve), S. Bailey (3½ h.p. Triumph), and C. Merry (5 h.p. J.A.P.), 1; H. Levy (1½ h.p. Motosacoche), J. E. Yee (3½ h.p. Triumph), and H. Verdich, 2; W. Foulis (2 h.p. Foulis), W. W. Reynolds (2½ h.p. Triumph), and C. Winn (5 h.p. Rocket), 3. Five teams started. Won comfortably.

CLUB NEWS.

York County M.C.C.

The committee has definitely fixed the date of the annual dinner and prize distribution for January 7th, 1910.

Motor Cycling Club.

The annual general meeting has been fixed for January 12th. The president, Mr. Chas. Jarrott, has promised another silver cup for competition to replace the one which was handed to Mr. F. G. Smith at the M.C.C. annual dinner on the 11th inst.

Kingston (Hull) M.C.

Arrangements are now completed for the formation of a new club in Hull, to be named as above. A successful start is already assured. A meeting which is to be called for the election of officers will be announced at an early date. Motor cyclists desiring further particulars should write Mr. G. W. Mumby, 21, Berkeley Street, Hull.

Streatham and District M.C.C.

Local motor cyclists are endeavouring to form a motor cycle club in the neighbourhood of Streatham. If sufficient members are obtained the club will be affiliated to the A.C.U. A general meeting will be held early in January. Mr. John H. Jeffery, F.C.S., 10, Daybrook Road, Streatham Hill, S.W., will be pleased to furnish any information to motor cyclists who think of joining.

Naval Motor Club.

At the general meeting of members of the Naval Motor Club at the Keppel's Head Hotel, the following members were elected to the committee: Captain F. W. Wyley, R.N. (retired), and Lieutenants K. Duff-Dunbar, G. M. Hill, A. Rice, H. D. Simonds, and H. T. Bowen.

The balance sheet was submitted, and the financial affairs of the club discussed. It was decided to adopt a badge of distinctive design.

Suggestions were received and discussed as to the improvement of the club garage. The rule referring to temporary members was altered to allow all naval officers the privilege of the use of the garage for short periods.

The membership of the club, which includes motor cyclists and car owners, has now reached a total of 107.

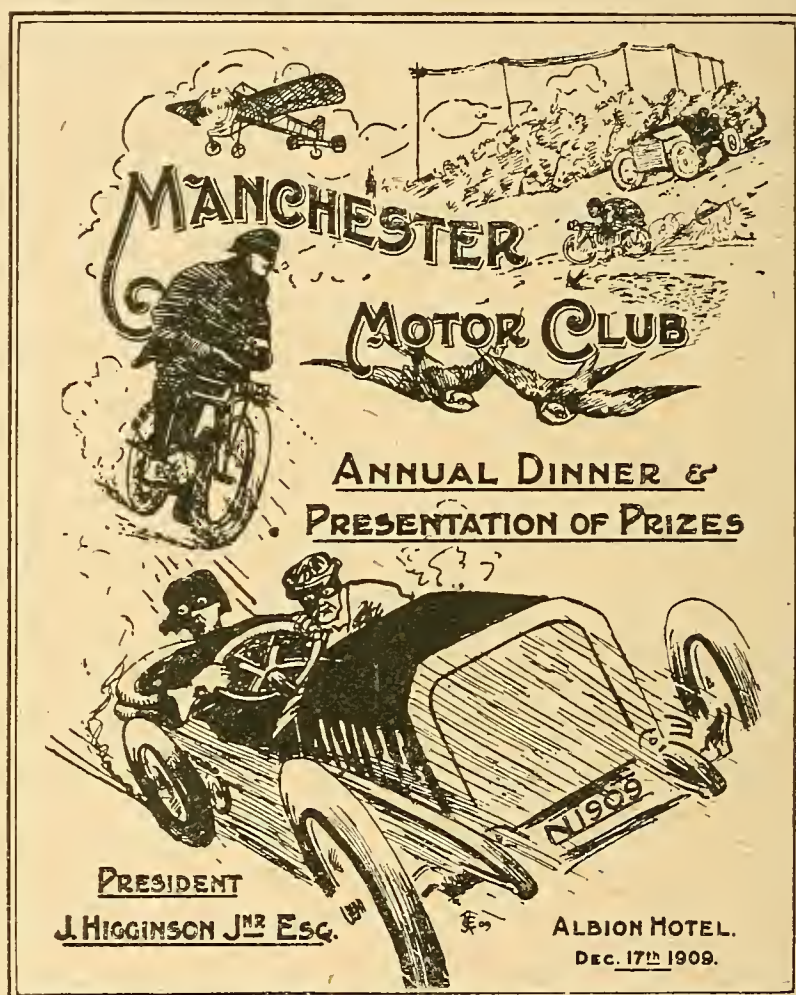
Southampton and District M.C.

At the annual meeting last week the chair was taken by the captain of the club, Mr. A. G. Butler, who, in his opening remarks, stated that the club had been very successful, the membership being considerably increased, and the finances of the club were in a very healthy condition.

The Secretary reported an encouraging year's work. Two very successful competitions—a speed judging and reliability trial—had been held, and the competition for the Oakley Challenge Cup, presented by the president, Mr. Alfred Oakley, had been of a well sustained and sportsmanlike

character. The result of the competition showed that S. W. Woolford (2½ h.p. Minerva) was the first holder of the cup, with a total of forty-four marks out of a possible forty-eight. H. P. Young (4½ h.p. Humber tricar) being second with forty-one, and A. G. Butler (5 h.p. twin Kerry) third with forty. The report of the hon. treasurer (Mr. P. Gotto) showed a favourable balance of £1 5s. 2d.

The Chairman then called upon Mr. A. H. Burnand for his lecture, which was entitled "Explosive Mixtures in Petrol



Frontispiece of the Manchester Motor Club annual dinner menu card, designed by the club's hon. press correspondent, Mr. Jack Tytler.

Motors," and was illustrated with large coloured diagrams. The lecturer is to be complimented on his clear and lucid manner of treating his subject, his explanations being very clear and forcible. He was heartily applauded at the conclusion.

Notification of Change of Ownership.

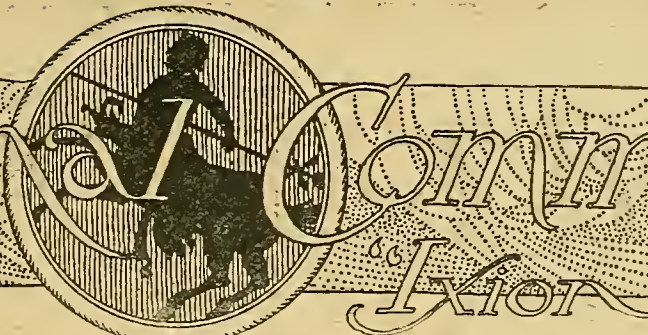
IN the current issue of *The Autocar* attention is drawn to the fact that wholesale prosecutions are pending in connection with the Motor Car Registration and Licensing Order of 1903. Motor cyclists should bear in mind that it is not sufficient merely to remove the numbers when selling a machine. Although this necessitates the new owner re-registering the machine, the old number remains on the books of the county or borough council with whom it was originally registered until it is actually cancelled. Every seller of a motor cycle is legally responsible for giving notice of cancellation should he remove the registration number and sell the machine. *The Autocar* says: "In the majority of cases where the car (of course the same remarks apply to a motor cycle) has changed hands with the registration number intact, we believe that the notices have been given by old and new owners, but as regards a very large number of second-hand cars sold both privately and by auction, the registered numbers have been removed and the

cars re-registered by the purchasers under fresh numbers."

Old owners of motor cycles who have neglected to cancel these registrations are liable to prosecution under Article 4 of the L.G.B. regulations, and we understand that it is the intention of the new collectors of the Inland Revenue taxes the county and borough councils, to make immediate enquiries from the original owners of old numbers which have been on the books for some time and have not been cancelled. The penalty for failure to comply with the L.G.B. regulation is a maximum of £10, and under the Motor Car Act of 1903 it is possible to impose a fine of £20.

We therefore advise readers who have sold motor cycles and failed to comply with the requirements of the L.G.B. Order: (1.) In case of sale without the registered numbers, to immediately give notice of cancellation. (2.) In case of a sale with registered numbers, and where it is uncertain that the new owner gave notice, to immediately give notice of the transfer.

Occasional Comment



Magneto Position.

A correspondent takes exception to my enthusiasm for the magneto position on a platform cast integral with the crank case and situated abaft the cylinder. The ground of his objection is that the rising train of oil cannot easily be lubricated. It is obvious that this objection is nullified by the fact that a pair of oil wheels revolving in a case are used to pump oil or meter through the circulating pipes of a car. If any oil is in the bottom of the gear case it must be carried from one wheel to another. Also by employing a chain to drive the magneto, the chain can dip at its lowest point into a sump of oil, and carry oil upwards with it, and many riders prefer the chain-driven magneto on account of its simplicity and ease of adjustment. However, on receiving his letter I instantly went into a factory where engines with the magneto carried as described and driven by gears are constructed, and, as luck would have it, I found an engine on the test bench at the moment of my entry. I removed the gear cover, and found all three oil unions dripping with oil, so in practice I do not think this objection can apply.

Motor Cycling in Queensland.

A dairy inspector with a district of 6,000 square miles has just sent me a most interesting account of his riding experiences in Queensland. He says that the natives describe his machine as a "gun carriage riding sideways, all same as one big fellow crab," and they call him "Boomba Boss," which appears to be an aboriginal appellation for Old Nick. He has covered 12,000 miles in the last twelve months on his high-speeded N.S.U., which his horse associates transcend into "Not Safe You," but which he analyses to mean "Nothing Stops Us." Apart from several bad accidents on rough bush tracks, the outstanding feature of his experiences is that he has never had a single accident; but he achieves this by promptly scrapping his covers as soon as they show signs of vital damage. He says he finds a motor cycle 75% cheaper than a horse for doing his rounds, and that whereas in his horse days he often worked from 5 a.m. to 9 p.m., he now reaches home quite early in the day, and in very bad weather is able to take a holiday instead of struggling on against the weather, sodden to the skin. He still occasionally meets with white men who have never previously set eyes on a motor bicycle, and are awfully afraid of his mount.

Engine Vibration and Spring Handle-bars.

I have at one time or another written rather harshly of certain types of spring fork, but I recently tried a machine (which with its own fork was a bad offender) transformed by the substitution of a really good type spring fork. This second fork I have repeatedly proved to be a most effectual killer of road vibration. With its original fork this machine was very vibratory

to ride if a hand was removed from either grip; the grip was sometimes scarcely visible on a rough road, so rapidly did it flicker up and down. To my surprise, it flickered just as badly with the new spring fork beneath it, and so I realised that the vibration, which I had laid to the discredit of the road and the spring fork, actually proceeded from the engine. Those who possess machines with engines which are offenders in this respect may be pleased to hear there is an alternative which has rather been lost sight of during the last year or two. I mean the spring handle-bar. We must have a spring fork to kill road vibration, but if there is another form of vibration which the spring fork cannot absorb a spring handle-bar could easily intercept it and prevent it from attacking the rider. I owned several spring handle-bars a few years back, and though none of them were perfect, the defects consisted of constructional details easily eradicable. I should rather like to see the combination of spring fork and spring handle-bar tried on one or two first-class machines. The additional cost and weight would be trivial, and the advantage might be great, provided the steering was not affected. I know this latter possibility lurks in most people's minds.

Missionary Work.

A circular to hand informs me that one of the provincial clubs has persuaded the civic authorities who run Saturday evening talks in the local town hall to invite a prominent motor cyclist to give a public lecture on motor cycling, illustrated by lantern slides. I cannot help thinking it would be an excellent thing if more provincial clubs would attempt missionary campaigns of this sort. We are not ashamed of even the inferior machines of the day, and there are plenty of young clerks and prosperous artisans who treat themselves to quite costly trips to the Continent in August under the auspices of the Polytechnic Tours and similar conductors. These men would derive far greater and more constant pleasure from the ownership of a motor cycle, and thousands of them possess sufficient capital to buy a second-hand sample of a class mount. They refrain because they imagine that motor cycling is still a very costly and tiresome hobby. If they were given better opportunities to realise that a very decent mount may be purchased second-hand for under £20, and that it will only cost them about £2 per 1,000 miles to run it, they and we should benefit.

We are constantly being asked how to prevent cylinders from rusting. There are one or two special paints sold for this purpose, but if they are not obtainable a little dry blacklead mixed into a paste with turpentine and painted on the cylinder will prevent rust collecting on the radiating fins for several months. When it is burnt off it is easily renewed.

A HIGH RESOLVE.

There was a brave old Yorkshireman
Who came one day to town;
He said: I'm *Phelon Moore* and *Moore*
As though I'd been done down.

* * * * *

My legs are getting old and stiff,
I cannot push a bike;
I think I'll get a motor one,
And see what that is like.

* * * * *

Great *Scott*! I'll be a *Wanderer*,
And ride these islands through;
I'll chase the wary *Lincoln Elk*,
And hunt the *N.S.(Gn)U*.

* * * * *

I'll *Triumph* over every foe,
And all that venture nigh;
The *Humber* is my native *Hoe*,
"*Excelsior*!" my cry.

* * * * *

With *Fairy* movements I shall glide
From End to End and back,
And on my record-breaking ride
My belt shall ne'er be slack.

My word! I'll make the *Moto-Rève*,
You'll see the *Mabon clutch*.
With angry fingers at my throat;
They won't beat me by much.

* * * * *

With crafty movements I'll elude
The *Griffon* grim and grey;
"*F.N.*" shall be my motto—
"Fear nought," that is to say.

* * * * *

Brave *Douglas* I shall put to flight,
I'm *Matchless*, don't you see,
The *Motosacoche* is out of sight,
Left far behind by me.

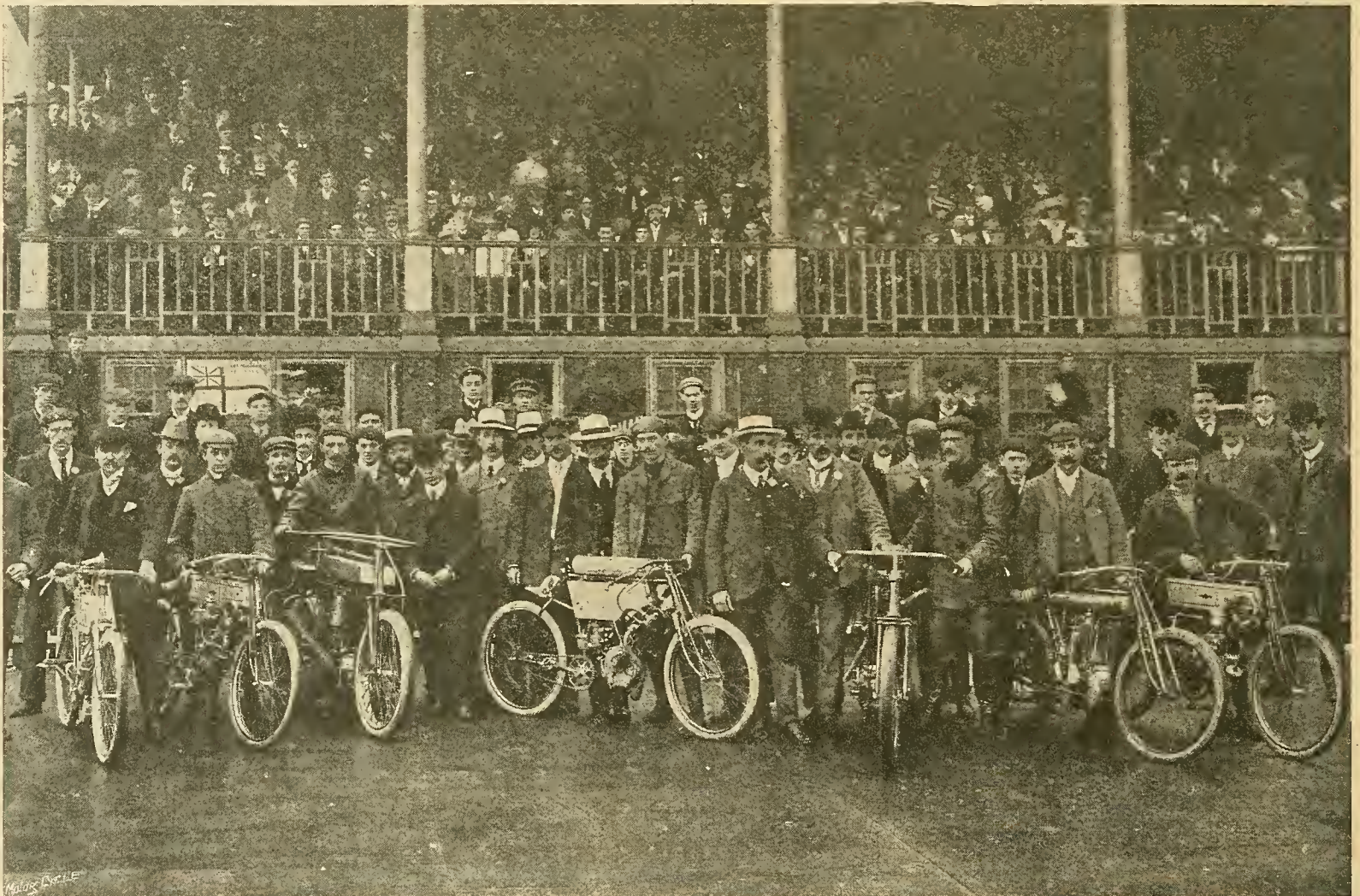
* * * * *

The *Indian* chief will fight me hard,
The *Wolf* may try my pluck.
I'll *Bat* along till yard by yard
They one by one get stuck.

* * * * *

My peerless riding all shall see,
A motor bike's the notion,
And henceforth that will always be
My means of locomotion.

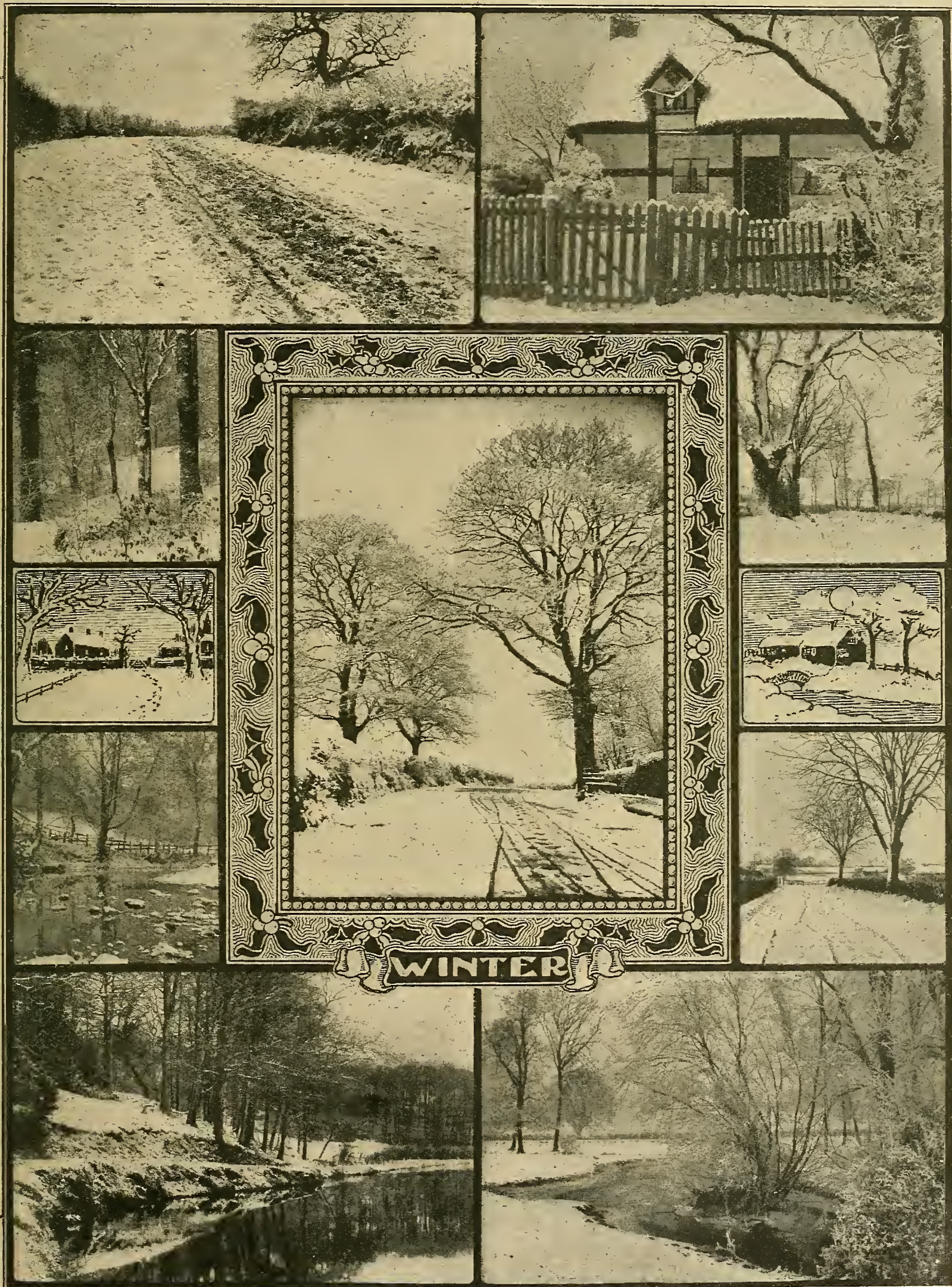
INTERNATIONAL MOTOR CYCLE RACE MEETING, CANNING TOWN, JULY 19th, 1903.

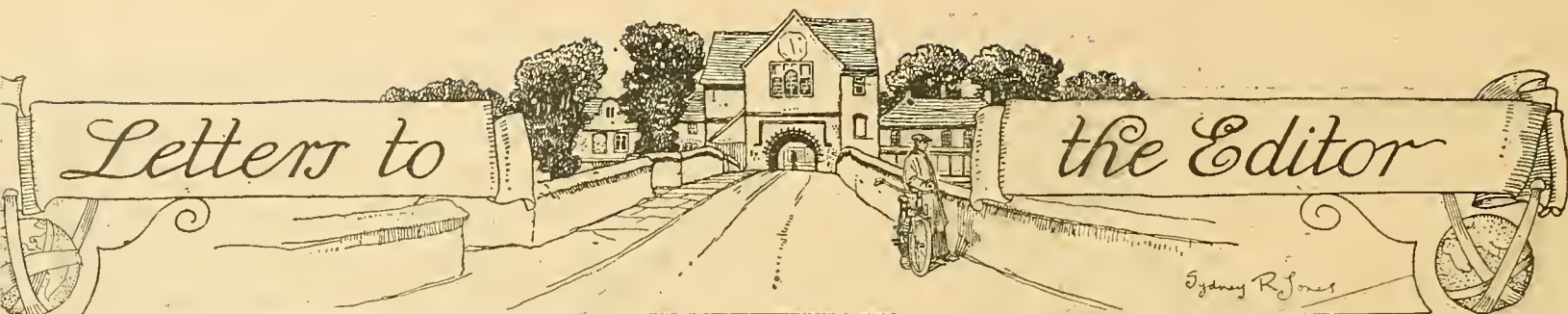


Parry, (Minerva).	Crundall, (Humber).	Cissac, (De Dion).	Martin, (Excelsior).	Th, (Buchet).	Tessier, (Bat).	Leonard, (Humber).
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The above illustration brings back old memories, and many well known men in the motor cycle world will be recognised. Harry Martin, who rode an Excelsior motor bicycle, won the five miles handicap at this meeting, and set up new figures for the one mile (standing and flying starts) and five miles records. The meeting was described in "The Motor Cycle" of July 22nd, 1903. We are indebted to Messrs. Bayliss, Thomas and Co., Ltd., Coventry, for the loan of the photograph.

SOME ENGLISH SNOW SCENES.





The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A Novel Piston Ring.

[4461.]—I see in the issue of the 13th inst. a description of a new patent piston ring made by J. T. Bradford, of . . . This type of ring has been in use for years in the pressure cylinder of high speed steam engines when heated steam is used. Its drawback is excessive wear of the cylinder at the working ends. In the case of a double-ported steam engine there are two rings facing opposite ways. . . . S.T.
As far as we are aware the piston ring described and illustrated on December 13th is novel in its application to a motor cycle internal combustion engine.—Ed.]

Belts on Lightweights.

[4462.]—In reply to Mr. O. L. de Lissa's assertion that makers of the Motosacoche have got brains, and that they know how to use them, I purchased a Motosacoche a few weeks ago, the back mudguard was bent in to within $\frac{1}{16}$ in. of the tyre, so that the belt would clear it, and even when the belt rubbed against the tyre. The belt unravelled at the ends and got damaged (patent fastener used, put in by the makers), and if it is possible to get 500 miles out of a belt I shall be surprised.
ENGINEER.

[4463.]—I feel it my duty to fully endorse Mr. de Lissa's remarks [letter No. 4431] on round twisted belts. I have ridden my Motosacoche over 5,000 miles, winter and summer, and my first belt ran 2,700 miles before I discarded it. The second belt got accidentally cut after 1,500 miles and was discarded. The third I am still using, and it looks good for another hundred miles. All I have done is to follow the makers' instructions, oil with neatsfoot or collan oil every 100 miles, and the ends more frequently.

BERNARD HOWLETT, M.R.C.S., L.R.C.P.

Improvements in Lightweights.

[4464.]—I notice that Mr. B. H. Davies in his article "Improvements in Lightweights" mentions the Wolf, and remarks that he seldom meets this machine on the roads. If this is so it is because it is not so well-known as the Motosacoche. I have ridden one for more than a year and my experience is that for handiness, absolute reliability, and freedom from breakdown, economy and cleanliness, it is everything that can be desired. It has been an immense help to me in my work as
A COUNTRY PARSON.

The Value of Awards.

[4465.]—I have read with much interest in your issue of the 13th inst. a letter from Mr. J. W. Morris, in which he says that the medal which he has just received for the 1909 Six Days' Reliability Trial does not meet with his approval. It is evident that in his opinion the intrinsic value of the medal should be sufficient to recompense competitors for the wear and tear of machine, plus the salary and something thrown in for intellectual and physical damages. . . . He reminded me of the story of the Jewish soldier in the Prussian war, who, having performed some prodigious feat of valour, was awarded the Iron Cross (the German equivalent for our Victoria Cross), and who, on going up to receive the coveted decoration, was asked facetiously by the commanding officer if he would sooner have the cross. He replied, "What is the worth of the cross?" On being told 1s., he said, "I will have the cross and 9s."
SOMEWHAT PAINED.

Cause of Increased Speed on Partially Raising the Exhaust Valve.

[4462.]—May I advance a theory (which I have not seen mentioned previously) as to the cause of increased speed on partially raising the exhaust valve? This is belt-slip. I have found that if the belt is slipping (ever so slightly), by partially lifting the exhaust valve the pulling of the engine is reduced and the belt instantly grips, with a consequent increase of speed.

Anyone can try this, under exaggerated conditions, by driving up an incline on a wet day with a slack belt, with throttle well open and spark advanced, when, by lifting the exhaust valve, the machine will absolutely shoot forward.

W. A. JACOBS.

[From our experience the phenomenon occurs on some machines that are chain driven.—Ed.]

Lightweights v. Heavyweights.

[4463.]—I have read with great interest the different articles published in your paper with regard to lightweight v. heavyweight machines, and would like to give you my views on the subject.

I have been a motor cyclist since 1904 and have ridden many different machines, among them several lightweights, and my opinion of them is by no means good. I consider different types of machine are intended for and used by absolutely different men. I know several men riding lightweights, and in each case they are either over forty and married, or else their nerves are in such a state that they avoid all towns rather than venture through the traffic on their machines.

I am now riding a 5 h.p. twin Rex, and I revel in its speed and power, nor do I find the machine a bit too heavy or hard to start, but I am young, strong, nerved, and active. Ask the lightweight enthusiast to ride my machine and he would tremble at the thought of it. He would say that he could not mount it, and that it would leap out of his hands, and I believe if he did get on he would fall off before he had gone very far, from sheer fright at what he had got under him.

In summing up, it appears to me that the lightweight is intended for and used by the weak, nerve shattered, and aged individual, and this is the class of man who will uphold the lightweight. The heavier machine is intended for and used by the strong, nerved, active, young man, who enjoys speed, comfort, durability, and power, and this is the type of man who will uphold the heavyweight, and I am with him every time.

B. G. DURKIN.

[4464.]—In reply to Mr. Morris's letter I consider he makes a very bold statement indeed when he says that he can, on a $1\frac{1}{4}$ h.p. Motosacoche, climb hills that an ordinary $3\frac{1}{2}$ h.p. machine will not look at. Perhaps he has never seen or heard of such things as "hill-climbs." For his benefit let us take the A.C.U. Six Days' Trials this year, on the last day of which the competitors ascended Birdlip Hill.

The Douglas was good undoubtedly, and also the Wolf, Motosacoche, and Moto-Rève did well, but most of their riders pedalled slightly. Any spectator there would notice the difference of speed which was made by most $3\frac{1}{2}$ h.p. machines compared with the lightweights—of course, we will not talk of the larger machines—and most riders of which did not use pedals.

Another argument is that on a $3\frac{1}{2}$ h.p. machine you can use a comfortable high gear instead of the low gear which must be used on lightweights, and which is so annoying on long rides or at any speed much over twenty-five m.p.h. I have done over 9,000 miles on a 1909 Triumph in all weathers this

year, and, marvellous to relate, I am not afraid to use it on muddy roads. I also do not think the under-tyred light-weight is half as comfortable as the $3\frac{1}{2}$ h.p. machines, and is not any easier to start, and will not do a slower speed.

I was not aware before that a Douglas is quite as efficient as a $3\frac{1}{2}$ h.p. machine, but, as Mr. Morris knows, there is an end of it. I admire the Douglas myself, and do not for a moment wish to say a word against it, but anybody with commonsense will agree with me in answering in the negative when I ask the following questions: First, is it as fast? Second, will it climb hills as well as a $3\frac{1}{2}$ h.p. minus pedals? Third, can you average as fast a speed over an ordinary give and take road?

W. L. T. RHYS.

Sidecars v. Tricars.

[4465.]—If one purchases a 6 h.p. motor bicycle with sidecar and two-speed gear for seventy guineas instead of a tricar for eighty guineas, one has the following advantages:

- (1.) Ten guineas in pocket.
- (2.) When touring alone the empty seat does not go for a tour as well.
- (3.) A sidecar can be turned round in a 15ft. road, not 30ft., without going astern.
- (4.) A sidecar is getatable.
- (5.) The combination is usually half the weight.
- (6.) Therefore tyre and petrol bills are less.
- (7.) Speed is not worth mentioning.
- (8.) Back light not wanted.
- (9.) Steering wears one tyre not two.

HENRY GRAFTON.

The Utility of the Motor Cycle.

[4466.]—I am enclosing you two photographs that I thought would be interesting to your readers, as they show to what a lot of uses a motor cycle can be put. One photograph shows the sidecar seat removed. In its place I have strapped on a sort of rack, and on it I carry to Royston, a distance of five miles (rather hilly road), the following articles in connection with my business: One bullock's hide, one bag of fat, and six sheeps' skins.

In the other view the rack has been replaced by a box with half lids. In the box I carry between 150 and 200 lbs. of meat, which I deliver on my rounds. Both contrivances can be attached and detached in about three minutes. The motor bicycle is a $3\frac{1}{2}$ h.p. Rex with single speed.

I have also made a little box to cover the magneto. This is slipped on from the bottom like a shoe, with a flap of leather on the top, and keeps all mud and water out of the magneto. I have ridden this machine now for 7,000 miles, and with the exception of two troubles when I first had it the machine has been all that could be desired.

V. PLEDGER.

Harrogate to the Riviera and Back.

[4467.]—I have just read with interest Mr. William Fawcett's account of his journey to the Riviera and back by motor cycle, and having accomplished a similar journey myself from Yorkshire to Monte Carlo and back with a friend (Mr. J. B. Leefe) in the autumn of 1908, I would like to point out a few interesting differences between our methods of travelling.

My friend and I carried on our machines all our clothes for a month, including dress clothes, boiled shirts, etc. We were not trying to break any records (we certainly did not), and, if hard up for clean linen, stopped and had it washed (one day's stop). We were thus able to go when and where we fancied, were always able to change comfortably on arrival anywhere, and had all our things with us. These baggage loads were about 70 lbs. on each machine. Our route was as follows: Dieppe, Orleans, Nevers, St. Etienne, Yssingaux, Valence, Avignon, and Nice. The hills round the St. Etienne coalfields were so remarkable that we came back by Vienne, Lyons, and Roanne to cross the watershed between the Rhone and the Loire.

We had a good many belt troubles, chiefly, due, I suppose, to the baggage we carried. Next time we are going in for chains.

Mr. Fawcett makes no mention, as far as I can see, of the "Guide Michelin," a red guide book with maps, issued by Michelin free of charge. I cannot praise this wonderful book too much. Nobody should think of touring in France without it, and I am sorry to say that there is nothing to come up to it in England.

Touring in France is cheaper and better in every way than in England. We joined the Motor Union and the Touring Club de France, and both were useful, not to say necessary.

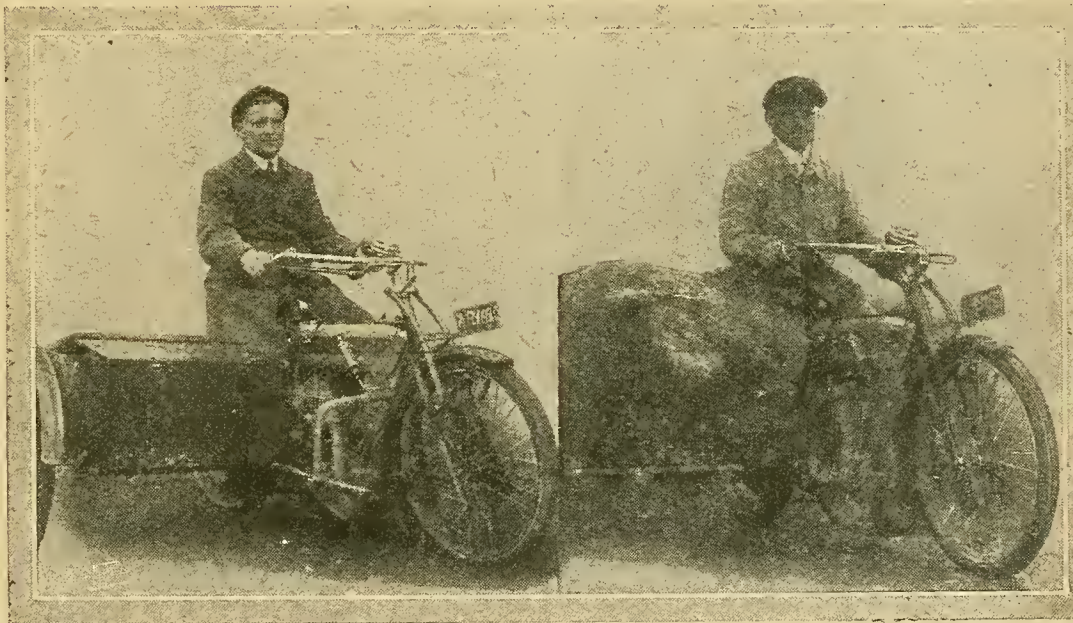
The roads outside the towns are wonderful—generally straight as an arrow for miles, with excellent surface, no hedges, and no speed limit in practice. In the towns, however, the roads and *paré* are vile. The road signs are splendid—the people one meets only too delighted to show the way. However late one arrives at an hotel or inn, a meal will be cooked, and everybody glad to see you—a great contrast to the grumbles of England, with closed doors when one comes in at night.

Coming back through Rouen, I skidded, and bent the engine-shaft, and broke the crank case and frame of the bicycle. This was not as big a disaster as might at first appear, for my machine was a Rex bicycle, four years old, that I had rescued from the scrap heap for a few pounds and made to go, and, considering the baggage and the extraordinary mountains we crossed, it did very well. My friend was on a twin-cylinder Minerva, which ran splendidly.

Mr. Fawcett does not say what luck he had at Monte Carlo. I lost.

Here I ride a Motosacoche (to the astonishment of the natives) on what you would probably call a cart track, for about a mile. It makes one sigh for the French roads, and in the same way the uninspiring faces of the local ladies (awful!) makes one wish one were back at Monte Carlo again.

R. H. ROWE.



This Rex motor bicycle and sidecar are used by the writer of the accompanying letter in the course of his business.

Unrolled Stones. Cheshire Authorities set a Commendable Example.

[4468.]—I have been requested by my committee to call your attention to the very considerate action of the highway authorities in this county (Cheshire). Wherever unrolled metal is left overnight two red lamps are placed, one at each end of the patch of unrolled stones to which they call attention with the words "Beware of the stones" in white letters.

These lamps are placed a suitable distance from the stones, thus giving adequate warning to motorists. I am sure all motorists will appreciate this consideration on the part of the authorities of a county which, I am sorry to say, has hitherto had a rather bad reputation among the motorist community.

My committee think, however, that if such instances of consideration as the above are brought to light, it will help to bring about a much friendlier state of things than has been the case in the past. Trusting that you will find space for this letter in an early issue,

A. MAURICE TATHAM,

Hon. sec. Crewe and District Motor Club.

A Friendly Match.

[469.]—The report of the contests between Mr. H. C. van Diggelen and the members of the Western District M.C. (London), which appeared under Club News in the *Motor Cycle* supplement of the 13th inst., was, I think, a very fair one. Whether the distance ridden was half or three-quarters of a mile I cannot say, but the latter was the nature of several riders present. However, I will, at any opportunity, revisit the place and measure the distance. I knew the 2½ h.p. Wanderer to be reputed a fast machine, almost expected to be beaten. The Triumph picks up very quickly, but I wished everything to be as fair as possible, so at Mr. van Diggelen's request we agreed to a flying start. After travelling about eighty yards I with each other, and attaining a good speed, the word "go" was given, each then putting on full speed. I won by about sixty yards, and the win was repeated in further contests both by myself and Mr. H. E. Vowler, the captain of the club. As referred to in the above-mentioned notice, I think a match will be arranged next year on either the Brooklands or Stadium tracks for any distance Mr. van Diggelen likes to name, or I shall be pleased to meet him any week-end and endeavour to find a longer course. In a distance of, say, five miles, will Mr. van Diggelen state if he would suggest a standing start, or, if not, what distance does he require in order to attain full speed?

F. H. MULLETT.

The A.C.U. and Provincial Clubs.

[470.]—With reference to the above subject, in your issue of the 13th inst., I must say I can quite confirm Mr. Howard Smith's views that there is a great deal of dissatisfaction between the parent body and the provincial clubs, but this is not to be wondered at. I make, for instance, Council meetings. If I remember right, we were promised that these should be held alternately in London and the provinces. Since that time four or five meetings have been held, and beyond the one held at Birmingham in 1908, all the others have been held in the metropolis, and, further, I hear that the next will also be in London. The reason of this would appear that the late members' delegates are somewhat afraid of "coming out of their shell" and facing the music. There is no excuse for this, for I was informed months ago that the Nottingham M.C. had invited the A.C.U. to hold the next Council meeting at Nottingham. This offer was accepted by the A.C.U., yet the following Council meeting was held at Radilly. I think I am right in saying that Mr. Aubert and the committee of the Nottingham club have felt somewhat slighted, and, further, it has not helped to improve feelings among other Midland clubs. Of course, it is only natural that the founders of the A.C.U. should "hold the reins," for do they not pay £1 1s. subscription against the affiliated club members' 2s.? Yet at the same time the A.C.U. would be quite at sea without its 100 odd affiliated members. Therefore the clubs should have seized opportunities of airing their views at Council meetings.

We admit that the A.C.U. is the only body worthy of our support, and we also admit that it has done good work in the past, but can anyone explain why the membership is only 3,000 when we are informed that there are a matter of 15,000 motor cycles registered in the country? The latter fact should indicate that some rousing up is required at headquarters, and unless this is done I quite agree with the same as your correspondent, i.e., that there will be a split in the ranks.

HAROLD C. PICKERING.

Hon. Sec. A.C.U. Midland Centre.

[471.]—As secretary of one of the largest clubs in the country (at one time affiliated to the A.C.U.), I was much interested in Mr. Howard Smith's letter in the issue of November 13th and Mr. R. Vernon C. Brooks's letter last week. I believe, however, that I am right when I state that the A.C.U. has tried running competitions in the provinces and met with very poor encouragement from provincial riders.

Speaking for our own 125 members, I could number on one hand the riders who are ever desirous of running in A.C.U. competitions, for the simple reason that they consider the entry fees far too much for the fun derived. But, like all our grateful clubs, we quite recognise that, apart from competitions altogether, the A.C.U. does really good work, but, the bulk of the 150 clubs in this country, we unfortunately

cannot see our way to pay what we are asked to pay for the benefits we receive. In fact, without beating about the bush, they are not value for money.

On the existing basis of affiliation, it is very plain to see that the A.C.U. will never get the bulk of the clubs to join in with it. But what is the A.C.U. to do? The bulk of the money to run it comes from its private members and the R.A.C., and until the A.C.U. has some assurance that the clubs of this country will join *en masse*, it would be very foolish indeed to throw up the private membership. At the same time, I firmly believe that if the A.C.U. would formulate some scheme whereby clubs could be affiliated at a stated fee per annum of, say, £4 4s. or £5 5s., it would immediately get such a number of clubs within the fold that it would be enabled to say (what it cannot say to-day) without fear of contradiction: We are the A.C. Union. My sincerest wish is: Let it be soon.

JACK HASLAM,

Sheffield and Hallamshire M.C.C.

The Use of the Carrier.

[4472.]—I was much interested by an article in your paper some time ago on the growing custom of taking passengers on the luggage carrier of a motor bicycle. Though your criticism of this practice was no doubt technically sound, yet the scope and nature of such expedients must to a great extent depend upon the circumstances of the particular case, and be justified.

It is evident that there is a growing demand for motor bicycles capable of carrying two persons. At present this is almost entirely met by the attachment of a sidecar, which, though excellent in its way, does not wholly satisfy those who desire to retain the mobility of the motor cycle structure and weight, without incurring the additional difficulty of housing.

I believe I am not alone in thinking that what is wanted is a machine on two wheels which does not exceed 160 lbs. nett weight, which can at will and without any inconvenience whatever be used either as a single or passenger motor cycle. Sidecar manufacturers have had to perfect devices by which a sidecar can be attached or detached in a few minutes, and why? Simply because the majority of riders cannot conveniently house the vehicle as a fixture with three wheels, and also because they do not always want to carry a passenger.

If a passenger is carried on the carrier of a single-seated motor bicycle the principal difficulties which have to be contended against at the present moment are: 1. Discomfort to the passenger on a long journey; 2. tyre troubles; 3. risk of bending back spindle. Against this one has the advantage of ease of storage and extreme mobility.

My own experience this year has been a happy one. The ease of talking on a long journey with one's companion sitting close behind, compared with difficulty of talking when seated in a tricar, will be appreciated by those who, like myself, have tried both.

There is no necessity to go for a higher horse-power than 3½ h.p., though a two-speed gear and free engine would be of great advantage.

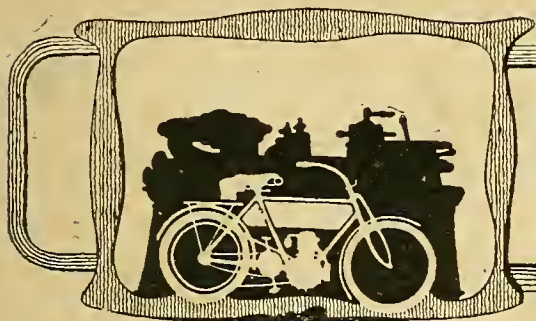
I find that with a passenger up I can hold my own with most cars uphill, and my machine is a 1909 Triumph, geared 4½ to 1. In my opinion a two-wheeled passenger-carrying machine would be ideal for military purposes, because whilst the driver was responsible for the machine in critical situations, his companion could make the necessary observations without loss of time when a quick retiring movement was necessary. Perhaps some of your readers will suggest a design.

I may add that tyre troubles are the only actual difficulties with which I have had to contend

GERVASE DISNY.

SUMMARY OF CORRESPONDENCE.

C. R. Collier writes: "I notice in *The Motor Cycle* Supplement of December 6th a note to the effect that a trio of British racing motor cyclists are likely to visit the United States during this season, my name being mentioned as one of the three, and also that correspondence had already passed between myself and the interested parties on the other side. I might mention that this correspondence has been all one-sided, and was first started on account of a notice which appeared in the *Motor Cycle Illustrated* of America, in which Mr. De Rosier, 'the Indian Space Eater,' as he is termed, stated that he would particularly like to meet me in a motor cycle race. I immediately wrote notifying him of my willingness to meet him, but have had no direct reply."



A Criticism of the Morgan Internal Combustion Turbine.

By ENGINEER.

IT was truly stated in the opening paragraph dealing with the Morgan internal combustion engine in your issue of December 13th that "the ideal form for the propulsion of motor vehicles is the turbine." The principle of the turbine, however, is not completely carried out in this ingenious design. The great success of the turbine is due to the absence of reciprocating parts and unbalanced forces. The presence of a reciprocating piston in the design tends largely to neutralise any advantage claimed for it, for it will be readily seen that as the piston is moved backwards and forwards under the action of the eccentric the rotating mass is thrown out of balance except when the piston is exactly midway in its stroke. Even then there is no doubt that considerable difficulty would be found in balancing the rotating portion, for there are so many parts which would have to be nicely weighed against each other that balancing appears to be almost impossible.

The inventor has evidently foreseen the difficulty which all experimenters have found with internal combustion turbines, viz., that it is well nigh impossible to efficiently cool the blades exposed to the heat of combustion. Mr. Morgan's design eliminates blades on the rotor, but it does not get rid of any tendency to distort and burn those of the stator. If water cooling is adopted and the blades are made hollow they must still have a sharp edge to give any efficiency, or if a blunt edge is acted on by the gases, then efficiency is very much reduced.

An Interesting Problem.

It is rather an interesting problem as to whether the gases would burn at exit from the orifice of the burner, as stated in the description. It should be remembered that air under pressure in the conditions indicated by the drawings and description would probably not induce spraying of the petrol unless it was fed to the burner at equal or greater pressure than the air is compressed by the compressors. In any case, I am under the impression that a constant or sustained pressure would not be obtained at the burner, but would vary according to the compression placed on it by the compressors. Hence unless the rotating mass possessed high inertia it appears to me that this turbine would run unevenly. The statement that "as soon as the pressure of the first charge is reduced other succeeding charges are pumped through the burners, and at a certain minimum speed the heat of the first charge ignites the subsequent charges, so that there is a continuous explosion in the form of a Bunsen flame at each burner," I think assumes too much, for any attempt at ignition in this form could only be a makeshift, as the time at which the gases become ignited is found by practical experiment to be very variable.

It appears to me that it would be necessary always to use the sparking plugs to give the correct time

of firing. If this is so injection of water into the combustion space would probably cause trouble. Lenoir in his early gas engine experiments injected water in the form of a spray into the working cylinders, and as a result had great trouble with the ignition. The position of the sparking plugs is open to criticism. Judging by the construction of the turbine, it appears that it would be necessary to open out the case every time attention to the sparking plug was required.

The Air Admission Valve.

Another point which would probably give trouble is the air admission valve. If the rotor runs at high speed and only a fairly strong spring is used; these valves would be thrown off their seatings by centrifugal action, or if a very strong spring is fitted they would not lift at all. This is a trouble which has been discovered by the makers of rotary petrol engine for use on aeroplanes, and the difficulty has been overcome by actuating the valves mechanically.

After carefully studying the design it appears to me that it would be far better to have a separate air pump fitted outside the casing of the turbine. This would simplify matters very considerably and give much better chance of success. Doubtless it would also be possible so to arrange the outer casing that easy access to the sparking plugs could be obtained.

A certain amount of experimental work has been done in this country on the internal combustion turbine, but nothing really satisfactory has come to light so far, although a large plant on the turbine principle has been laid down in Germany, and great things have been hoped for from this. I believe fairly successful results have been obtained when the mixture has been compressed and ignited right away from the turbine proper. After ignition the gas has been conducted through jacketed passages which take the form of regenerative furnaces, and from there it has been led into the turbine to do work. In conclusion, although it is interesting to read that inventors are striving to leave the beaten track and accomplish greater things, I fear the theoretical and practical disadvantages met with are somewhat disheartening.

"Four N.S.U. Perfect Lightweights" is the title of an illustrated leaflet just issued by the N.S.U. Motor Co., Ltd., 186, Great Portland Street, W. The models illustrated are the 1½ h.p. with ¾ in. direct V-belt drive, 1½ h.p. fitted with under-gear pulley, 1½ h.p. fitted with two-speed gear and free engine, and the 2½ h.p. twin-cylinder fitted with under-gear pulley. The 1½ h.p. lightweights are single-cylinders measuring 63 × 78 mm., the bore and stroke of the twin being 52 × 74 mm. It is worthy of particular note that all these machines are direct driven by means of ¾ in. V-belts. The two-speed 1½ h.p. model was designed primarily for medical men and elderly riders.

In Appreciation of



A Sidecar Combination.

WHEN publishing a description of a trial run last December in my two-seated Lowen sidecar attached to my 7 h.p. twin Matchless with Nala two-speed gear, the editor invited me to give readers *The Motor Cycle* an account of my experience with this exceptional combination. In the first place I must explain that my sidecar is just of sufficient width to hold two adults, but except on about three or four occasions, and then only for distances of five or six miles at a time, I have never used it for two adults. My wife and child of six years, with their two or three dogs, have just sufficient room to travel in real comfort, just as if they were in a motor car. Their weight is nine and three stones respectively, and mine is a and a half stones.

Coming to my experiences now, I must report my very happy surprise at my Matchless's apparently infinite power and its great turn of speed when immediately after its arrival I had a few solo runs and some cut-ups with other motor cycles and cars on lonely roads, which always meant an easy victory for me. The Matchless handle-bar control, together with A.P. automatic carburetter, needing no further operation of taps than the adjusting of the air lever before mounting the machine, makes driving a real pleasure, as one never needs to take one's hands off the handles. On the left handle is the spark and exhaust control, and the right handle is the gas control, the latter and that for the spark being of the "push knob" pattern. The two thumbs do all the controlling.

Opinion of the Two-wheeled Sidecar.

As regards the sidecar, I must say that my first trouble was that the axle nuts of both wheels would persist in coming loose at first once after about one hundred miles, but during the next rides even after forty miles, so I had two longer spindles fitted, and at three nuts at each end of same. Since then I have never had one moment's annoyance in this respect. I also found it necessary to fit stronger carriage springs and duplex front forks. An additional special kind of axle stay under carriage body I fitted as well, but only as a precaution. The Cape cart hood I adjusted so that when down it causes next to no wind resistance. These alterations were executed early in the spring in order to save me trouble in summer, and they all repaid me, as I can now look back to a summer's full pleasure, and the condition of both the Matchless machine and the sidecar is still such that I have every reason to expect them to last me many a year yet without giving serious trouble.

The excellent J.A.P. engine still pulls as well as only a J.A.P. can pull, and, as regards its

bearings, even "Ixion's" "Sandow and crowbar" cannot yet make them shake. I am speaking of the crankshaft and magneto transmission bearings, because I must admit that in the 3,100 miles of touring I have never had as much as a cylinder

off nor even ground in the exhaust valves. After 2,200 miles I intended to grind in the latter, but, finding their seatings clean and bright and compression good, I left well alone. I shall now, however, have this done for order's sake. I fitted two new automatic inlet valve springs, together with their cotters—that is all! The Bosch magneto has never been touched; the contacts were set very close, and even now they are not yet worn down to the gap required to insert the Bosch Co.'s pocket knife testing blade. The Nala—well, I almost feel like saying, "Long live the Nala gear!" It has been most satisfactory, and I should think I have whilst touring exclaimed at least on a hundred special occasions to my passengers, "What should we do now if we had not this free engine and excellent gear?" Altogether we have got so much to like and treasure our little vehicle that we have commenced to consider it an honoured member of our little family, and I am never without a supply of good oil and petrol in the house to satisfy its healthy appetite. The combination steers so easily that I can take my hands off for quite fifty yards, and can steer even round a sharp corner with finger and thumb.

Its Reserve Power on Hills

As regards hill-climbing with full load, we have never yet needed the fullest power on low gear, and as an indication of where we have toured, often carrying as much as 120 lbs. of extra weight in luggage, spare parts, petrol, and oil (the large sidecar being specially adaptable for this), I may mention that we have roamed often over the hills of Derbyshire, including the Cat and Fiddle road and other steep hills in the northern and southern (*i.e.*, Ashbourne) parts of that county, and during our holiday trips we have been through the Lake District, over Shap (going north), South of Scotland, back again *via* Keswick and Windermere. On leaving the latter place on the way to Kendal is a long hill, finishing with a steep climb, on top of which we were amused to encounter a danger board advising cyclists to dismount when descending this steep and twisty stretch of road which we had just so nicely surmounted. A great portion of North Wales, including the high hills between Ruthin and Llangollen, those around Aberystwyth, Devil's Bridge, Rhayader, Wye Valley, the Gloucestershire climbs at Charlton-Kings, and between Stroud and Cirencester, also Forest of Dean (we stayed at Mitcheldean), are some

In Appreciation of a Sidecar Combination.—

of the districts we have visited from our home near Manchester.

Special Praise for the Two-speed Gear.

To those waverers who distrust two-speed gears I may say that there is no justification for their opinion that they are more trouble than they are worth. They should watch us climb a steep hill or start on one from a standstill with full load up; such a sight would do them good. I can honestly recommend the Nala as being very simple in design and very substantial in construction. On the hilly and twisty coast road between Aberdovey and Dolgelly, and then to Barmouth and Harlech, I have driven our heavy touring load with many gear changes a distance of about fifty miles, and when going home next day, to please my wife, who wished to enjoy the lovely scenery at greater leisure, and also so as to be able to take the very numerous bends at slower speeds (say ten to sixteen miles per hour), I drove again at first a sixteen miles non-stop on low gear, then six miles on high gear, and again eleven miles on low gear (non-stop), and yet when, out of curiosity, I came to examine the gear at home I found no visible wear. I did not, however, on that occasion at first tighten up the locking parts of the gear sufficiently, being afraid to tighten them too much, although there is an indication how far this should be done. The result was a slackness after the next ride and a little wear on the locking ring keys. I then tightened the gear up thoroughly, and I have since done about 1,000 miles without trouble. These slightly worn parts are very inexpensive, and I shall have new ones fitted now.

On such undulating roads as the one from Manchester to Chester and reverse my machine climbs all the hills on high gear, full load up. The belt I use is a $1\frac{1}{8}$ in. Whittle. It has run 1,500 miles now, and is excellent yet, and, as the makers claim, it certainly trebles the life of the pulley. I have also tried a $1\frac{1}{8}$ in. rubber belt, which transmits the power well, but pulls out and wears after 600 miles, at least in the case of my heavy load.

The Cape cart hood has been a blessing to my passengers more than once, and I am exceedingly pleased I had it fitted.

Its General Design and Advantages.

As regards appearances, I can only say that the critics who saw my combination "empty" in its motor house at home, and then considered it rather overdone, are all unanimous now in calling it "very nice indeed," since they have seen it on the road, occupied by my wife and little girl in the car and myself on the saddle. We have never yet failed in getting rapidly ahead of a car if we found the car's dust a nuisance, for we can on the level get up a speed of about forty miles per hour for a short distance, and maintain a speed of thirty to thirty-five miles per hour for at least twenty to thirty miles—of course, not against a gale. I do not imply that no car could pass us, but I mean that the speed and power of my machine pulling its full load compares with, say, that of an 8 to 10 h.p. car, which in original cost, including hood and in cost of running, is a more expensive affair, and, judging by correspondence in the recent

issues of motoring journals, is not nearly so sporting a vehicle as the one I possess. As regards petrol consumption, I use one gallon every fifty to fifty-five miles.

When Messrs. Collier and Sons, the makers of the Matchless, sold me this machine they guaranteed me satisfaction, and I am delighted to admit that their guarantee has been more than fulfilled, since my machine has never yet seen a repair shop, although I have never spared it during many trips.

Now a few more words why I consider my combination preferable to a good double seated tricar:

1. Its cost and upkeep are no greater.
2. The passengers and driver sit side by side and at the same height. This is a great advantage for conversation and for looking over hedges when travelling on certain roads.
3. Ladies and children like to be protected from rain, and a Cape cart hood (as I have) can be fitted on such a sidecar as mine, and the hood even improves its appearance.
4. Luggage carrying is made as easy as on a motor car, as the large drawer projects ten inches behind the side carriage body, and luggage can be strapped on it.
5. Being on four wheels, it has greater stability on grease, and it makes only two tracks. Therefore there is not the same risk of punctures as with a three-track machine.
- 6 and lastly. What joy for a sporting motor cyclist to have now and then a "spin"—"a real burster"—on a powerful solo motor bicycle! My bicycle detaches in two minutes, and therefore I can make such pleasure mine; but the tricarist cannot do so with his machine.

Regarding licence, I pay 15s. for the motor bicycle and 15s. for the sidecar.

The overall width of my combination is just that of a motor car, so there is nothing clumsy about it in this respect.

One tip yet to my fellow motor cyclists who may not know this, viz., never go on a tour without an Eyquem Fasteneezie corset. These excellent things are made in all sizes, and are splendid for fastening round an inner tube in case of a badly cut or burst tyre.

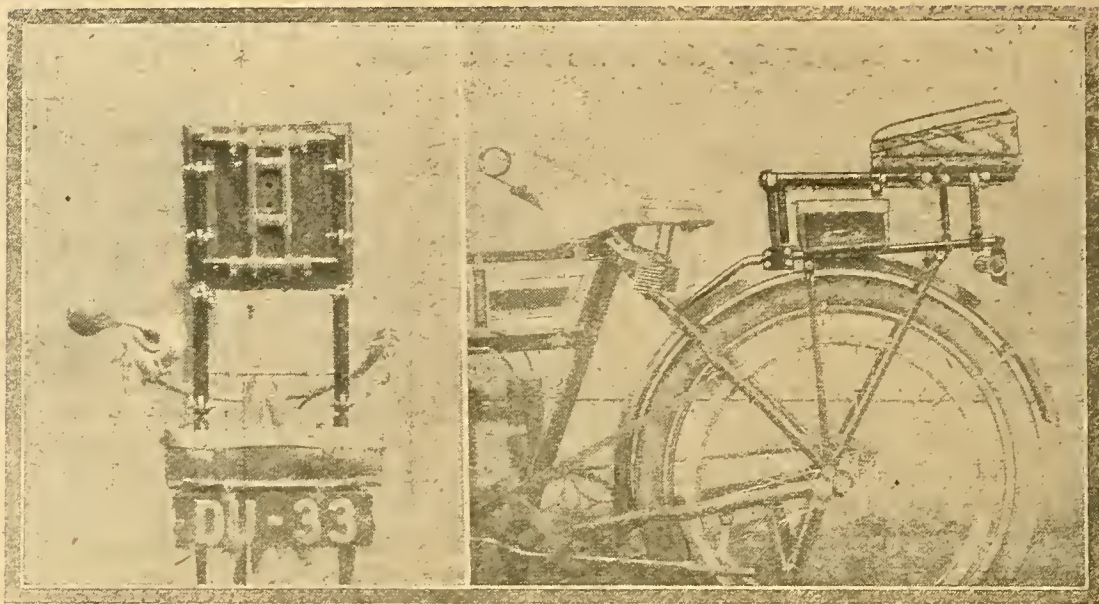
My wife and child are already looking forward to some long rides next spring and summer, and the same applies to the writer. E. KÖRBER.

THE F.N. UPKEEP MANUAL.

An upkeep manual, dealing with the F.N. light two-speed motor bicycle, has just been issued by the F.N. Motor Agency, 106, Great Portland Street, W. This booklet is very completely illustrated, and by means of a special index arrangement of the leaves, each of the lists of principal parts can be referred to immediately. The change speed gear and transmission are clearly shown in sectional drawings and photographs. One of the chapters is devoted to points to be attended to before starting, during the run, etc. Every purchaser of a $2\frac{1}{4}$ h.p. light F.N. will be presented with a copy of this manual, and it can also be purchased separately by any reader who desires to become fully acquainted with the details of this most attractive mount. We hope to have a practical trial of a lightweight F.N. very shortly.

A NEW FORM OF BACK-REST.

OUR readers will doubtless remember that in the issue of December 6th (page 967) we illustrated and described a back-rest for motor cyclists made by Atkins and Pridmore and sold by the Service Co., Ltd. In the description we omitted to point out that a special device fitted to the back-rest enables it to move in unison with the rider's body. When a motor cycle strikes an obstruction in the road the saddle rises and falls, and with it the rider. In the case of a back-rest which is not attached to the saddle the rider's back would chafe up and down against the rest owing to the latter remaining stationary. The accompanying illustrations show the device which enables the rest to slide up and down. It also shows the position occupied by the back-rest when it is converted to act as a spare seat. The uprights shown supporting the seat on the rear



Atkins and Pridmore's back-rest. The left hand illustration shows the device at the rear of the padded rest which enables it to rise and fall in unison with the rider's movements. The other view is that of the back rest let down to serve as an extra seat.

of the carrier are not required they can be folded down out of the way.

A NEW PATTERN BELT FASTENER.

THE latest belt fastener which has been submitted to us is the Forward detachable and adjustable fastener, made by the Forward Cycle Co., 9, Edmund Street, Birmingham.

The usual clips and screws are provided for attachment to the ends of the belt, the adjusting links, three in number, fitting in slots in the clips. To assemble the fastener one of the links, according to the length of belt required, is inserted in the slot in the clip in

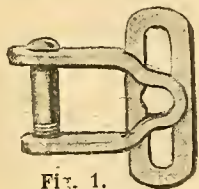


Fig. 1.



Fig. 2.

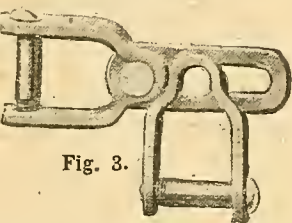


Fig. 3.



Fig. 4.

the position shown in fig. 1. The special grooved roller is then inserted and the link pulled to the end of the slot (see fig. 2). To insert the remaining clip it should be placed at right angles to the link, as in fig. 3, and the other roller inserted, the clip being pulled to the end of the slot (see fig. 4).

CHAIN DRIVE.

By A. Wharton Metcalfe, A.M.I.C.E., M.I.M.E.

THE chain drive has on several occasions been referred to in the columns of *The Motor Cycle* as a rigid transmission, no doubt inadvertently by so expert an authority as Mr. B. H. Davies. The chain drive even in the case of the old Singer back wheel engined motor cycle could scarcely be termed a rigid drive, since it only became rigid when the springs of the spring clutch were fully compressed.

In the case of the P. and M. motor cycle, to which allusion is made, the chain drive can be regulated as desired, and since there is no stop to interfere with the continuous very slight slipping of the clutch, the chain drive on the high gear can in no sense be called rigid unless the clutch is screwed up so as to prevent its performing its functions—a state of things of which the rider will soon be made aware.

On the low gear the drive is much more rigid, though not absolutely so, since a slight amount of slip can be allowed by not forcing the wedge bars home too fully—a condition of things which works well on all but the very steepest hills.

My experience justifies me in saying that the chain drive on the high gear can be made as comfortable and elastic as that of a belt, so I mention these facts lest any would-be purchaser of a chain-driven machine should be deterred from investing by the drive being described as rigid.

RECENT PATENTS.

Amongst recently published specifications there are three which, although of some interest, are unsuitable for abridgement in these columns, owing to their length and the number of illustrations which would be required to render them sufficiently clear. A brief statement of the number, name, and subject matter is, however, appended:

No. 23,080, 1908, A. W. Wall.—This relates to an auxiliary motor wheel for attachment to a pedal bicycle. It will be remembered that Messrs. A. W. Wall, Ltd., exhibited a device of this nature at the recent Stanley Show, but the

actual construction described and illustrated in the specification differs somewhat from that exhibited.

No. 23,081, 1908, A. W. Wall.—This specification describes a foot starting device for use with the two-speed live axle transmission previously patented by Mr. A. W. Wall.

No. 1,285, 1909, C. Brown and Brown and Barlow, Ltd.—In this specification is described in detail the process of manufacture of a carburetter, from sheet or tubular metal, in which the parts may be easily disconnected for examination, cleaning, or adjustment.

WE FOLLOW NO MAN.

First introduced a system of free carriage years ago, and there's nothing new the sun. Still, imitation is the best form of flattery. Now, boys, you are just in time for a

CHRISTMAS BOX.

Following machines are priced very low, and for with order only:

p. MINERVA, H.B. control	£3 19 9
p. MINERVA, spray	£3 19 9
p. STANDARD, vertical engine	£4 10 0
p. REX, vertical engine	£4 19 9
p. WEARWELL, spray	£4 19 9

ove are in good running order and complete with belt, coil, and accumulator.

NEW HUMBERS.

are going strong. Our keen quotations are securing every day. Give us particulars of your present ae, and we will do the rest. Remember, we are authorised agents, and can beat the best.

December Bargain List Now Ready.

. ARNO, magneto, H.B. control, new	£32 10
. ARNO, magneto, new, non-skid	£32 15
. ARNO, magneto, new, Palmer's	£33 10
. HUMBER, new, 1909 model	£39 10
. REX, 1909 Tourist, soiled only	£32 10
. REX DE LUXE, two speeds	£29 10
. REX, 1909 model, like new	£32 10
. REX, 1609 Speed King	£32 10
. Twin BROWN, 1908, magneto, free engine	£28 10
. BAT, magneto, spring frame, two speeds	£24 10
. TWIN J.A.P., magneto, spring forks	£22 10
. MOTO-REVE, magneto, 1909	£30 10
. MOTO-REVE, magneto, 1908	£24 10
. TRIUMPH, 1909, nearly new	£35 0
. TRIUMPH, 1908, good order	£30 0
. HUMBER, 1909, two speeds, non-skids	£37 10
. MINERVA, magneto, 2 1/2 tyres	£18 15
. J.A.P., Chater Lea frame, spring forks	£18 10
. TRIUMPH, magneto, spring forks, 1906	£18 10
. ANTOINE, 26in. wheels, M.O.V., smart	£11 10
. LLOYDS, vertical engine, 26in. wheels	£8 15
. CLEMENT GARRARD, 26in. wheels, built	£8 15
. 1909 HUMBER, two speeds	£37 10
. REX, 1908 1/2, ball bearing, h.b. control	£29 10
. TRIUMPH, new	£45 0
. N.S.U., magneto, 2 1/2 in. tyres, long bars	£22 10
. N.S.U., magneto, 1908, smart	£17 10
. REX, 1908, magneto, h.b. control	£17 10
. REX, 1909, nearly new	£32 0
. REX DE LUXE, Roc clutch, magneto	£25 10
. TWIN MINERVA, magneto, spring forks	£22 10
. TWIN ROC, handle starting, magneto	£22 10
. TWIN REX, spring forks, low built	£16 10
. REX, spring forks, trembler coil	£10 10
. REX, 26in. wheels, M.O.V. h.b. control	£8 15

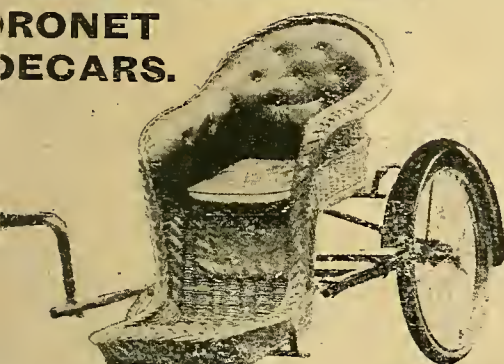
TRIGARS AND CARS.

. REX LITETTE, 1908, two cylinders, mag- eto, water-cooled, two speeds; cost £79	£35 10
. STEVENS, fan-cooled, belt drive	£12 12
. FAFNIR, open frame, two-speeds, two cylinders	£29 10
. LEADER, two-seater car, four cylinders	£55 10

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3 1/2 h.p. Humber, two-speed and free engine, new last June, since overhauled by makers and fitted with 1910 improvements, including Druid spring forks, plain connecting rod bearing, new footboards and control large belt pulleys, complete with lamp and tools, Dunlop tyres (unpunctured) £36. or nearest; bargain.—G.S., 37 Northumberland Rd., Coventry.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

TWIN Minerva, spring forks, magneto, spares, not done 500 miles; lowest £33.—Wolf, Castle St., Norwich.

7 h.p. Peugeot, 1907, Mabon clutch, R.O.M. tyres (unscratched), H.B., new coil and accumulator, very low; inspection invited; great sacrifice. £15.—Busrah, Station Rd., Thetford.

MOTOSACOCHE and F.N. Motors.—We are sole Suffolk agents for above. Big allowances old machines. Several 1910 models, slightly soiled, cheap.—Walker's Motor Mart, Ipswich.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

TRIUMPH, late 1908, condition as new, full set spares lamp, horn, perfect machine, very little used; £33.—R. W. Tallis, Rhyswg Rd., Abercarn, Mon.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

1908 Late Triumph, perfect condition, little ridden, accessories, spare tyre; £33.—R.C., Bridge-side, Maidenhead.

1909 5 h.p. Twin Rex de Luxe, two-speed, used two months, horn, lamp, like new; £45.—T. Baker and Sons, Motor Works, Reading.

1909 3 1/2 h.p. Humber, two-speed, with Mills and Fulford castor wheel sidecar, B. and B. carburetter, not used more than 300 miles; £42 10s.—T. Baker and Sons, Motor Works, Reading.

1909 Triumph Model, used eight weeks, brand new Clincher studded cover on back, unused, horn, lamp, faultless condition; £38, no offers.—T. Baker and Sons, Motor Works, Reading.

3 h.p. Birmingham Quadrant, Longuemare carburetter spring forks, Clincher tyres, for upright piano.—Thomas Bond, Burford, Oxon.

1909 Douglas, condition as new, 3 in. belt, Bates non-skids, climb Birdlip without a pedal; £29; no offers; approval; deposit.—Gibb, Worcester St., Gloucester.

3 1/2 h.p. 1909 Triumph, in excellent condition, new back tyre, spare belt, cover for magneto, etc.; £27 10s.—Linington Bros., Ltd., Commercial Rd., Portsmouth.

7-9 h.p. Bat, 1908, with Millford sidecar 1909, castor wheel, free engine, numerous spares; for immediate sale, £44, complete.—Box L833, The Motor Cycle Offices, 20, Tudor St., E.C.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

4-CYL. F.N., 4 1/2 h.p., and nearly new sidecar, powerful, reliable combination; what offers?—Stanton, below.

MOTO-REVE Lightweight, magneto, spring forks, handle-bar control, footrests, very low frame; £22 10s.—Stanton, 619, Lea Bridge Rd., Leyton, London.

MOTOSACOCHE, 1908, excellent order, spares, complete; £18 cash.—Rector, Wickham, Halstead Essex.

WHITTLES.—Triumph, 3 1/2 h.p., late 1907, magneto, spring forks, H.B. control, excellent order; £26, or offers.

WHITTLES.—Minerva, 3 1/2 h.p., late 1907, M.O.V., spring forks, with sidecar, powerful, good condition; great bargain. £15 15s.

WHITTLES.—Minerva, 2 h.p., M.O.V., Chater-Lea, 26in. wheels, splendid running order; cheap. £6 15s., near offer.

WHITTLES.—Quadrant, 3 h.p., vertical, good running order; £6 15s.—Whittles Motor Exchange, Earlsfield, Phone, 711 Post, Wimbledon.

MOTO-REVE, good condition, new back non-skid cover, adjustable pulley, carrier; £18.—Turpins, 29, Preston Rd., Brighton.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

3 h.p. Fafnir, Chater-Lea, Longuemare, rubber belt, footboards, foot brake, Continental Clincher, spring forks, guaranteed; £12.—32, Belhaven St., Grove Rd., Bow.

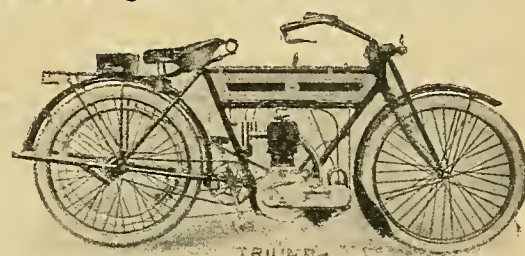
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HALIFAX AND LONDON

Sole Yorkshire Agents for the WILKINSON T.A.C. Motor Cycle de Luxe.

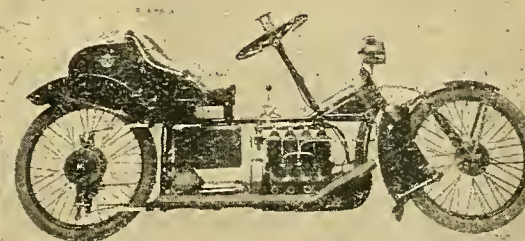
Sole London Agents for the 1910 NORTON.

Sole Halifax Agents for 1910 TRIUMPH.



1910 TRIUMPH.

Standard model	£48 10
Tourist Trophy model	£50 0
Free engine, £6 6s. extra. Earliest deliveries.	



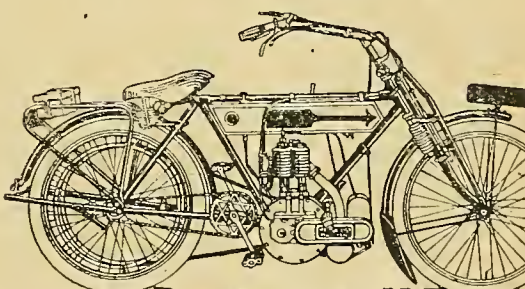
1910 T.A.C. (Motor Cycle de Luxe).

Standard model	60 gns.
Wheel-steering	63 "
Wheel-steering de Luxe	70 "

Cash buyers receive our rock bottom quotations always.

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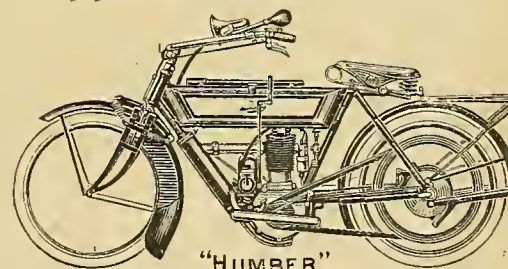
Model B	36 gns.
Model C	38 "



Bradbury 3 1/2 H.P.

1910 BRADBURY.

1910 Standard model	£43 0
1909 Standard model	£36 0



"HUMBER"

1910 HUMBERS.

3 1/2 h.p. two-speed	£50 0
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Cash buyers receive special quotations for any model.

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2 h.p. twin model	36 gns.
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Largest Rex Dealers,
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910 REXES. Deliveries from Stock.
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 1909 3½ h.p. Magneto REX, like new... £32 10
 1909 3½ h.p. REX, used in last T.T.
 Race £35 0
 1908 3½ h.p. Magneto REX, spring forks £24 10
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 ½ h.p. competition magneto REX, used
 by Mr. Jacobs, London £29 10
 ½ h.p. competition magneto REX, used
 by Mr. O. C. Godfrey £29 10
 ½ h.p. ROC, magneto, clutch, handle-
 bar control £24 0
 ½ h.p. Magneto N.S.U., spring forks .. £18 10
 ½ h.p. ANTOINE, high tension magneto £18 18
 ½ h.p. Magneto SIMMS, 2½ in. Palmers £17 10
 1907 3½ h.p. BRADBURY, 26 in. wheels £13 10
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 ½ h.p. SINGER, belt drive, h.t. mag. £16 10

SPECIAL BARGAINS.
 ½ h.p. HUMBER, spray, free engine .. £10 10
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 ½ h.p. ROVER, spray, Palmers, 26x2½ .. £13 10
 ½ h.p. STEVENS, H.B. control, band b. £13 10
 ½ h.p. CLYDE, magneto ignition £15 0
 ½ h.p. WERNER, used with passenger £13 10
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 ½ h.p. BRADBURY, V belt, spray £6 5
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 Cash offers considered.
 Push cycles taken in exchange.

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1909 3½ h.p. Tourist REX £38
 1909 3½ h.p. REX DE LUXE, 2-speed £48
 1909 5 h.p. REX DE LUXE, 2-speed £50
 Compare these with 1910 prices.

DE LUXE SIDECARS, 2½ in. tyres, everything of the best, built by experts, three-bolt attachment, 26x2½ in. Clincher A Won tyres. £6
 See our £4 17s. 6d. Sidecar, with art cane body, before purchasing cheap sidecars.

SIDECAR MACHINES.

1908 Twin Tourist REX, magneto £26 10
 1908 5 h.p. two-speed REX DE LUXE £35 0
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 7-8 h.p. Twin MINERVA and N.S.U. Sidecar, very smart lot £29 0
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£3 DOWN secures good Touring Mount value £12.
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 10-12 h.p. two-cylinder BRUSH car ... £39 10
 4½ h.p. BRADBURY w.c. tricar £35 0
 5 h.p. HUMBER w.c. tricar £30 0
 4½ h.p. PHOENIX magneto trimo £25 0
 5½ h.p. REX, Millford forecar £11 10

5½ h.p. REX, spring forks, fitted with new Sidecar, art cane body, 2½ in. Clincher A Won tyre, spec al detachable fittings. £19 19
 Montgomery Sidecar, seats two, nearly new £4 10
 Mills-Fulford Sidecar, brand new £5 15
 Rigid artcane Sidecar, shop-soiled £4 5

NEW CARBURETTORS.

Handle-bar Control Amac, 19/6. Brown and Barlow, 25/- 1910 Carburettors, 32/- and 30/- Cash discounts.
 1,000 1908-9 Magneto Machines wanted for spot cash. Full trade value given.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD for great bargains, new and second-hand, gradual payments taken on any machine, exchanges.—Only address, 5, Heath St., Hampstead. Tel.: 2678 P.O.

HAMPSTEAD.—Humber, 1909, two-speed, almost new, Druid spring forks, all accessories and spares; great bargain, £32.

HAMPSTEAD.—2½ h.p. Douglas, magneto, and spring forks, splendid condition; £28, with accessories; 3½ h.p. N.S.U., £13.

HAMPSTEAD (£25).—F.N., 4-cyl., 4½ h.p., splendid condition, with all accessories, late model.

HAMPSTEAD.—Sole London and district agents for Lincoln Elks, all models in stock; special price trade.

HAMPSTEAD (£26).—Genuine 1908 V.S., latest model, 5h.p., magneto, and spring forks, all accessories.

HAMPSTEAD.—Are now showing all the leading 1910 machines; exchanges entertained; delivery from stock, no waiting.

HAMPSTEAD (£12).—Lincoln Elk, 3h.p., 1909 model, new condition, with accessories, all bargains, guaranteed.

HAMPSTEAD.—Triumphs, 1910, in stock; Rexes. Douglas, Moto-Reves, F.N.'s, no waiting; gradual payments taken, five per cent. extra.

HAMPSTEAD.—Triumph, 1907, new tyres, splendid condition, £27; Rex, 1909, new condition, £26; Douglas, 1909, £27.

HAMPSTEAD.—Minerva, 2h.p., good order, £4 15s.; Humber, 2h.p., £4 10s.; Humber, 2½ h.p., splendid condition, £5 10s. Tel.: 2678, P.O.

1909 Triumph, not done 500 miles, perfect condition, spares; £34, bargain.—Wilkinson, 10, Cripp Rd., Wandsworth.

NYE'S!—Special Bargain, 1909 Rex, 3½ h.p., magneto, new July, guaranteed perfect; £25.—69, Leather Lane, Holborn.

1909 Triumph, excellent condition, also sidecar, complete; £42 10s., near offers considered.—Hayes, 44, Balls Pond Rd., N.

2½ h.p. Minerva, Chater-Lea, Clinchers, thoroughly reliable, accessories; £7 10s., nearest.—33, Doughty St., London, W.C.

1908 Minerva, 3½ h.p., magneto, spring forks, adjustable pulley, non-skid tyres, magnificent condition; £20.—619, Lea Bridge Rd., Leyton, London.

3½ h.p. Quadrant, Nala two-speed, R.O.M. back, 10s., or offer.—N. Lambert, 14, Tite St., Chelsea, S.W.

3½ h.p. Kerry, R.O.M. tyre on back, Clincher front, spring seat, long handle-bars, rubber belt; bargain, £13.—G. S. Stone, 58, Finsbury Rd., Wood Green.

N.S.U., 1908, 3h.p., magneto, M.O.I.V., splendid condition, thoroughly reliable, powerful fast; accept £16.—17, Kenmure Rd., Mare St., Hackney, London.

4-CYL. F.N., 4½ h.p., magneto, spring forks, just overhauled, thoroughly reliable, crawls in traffic; £16, sacrifice.—17, Kenmure Rd., Mare St., Hackney, London.

3½ h.p. Phoenix-Minerva, splendid condition, spring forks, tyres, belt good B. and B. carburetter; £11, or sidecar and cash.—Sneed, 252, Ramsay Rd., Forest Gate

TWIN Rex, November, 1909, automatic lubrication, spares, lamp, horn, two belts, run 50 miles only; offers: exchange 10h.p. tricar, 2-cyl.—Box No. L835, The Motor Cycle Offices, 20, Tudor St., E.C.

F.N. Lightweight, 1½ h.p., new August, 1909, carefully used, magneto, several new spares, complete, all accessories; £25, or offer; want twin and sidecar.—62, Whitley Rd., Eastbourne.

MOTOSACOCHE, magneto, Druid spring forks, tandem tyres, non-skid back, excellent condition; cost £37, sacrifice £19; bought car.—Eason, Post Office, Strand-on-Green, Chiswick, W.

1909 Triumph Motor Cycle, lamp, and all accessories, only ridden three times, purchased 1st November; medical reason for disposal.—Apply, Parker, "River View," Kearsney, Dover.

1909 Douglas, perfect condition, not run 200 miles, magneto, extra guard, multi-twist horn, lamp, new spare belt, valves, etc.; cost 40 guineas, accept 30 guineas.—R.D., 16, High St., Brentwood.

TWIN Accumulator Rex, cantilever seat, spring forks, engine perfect, take sidecar easily, good appearance, very fast and comfortable; £15 10s.; will ride 20 miles to purchaser.—71, Fox Lane, Palmer's Green, London, N.

ELEPHANT Motor Mart.—Second-hand motor bikes and parts at clearance prices, or bought, sold, exchanged; state requirements.—Sole London agents for the 1910 All-British Arno.—10 and 12, Elephant Rd.

1909 Bradbury, winner several gold medals, equal to new, specially tuned up, unpunctured R.O.M. tyres, lamp, tools, spares, accessories, finest machine on the road; take 30 guineas.—Stanton, 619, Lea Bridge Rd., Leyton, London.

Why Bother

about cost of carriage, when
MY quotations save you POUNDS.
 ANY 1910 MODEL SUPPLIED.

In Stock at Square Road.

1910 3½ h.p. Twin PREMIER 50 Gns.
 1909 6 h.p. Twin REX, quite new £36 0
 6 h.p. Twin REX, Bosch magneto, very smart £20 0
 3½ h.p. N.S.U., magneto, 24 in. wheels £19 0
 3½ h.p. 1908 TRIUMPH, magneto ignition .. £29 0
 One ditto, fitted Roc two-speed gear £35 0
 1908 6 h.p. ROC, two-speed and clutch .. £30 0
 6 h.p. Twin N.S.U., magneto, very low £23 0
 5 h.p. win N.S.U., magneto, v ry low £21 0
 1908 REX DE LUXE, clutch, etc. £28 0
 1908 Twin REX, magneto, very low £25 0
 3½ VINDEC, magneto, Nala two speeds .. £19 0
 1907 Twin REX, magneto £20 0
 1908 F.N. Lightweight, Bosch magneto £17 0
 3½ h.p. GRITZNER, 1908, magneto ignition £17 0
 1908 Magneto N.S.U., fine condition £18 0
 3½ h.p. 1906 REX, M.O.V., spring forks .. £13 10
 5 h.p. TWIN REX, a beauty £16 10
 4 h.p. REX, M.O.V., spray £10 10
 3½ h.p. 1907 REX, lovely goer £15 10
 3½ h.p. low REX, H.B. control £11 0
 6 h.p. Twin REX, and sidecar £20 0
 6 h.p. N.S.U., magneto, and sidecar £27 0

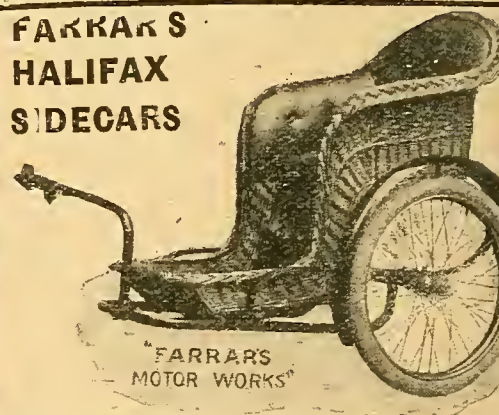
CARS & TRICARS.

5½ h.p. 1909 O.T.A.V. Voiturette, brand new, hood, lamps, and spares £60 0
 5½ h.p. REXETTE, fine machine £24 0

£3 DOWN secures any of these
 Balance 5/- per week

3½ h.p. Excelsior .. £9 | 2½ h.p. Minerva .. £8
 2½ h.p. Humber .. £5 | 2½ h.p. Stevens .. £8
 3½ h.p. Rex £9 | 2½ h.p. R. and P. .. £8
 3½ h.p. Dux £9 | 2½ h.p. King £8
 3½ h.p. HUMBER, 26 in. wheels £8

FARRAR'S HALIFAX SIDECARS



£4 17s. 6d. complete with best tyres. Guaranteed 12 months. An ideal winter attachment, quite rigid. Good, stylish, and comfortable. No sideslip. Beautifully sprung on double C spring. Approval anywhere. Send for descriptive circular. Don't buy till you have seen ours.

SPECIAL BARGAINS.

Brooks Broo Saddle 10
 Ditto, padded top 15/6
 Brooks Bros, new 15/6
 Middlemore's "Rideasy," padded 9/6
 Brown and Barlow 1910 Carburettors, H.B. control 28/6
 Amac Carburettors, H.B. control 19/6
 Old carburetter accepted in part payment.
 Premier High-tension Magneto, new 59/6
 Bosch ditto, ditto, twin-cylinder, new £3 10
 Motor cycle frame, complete with wheels, tyres, and tank 49/6

SIDECARS.

We have the following, taken in part payment for our "Halifax" sidecars
 Montgomery, 24 in. wheel, very good £3 10
 Ditto, 26 in. " " £3 10
 Oakleigh, 26 in. " " £3 10
 28 in. " " £3 10

High-class Machines Wanted. Cash Waiting.

E. FARRAR,
 Albion Works, Square Rd., HALIFAX.
 Telephone 919.

GOOD RESOLUTION for the NEW YEAR— try COLLIER'S.

We shall be pleased to quote exchanges on any machine over £7.

REAL JAM.

3½ h.p. two-speed REX, new. What offers.	
TRIUMPH, brand new	£45 0
Twin REX DE LUXE, SOILED ..	£49 10
p. ROC, 1907, magneto, H.B. control ..	£23 0
TO-REVE, Druid forks, magneto, V belt	£25 0
TOSACOCHE, 1908	£22 10
p. N.S.U., magneto, good tyres	£18 0
GER, 3 h.p., late model	£18 0
TOINE, 4 h.p., magneto	£18 0
p. QUADRANT, a gem	£17 10
p. ARIEL, M.O.V., 26in. wheels	£15 15
X, 3½, 1906, spring forks, M.O.V.	£14 10
DAYS, 2½, 26in. wheels, spring forks	£11 0

FAITHFUL SLAVES.

a CLEMENT, spring forks, Palmers ..	£9 19
X, 3½, John-o'-Groat's model, 22in. frame	£9 10
RRY, 2½, spray, 26in. wheels	£10 10
p. HUMBER, spray, clutch	£7 10
p. HUMBER, good value	£6 10
UMPH, 2 h.p. Minerva engine, spray ..	£9 0
RRY, long bars, low seat	£10 10
ADRANT, 2 h.p., low, 26in. wheels	£8 10
X, 3 h.p., long bars, dropped seat	£7 10
LEIGH, 2 h.p., vertical	£1 5
X, 3 h.p., good value, vertical engine	£5 19
p. MINERVA, splendid value	£5 18
UMPH-MINERVA, good order	£5 19

"BIRDLIP" BEATERS.

2 Twin REX DE LUXE, NEW	£51 0
3½ h.p. REX Speed King	£37 10
X RACER, 24in. wheel, 60 M.P.H.	£30 0
2 Twin REX DE LUXE, H.B. control ..	£32 10
p. Twin REX, spring forks	£16 16
h.p. MINERVA, 1908, suit sidecar	£27 10

MISCELLANEOUS.

"COLYTE" Headlight, large separate generator, MIRROR LENS

Best size THREE-NOTE HORNS

7 and Second-hand Accessory List on receipt of postcard. GET THIS—IT'LL PAY YOU.

HANDLE-BAR CONTROL CARBURETTORS.

Models B. & B., complete	25/-
Models Amac	19/6

Exchanges at above prices.

Large Stock of 1910 models. 10% discount for cash

NOTE TYRES. PRICES.

ALL NEW, PERFECT, AND BEST MAKES.

2½ 13/6; 26 x 2½ 18/6; other sizes 13/6 each.

WIRED, 28 x 2, 12/6; 28 x 2½, 14/6.

Send for Lists (free). DON'T be too late.

33 DEPOSIT, and balance 5/- weekly for any machine up to £12 value. OTHERS, terms on application.

SIDECARS.

On APPRO. on receipt of Cash.

£6 COMPLETE, with 2½in. tyre, well made and elegant art cane body, wide mudguard, 3-bolt fastening (MY SPECIALITY).

THEY'RE WORTH DOUBLE.

Most easily detached sidecar on the market.

A MARVEL OF VALUE.

Collier's Motories,
Park Cross Street, LEEDS.
(Facing Town Hall.)

MOTOR BICYCLES FOR SALE.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1910 Triumphs can be supplied from stock; cash, exchange, or extended payments.—Guy's, Cycle Depot, Weymouth.

SECTION X.

Scotland.

1909 Triumph, standard, 3½h.p. model, condition as new; £35 cash, no offers.—Mitchell, 86, Main St., Lochgelly.

£11 10s.—Plum-Duff for the holidays; Minerva, 2½h.p. in pink of condition; trial willingly.—Close, Electrician, Glengarnock, Ayrshire.

SCOTLAND'S Largest Motor Cycle Firm.—Rex, V.S. Indian, Moto-Reve, Phelon and Moore, Zenith, Douglas, Roc, Griffon; we stock all these, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

SECTION XI.

Ireland and Isle of Man.

J.A.P. 5h.p. T.T. Racer, Chater-Lea frame, overhead valves, ball bearing engine, Dunlop 2in. reinforced racing tyres, perfect condition, only done 2,000 miles, four spare valves, belt, tyre, and tube, will touch 68 on the road; £40.—Drury, Saggart, Dublin.

TRICARS FOR SALE.

6h.p. Tricar, coach-built, minus engine, and gears as new; £8, or exchange.—Reynolds Bros., Barnsley.

£18.—6h.p. Twin Advance Tricar, coach-built front seat, excellent order.—3, Wellingborough Rd., Northampton.

9h.p. Riley, three speeds and reverse, non-skid on back, splendid order; any trial; 58 guineas; Triumph part exchange.—785, High Rd., Leytonstone.

REXETTE, 10h.p., 2-cyl., water-cooled, 1907 model, open live frame, 3-seater, twin back wheel, absolutely new condition; £35, motor bike part.—48, Walton Rd., East Molesey.

CHATER-LEA, 4h.p. Stevens engine, two speeds, chain drive, open frame, wheel steering, spring front axle, coach-built bucket seats, two accumulators; price £30.—Apply by letter, 191, Westcombe Hill, Blackheath.

COMPANY Promoter's Magnificent 6h.p. twin-cyl. water-cooled Riley de Luxe tricar, most expensively fitted, electric horns, lights, etc., heavy Michelin throughout, latest model, hardly scratched; 58 guineas for non-troublesome sale.—Write, Car, 8, Westmorland St., W.

SIDECARS AND FORECARS.

FORECAR Attachment, 26in. wheels, wicker body, less tyres; 15s.—Crump, 10, Dalton Sq., Butts, Coventry.

WHOLESALE and Retail manufacturers.—Baskets, springs, fittings.—Middleton and Co., Watson St., Newington Green, London, N.

FORECAR Attachment, coach-built, Phoenix type, tyres, hubs, band brakes, without wheels, mudguards, needs repair; 40s.—Hetherington, Moffat.

LATEST 12 Guinea Sidecar, brand new, and made throughout with genuine Chater-Lea fittings, £6 8s.; wanted, Sunbeam cycle.—H. Bert, 9, Gaskell St., Clapham, London, S.W.

J. DAVIS, Automobile Engineer, Barnsbury Grove, N., begs to inform readers that he is the inventor and sole builder of the protected double-seated sidecar, illustrated recently in *The Motor Cycle*. This sidecar, with tiller steering, is the last word in comfortable motor cycling. Particulars and prices on application.

DON'T Worry!—Your sidecar, walls, furniture, and temper needn't be broken or bent. You needn't stop at home rather than wriggle and struggle with your unwieldy sidecar through narrow passages. Our patent Homegaraged sidecars close up to 23-26½ inches without detaching, and can be wheeled together with the motor cycle through narrowest passages. Your own old sidecar converted into Homegaraged one for £1 17s. 6d.—Bramson and Co., 5, Farleigh Rd., Stoke Newington, London, N.

CARS FOR SALE.

GOING Abroad.—Light 6h.p. 2-cyl. car, £35, and 3h.p. bike, £11; both perfect.—Rolt, W. Wickham, Kent.

DE DION, with hood, screen, lamps, tools, etc., wants slight repair; £19 10s.—66, Grand Parade, Harrogate.

12h.p. De Dion, clutch gears, new tyres; £105; photo; exchange magneto cycle.—2, Waverley Rd., Bradford.

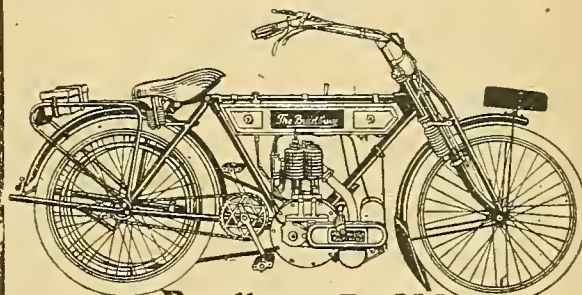
DARRACQ 10-12h.p. Car, 5-seater, splendid condition; bargain, offers.—Wingfield, 112, New King's Rd., Fulham.

NEW Unused 5½h.p. O.T.A.V. Voiturette, 2-seater, hood, lamps, tools, etc.—Parrar's Motories, Square Rd., Halifax.

OLDSMOBILE, 6h.p., exceptional strong tyres, 700 by 90, recently painted, overhauled; £25, or exchange.—Geo. Farmer, Leamington.

1910

GOOD POINTS about the BRADBURY



Bradbury 3½ H.P.

MOTOR CYCLE.

- The Motor is lighter.
- Adjustable and detachable bottom bracket.
- Improved magneto with dustproof cover.
- Improved tank.
- Improved pulley.
- Druid forks (built at our works under license).
- Greater accessibility to engine.
- Tubular carrier and back mudguard hinged and readily detached.

We have a few 1909 Pattern 3½ h.p. BRADBURYs which we are offering at reduced rates. Write for particulars

BRADBURY & CO. Ltd. OLDHAM.

PRESENTATION of the LINCOLN ELK, LAMPS, HOOTERS, AND PLUGS,

is advertised by me on September 1st.
THE WINNER OF THE LINCOLN ELK WAS

Mr. C. WOOLSTENHOLME,
77, Love Lane, Heaton Norris,
Stockport,

followed very closely by

Mr. N. A. RIGBY,
Carlton Villas, Prescott Road,
St. Helens,

to whom I have presented a

Separate Generator Lamp.

The Longest List out of England was sent by

Mr. DAWSON,

131, Francis St., Belle View,
Johannesburg, S. Africa,

and I have had pleasure in sending him the
Two Guinea Lucas Lamp.

The following gentlemen are amongst the
lamps who have received Lamps, Hooters,
Tubes and Plugs, the complete List will
be too long for my space:

Mr. JAMES MELLOR, 5, Bank Place,
Barnsley; Mr. J. E. SAVAGE, 119, Donegal
Street, Belfast; Mr. H. W. FORTUNE,
James' Chambers, Harrogate; Mr.
AURENCE SMITH, Rosemount, 23,
Aurence Road, Chesterfield; Mr. J. B.
ROSS, c/o Messrs. Harling & Cook, 41,
Castle Street, Liverpool; Mr. D. THOMAS,
Belt House, Ton Pentre; Mr. J. HARRIS,
5, West Derby Road, Liverpool; Mr. G.
EWINSON, Hon. Sec. Motor Section
Grimsby Cycle Club, Hainton St., Grimsby;
Mr. A. ASCOUGH, 15, Montrose Street,
Barnsley; Mr. CROMIE, 5, Northland
Avenue, Londonderry.

The response was very cordial, and I received
thousands of addresses from all parts of
the world.

I have pleasure in thanking those who assisted
in making the Competition a success, and
thank them and all the readers of this advertise-
ment "A Very Merry Christmas" and a
"Happy New Year."

INFORMATION WANTED.

—The address of a gentleman who sent
list of 300 addresses on blue foolcap.

1.—Will anybody who was entitled to a
present, and has not got one, write at
once?

I cannot say more this week, but for further
particulars re me and my business I would
refer you to my advertisement re Moto-Reves
in another column of this paper; also to my
advertisements in "Motor Cycling." Until
next Monday, Good-bye. Don't make yourself
this Christmas with too much plum
padding. Call and see me if passing near.

HITCHEN'S
Lancashire Motor Exchange,
Euston Rd., MORECAMBE.

Telephone 112. Telegrams: "Motor, Morecambe."

CARS FOR SALE.

PALMER.—16-20h.p. Mutel Landaulet, open or closed
body, side entrance, grand car; £100.

PALMER.—15-20h.p. Mors, closed body, pressed steel
frame, fine hire car; bargain, £100.

PALMERS.—24h.p. F.I.A.T., Burlington body, hood,
screen, side curtains, full equipment; £175.

PALMER.—16-20h.p. Corre tonneau, hood, screen,
head lamp, full equipment, spare tyre; £75.

PALMER.—12-16h.p. Aries, tonneau, genuine Aster
engine, fast, reliable, and light car; £75.

PALMER.—16-24h.p. De Dietrich, side entrance car
hood, screen, magneto ignition; any trial; £75.

PALMER.—15h.p. Darracq, 5-seater, hood, screen,
push pedals, tyres like new, perfect; £95.

PALMER.—15-20h.p. Panhard Chassis, with lorry
body, 4-cyl., good running order; £55.

PALMER.—12-14h.p. Humber, tonneau, Moseley per-
fect tyres, very smart car; £65.

PALMER.—16-22h.p. Gladiator, side entrance, long
chassis, disc clutch, roomy body; £125.

PALMER.—9h.p. Jackson, 2-seater, bucket body, gen-
eral condition like new; £85.

PALMER.—12h.p. M.M.C., tonneau, 2-cyl., good run-
ning order; clearance price, £35.

PALMER.—24h.p. Mass, 2-seater, racer, electric
lamps, steel chassis; £150.

PALMER.—16-24h.p. De Dietrich Chassis, late type,
M.O.V., pressed steel frame; bargain, £85.

PALMER.—In stock at Tooting, one monoplane, 30ft.
span, ready to receive engine; £75.

PALMER.—All above seen at L. N. Palmer's, 190,
Mellison Rd., Tooting. Garage one minute Merton
3d. tram terminus, Tooting. 'Phone, 208, Streatham.
Photos, details. Easy terms. Exchanges.

ECLIPSE.—14-16h.p. Darracq, the 1910 speciality;
immediate delivery; 225 guineas; old car part
payment.

ECLIPSE.—14h.p. Star, 4-cyl., M.O.V., side entrance,
excellent order; £85.

ECLIPSE.—14h.p. Porman, 4-cyl., M.O.V., side en-
trance, new condition; bargain, £105.

ECLIPSE.—14h.p. Pritchett and Gold, 4-cyl., steel
frame, hood, excellent order; £72 10s.

ECLIPSE.—12h.p. J.P., 2-cyl., long chassis, side en-
trance, hood, perfect order; £80.

ECLIPSE.—12h.p. Aster, 2-cyl., side entrance, steel
frame, hood, screen, Steptey; sacrifice £65.

ECLIPSE.—9-11h.p. Clement 2-cyl., M.O.V., tonneau,
a thoroughly reliable car; bargain, £55.

ECLIPSE.—10-12h.p. Gnome landaulet, four seats,
splendid order; £87 10s.

ECLIPSE.—6h.p. Siddely, 2-seater, steel frame, re-
liable and good; £42.

ECLIPSE.—6h.p. Swift-De Dion, 2-seater, hood, per-
fect order; £38.

ECLIPSE.—6h.p. Vauxhall, 2-seater, three speeds, very
good order; £14 10s.

ECLIPSE.—8h.p. Mayfair Dogcart, 2-cyl., good order;
£21.

ECLIPSE.—10-12h.p. Star box delivery van, very good
order; £60.

ECLIPSE.—9h.p. Rex, tonneau, good order; £18.—
Eclipse Engineering and Motor Co., 255, Earlsfield
Rd., Wandsworth. 'Phone, 1135 Putney.

**10h.p. Panhard, 4 cyls., four speeds, detachable ton-
neau, with sloping toolbox, making smart 2-seater.
Phoenix engine, perfect running order; any trial; £60.—
Deeley, Bromsgrove.**

**BELSIZE, 12-16h.p., roomy side entrance body, hood,
screen, five Lucas lamps, tools, and spares, been
overhauled by works; trial by appointment.—Roberts, 65,
Broad Green, Liverpool.**

INSURANCE.

PLEASE send for reduced rates for 1910 policy; per-
sonal 5s., inclusive 18s. 6d. per annum.—Bass, in-
surance broker, Ongar.

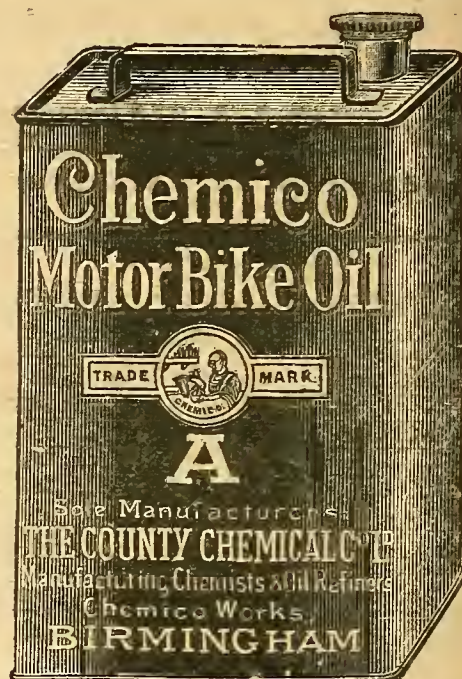
INSURE Your Motor Cycle with Hugh J. Boswell,
insurance broker, Norwich, at greatly reduced
premiums; fire 2s. 6d.; accidents to cycle 14s. 6d.,
third party 7s., theft 9s. 6d., inclusive policy 18s.—Please
write for particulars.

ENGINES.

**CROSSLEY K Type Gas Engine, cost £60, for sale, or
exchange for two-speed motor cycle and sidecar.—27,
Howard St., Coventry.**

**6-7h.p. Twin W.C. Fafnir, M.O.V., nearly new, clutch,
water pump, carburetter, silencer, and piping; £15
10s.—Box L831, The Motor Cycle Offices, 20, Tudor St.,
E.C.**

MOTORS. Motors, Motors.—Many useful sizes. Model
4h.p. water and air-cooled petrol motors, machined,
9s. 9d.; best little motor for all practical experiments;
get our catalogue, 4d.—Madison Co., Dynamo Works,
Littleover, Derby.



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ASKING FOR;
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If you want to get into touch with the
very best motor bike oil yet put on the
market, ask your motor or cycle dealer
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MOTOR BIKE
OIL.

(Quart tins 1/8 each.)

If he doesn't stock it, send us his
name and address, and we will see
that you are supplied.

No motor cyclist yet, having given
this oil a fair practical test, has failed
to purchase again.

**IF YOU APPRECIATE THE WORK
THE ENGINE DOES, YOU'LL
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PRICES REMARKABLY CHEAP

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By the use of our latest type of LATTICE GRID PLATES, and close attention to detail, we claim to have produced a most reliable and thoroughly efficient cell, one that will stand plenty of rough usage, and will retain its charge longer than any other.

We stock every size ACCUMULATOR, can make up any shape in four sizes from receipt of order.

Non-corrosive Terminals and Splashproof Vents fitted to every Battery bearing Trade Mark.

No. 19C. 4-v. 10 amp. Acid Type, 10/6.

4-v. 10 amp, Unspillable Type, 12/6.



We make a speciality of our Unspillable Type of Accumulator. These Cells, when fully charged, can be placed in any position without fear of spilling the acid; are exactly similar in shape and general design to ordinary type, and carry the usual guarantee No. 20C/08. 4-v. 20 amp. Unspillable Type, 17/6. 4-v. 20 amp. Acid Type, 4/6.

A speciality is made of Accumulator Repairs. We guarantee to repair your old Cell in whatever condition it may be, and give you a practically new one at about two-thirds the cost of a new Battery.

LISTS FREE. TRADE ENQUIRIES INVITED.

Richford & Co. (Accumulator Specialists),
153, Fleet Street,
LONDON, E.C.

BUSINESS WANTED.

ADVERTISER, with small capital, wants to purchase motor cycle and cycle business. London suburb.—No. 3,750, *The Motor Cycle* Offices, 20, Tudor St., E.C.

IGNITION APPLIANCES.

IT is a fact.—Pure platinum is best for contact tips.—Meredith, G.O.M., Summer Lane, Birmingham.

TREMBLERS for all makes of engines, with solid pure platinum tips, 1s. 3d. each.—Meredith, G.O.M., Birmingham.

50 Magnetos, high tension, best make; your coil and accumulator taken in exchange.—Booth's Motories, Halifax.

FULLERS Accumulators, large stock, all sizes; old accumulators taken in exchange; magnetos, 59s. 6d.—Booth's Motories, Halifax.

500 Fullers Midget Plain Coils, 10s. 6d.; 200 Fuller Midget trembler coils, 17s. 6d.; liberal allowance for old coil in part payment.—Booth's Motories, Halifax.

JEBRON, Registered 291-289, vastly superior to platinum, cures misfiring; best contacts for blades, screws, rockers, magnetos, coils. Jebron has no equal.

JEBRON, 2s. 6d. each rivet fitted; Jebron trimmers, 9d.; Jebron screws fit Bosch magnetos DA2, DAV, contact breakers; 5a, 5b, 5c, 6s, 6d. pair; old screws Jebronised, 2s. 6d. each. Or r 10,000 fitted. Try it.

JEBRON, King of Contacts, fitted return post free.—From the inventor, J. Edwards Brown, 38, Herbert Rd., Plumstead, Kent. Liberal trade terms.

JEBRON Contacts were used by Messrs. H. A. Collier (24 hours), C. R. Collier, H. V. Colver, Harry Martin, when making their recent world's records.

IRIDIUM Champion Contacts.—Any parts fitted returned same day, 1s. 3d. each, warranted pure, special iridium trimmers, 9d.; magneto screws refitted, 1s. 3d. each.—Williams, 16, Wellington St., Woolwich.

IGNITION Coils and Magnetos Repaired, any make; accumulators repaired and charged; best workmanship, moderate charges. Tel.: 453.—Glover Bros., Electricians, Coventry.

MOTORISTS, we are experts on ignition; send your coils, accumulators, and magnetos to us for overhauling and repairs; all work guaranteed; promptness and dispatch.—The Victoria Garage and Electrical Co., Ltd., Coventry.

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SHAMROCK-EXCELSIOR 26 by 2½ Cover, unpunctured, F.R.S. generator; 35s., or separately.—Waterlow, Fernhurst.

RETREADING with rubber studs, 12s. 6d.; new studded covers, 21s.; why pay more?—Fox, Suffolk St., Birmingham.

MAGNETO Covers, made of special high-class rubber, warranted not to tear; wet, mud, and oil resisting; 2s. 6d. each; post 1d.—Below.

SURRIDGE'S Special Heavy Inner Tubes, made of best red rubber, will stand speed and the roughest of handling.—Below.

SURRIDGE'S Tubes are made for the motor cyclist who wants no trouble.—Below.

SURRIDGE'S Tubes are the result of a practical hard rider of all weathers; the absolutely best obtainable.

SURRIDGE'S Tubes, 26in. by 2½in., 13s.; 26in. by 2½in., 13s. 6d.; money returned with pleasure if not approved; best quality.—58, George St., Camberwell, London.

LIMITED Quantity Dunlop and Clincher tyres, 17s. 6d. each; Clincher tubes, 4s. 11d.; all new.—Booth's Motories, Halifax.

5,000 Old Covers and Tubes wanted in part payment for new Continentals, R.O.M., Palmers, Shamrocks; gratifying allowances; right place for tyres.—Booth's Motories, Halifax.

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PREMIER Motor Company, Limited, for all repairs.

PREMIER Motor Company, Limited, for Antoine parts.—Aston Rd., Birmingham.

ANTOINE Cylinders, pistons, etc.; prompt delivery.—Premier Motor Company, Limited, Aston Rd., Birmingham.

COMPRESSION.—Cylinders ground and new pistons fitted; 24s.; oldest engines restored to highest vitality.—Premier Motor Company, Limited, Birmingham.

OBSOLETE Parts accurately duplicated; irreproachable work; quotation free for all repairs.—Premier Motor Company, Limited, Aston Rd., Birmingham.

ACER, Ltd., for repairs.—64, Grosvenor Rd., Hanwell, W. Tel.: 433 P.O., Ealing.

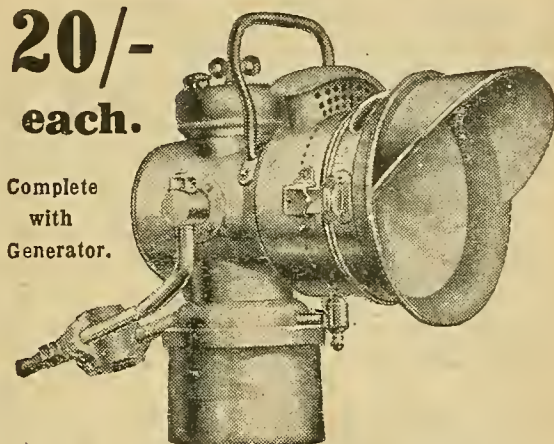
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Complete
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The SOVEREIGN LIGHT.

Handsome in looks, reliable in action.

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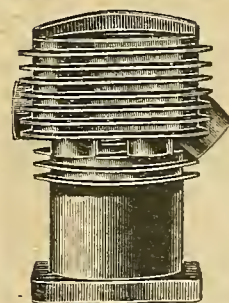
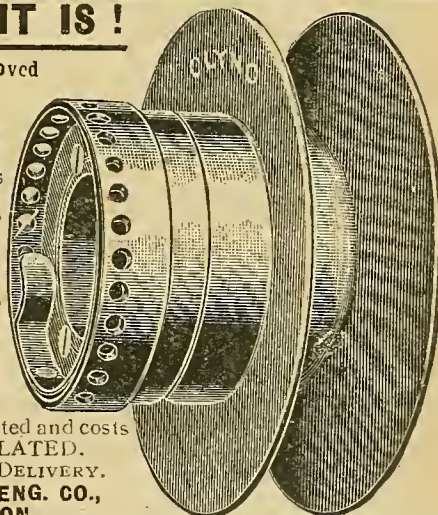
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The Improved
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No Projections,
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Nothing to
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Is instantly
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12/6 PLATED.
IMMEDIATE DELIVERY.
THE CLYNO ENG. CO.,
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CYLINDER and
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NEW LISTS
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by the PREMIER MOTOR CO., Ltd.

Old parts duplicated. Lowest Prices.
Best Work. See advt. under heading "Repairers."

Stanley Dermatine Motor Belt.

YET TWO MORE WORLD'S RECORDS

November 22nd. Harry Martin, riding his 7 h.p. Bat-J.A.P., fitted with Stanley Dermatine Motor Belt, broke world's record for 150 miles by 15 miles.

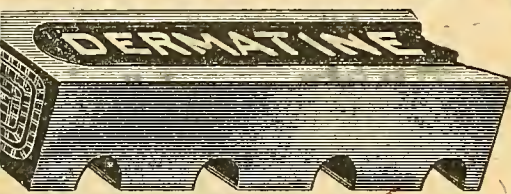
November 23rd. O. C. Godfrey, riding his 11 h.p. Rex, fitted with Stanley Dermatine Motor Belt, captured the 50 miles world's record from Lee Evans (4 h.p. chain driven Indian).

THE STANLEY DERMATINE (canvas and rubber) are the world's best Motor Belts.

BEWARE OF IMITATIONS.

The Standard belt that is adopted by all leading manufacturers.

HUNDREDS OF TESTIMONIALS.



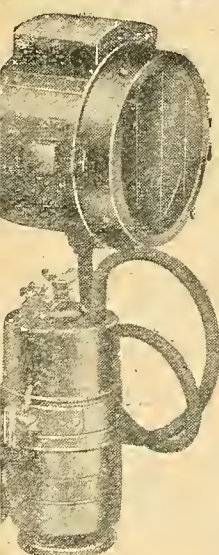
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Wholesale and Retail.

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BRITISH and BEST.
MOTOR CYCLE SEARCHLIGHT
ENORMOUS
REDUCTION.



REDUCED PRICE.

BEST QUALITY
NICKEL PLATED ON
SOLID BRASS.

A High-class Lamp
With Generator, 21/-.
Extra Large Generator,
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This Lamp is riveted and
brazed, has a powerful
MAGNIFYING MIRROR
LENS, and throws a light
over 50 yards.

AGENTS WRITE FOR
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ROADHURST, 25-26, Smithford Street, Coventry

Genuine Birmingham QUADRANTS."

A Large Stock of Parts still to be cleared.
Write for latest List.

REG. SAMSON,
LADYWOOD RD., BIRMINGHAM.

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FRAMES cut down; winter price 12s. 6d.—Butterworth, 174, Stamford St., Stalybridge.

CRACKED Water Jackets of Motors successfully repaired by Lea's metallurgique process.—Lea and Son, Engineers, Runcorn.

TWISTED or Bent Frames and Forks, etc., should be sent to Middleton's, Watson St., Newington Green, London, N.

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REPAIRS, engine or frame, new parts to pattern or drawing; cylinders ground, new pistons; low prices, prompt attention; oldest firm in this line.—Baines Bros., Gainsborough.

ACCUMULATORS. Magnetos, and Coils repaired; re-magnetising, rewinding, replatinising; repairs to trade; catalogue.—The High Tension Co., Brownlow Wks., 1a, Guilford St., London, 1409 Holborn.

CCCCCCCC. — Compression means power; cyl. re-bored and new pistons fitted; guaranteed fit 4-1,000in., bears 13 stone on pedal; write for list.—Gradior Machine Co., Compression Specialists, Stafford.

MOTOR Cyclists obtain best possible results here. We are compression specialists. Cylinders re-bored, ground dead smooth, and new pistons fitted from 12s. 6d.; fit and finish guaranteed.—Tennant Engineering Co., 120, Pershore St., Birmingham.

LOSS of Power is often due to poor compression. See that the valves are true on their seatings. A few minutes' grinding with our special compound will make the worst valve absolutely gas tight without scoring the seating; ready for use, per large tin, 8d., post free.—Williams Bros., Engineers, Lytham, Lancs.

BIRMINGHAM.—Cylinders re-bored, engines re-bushed throughout; pulleys, valves, cams, connecting rods, piston rings; old high frames cut down and brought up to date; first firm in the district to re-bore cylinders, and first firm to advertise modernising frames; all work guaranteed; agents for the Douglas lightweight motor cycle.—Priest and Co., 66, Bishop St.

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MOTOR Cycle Coat, real sealskin collar; cost £4, sell 30s.—12, Burwood Place, W.

EXCHANGE small reliable 2-seater for motor cycle. Triumph preferred.—Masterson, Wexford.

GIVE new belt for 11' all forks; exchange 3 1/2 treadle lathe for motor goods.—Booth's Motories, Halifax.

6 1/2 h.p. Gladiator, very smart, detachable tonneau, lamps, spares; £45; cycle, tri-car part.—20, Potternewton Lane, Leeds.

MY Faultless two-speed Phoenix tri-car for magneto motor bicycle, and anything useful.—Racecourse Garage, Doncaster.

4 h.p. Tri-car, water-cooled, free engine, thoroughly overhauled; £18 10s., or exchange motor cycle.—Beech, Shireoaks, Worksop.

EXCHANGE Humberette car, good condition, value £25, for 1909 lightweight F.N., Motosacoche, or offers, anything.—Malloch, Appleby.

EXCHANGE gent's cycle for good wired tyre, 28 by 2, for tri-car, or sell £2; also Globe typewriter, sell 10s.; lady's cycle, high-class (Royal Raven), Palmers, little used, £5.—Joseph Astbury, Bridgton, Cannock.

COMPONENT Parts of Light Car, owner no time to complete, 2-cyl. w.e. Fafnir, M.O.V., complete with clutch, pump, carburetter, silencer, Rover radiator, on very light 2-seater chassis, chain drive, two speeds, wire wheels, Dunlops, oil and petrol tank, etc.; the lot for sale, cheap, or sell separately.—"Lumen," Leatherhead.

WANTED.

SIDECAR wanted; exchange new solid oak bureau of exceptional design.—23, Arden Rd., Handsworth.

WANTED, two 2 1/2 h.p. lightweight bikes, good order; cheap for cash.—10, Gosberton Rd., Balham.

WANTED, magneto motor cycle, any make; cash, or exchange.—Hitchen, 163, Euston Rd., Morecambe.

GOOD Small Car, or twin motor cycle, no rubbish, for cash.—George, 51, Orchard St., Weston-super-Mare.

BACK Numbers of "The Motor Cycle" required, Nos. 3, 4, 10, 14, 20, 35.—R., The Motor Cycle Offices, Coventry.

WANTED, small car; give tri-car, lady's cycle, cash.—5, Bonheur Rd., Bedford Park, W. Tel.: 948 Chiswick.

NYE'S!—We can sell your machine; no commission. Bankers: London and Westminster.—69, Leather Lane, Holborn.

WANTED, 1909 Triumph, for cash, in perfect condition; state full particulars.—Alfred Gray, Ingle-neuk, Whitby, Yorks.

WANTED, 1909 Triumph, Humber, Douglas, Rex, Roc; reasonable price given.—Butcher, 19, Union St. South, Halifax.

£1,000 waiting for magneto motor cycles; good prices given; wanted, several good engines.—Booth's Motories, Halifax.

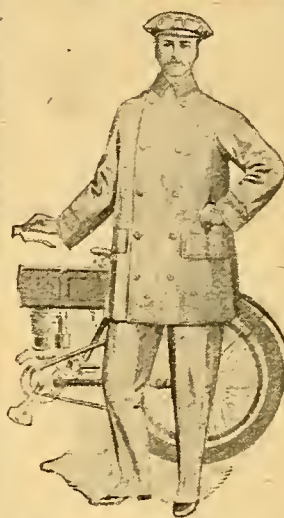
TWO-SPEED Phelon and Moore (with fixed sidecar preferred), first-class condition essential.—Taylor, Cross Hill, Driffild.

THE "NOBILITY"

(Regd.)

WATER PROOF Motor Cycle Suits

THE MOST RELIABLE MAKE.
UNSURPASSABLE QUALITIES.



PRICES:
From **21/-**
Per Suit.

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FAWN & OLIVE
CASHMERES.

Insist on having the
"NOBILITY" make.

Guaranteed for 2 Years.

OBTAINABLE THROUGH LEADING MOTOR CYCLE STORES, OR CARRIAGE PAID DIRECT FROM THE

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EXPRESS RUBBER Co.,

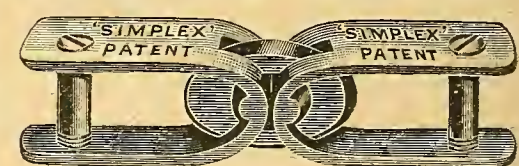
Contractors to H.M. Government,

11 & 13, Gt. EASTERN ST., LONDON.

We keep the largest stock in England. When ordering please state your height, also chest measurement.

Special Terms to the Trade

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BELT FASTENER.

THE BEST

Sole Patentees and Manufacturers:

HERWIN CANNY & CO.,

36, William Street,

Woolwich, London, E.C.

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Franco-British Exhibition 1908.

3rd Grand Prix.
8 Gold Medals.



As a chain is only as strong as its weakest link, a belt is only as efficient as its least considered essential.

The essential links in motor belting construction—Maximum effective pulling surface; Elimination of stretch; Tensile strength; Flexibility; Centring of core; Prevention of twisting, ends breaking, and surface cracking—when evenly considered and supported by suitable materials and experience, ensure a perfect whole.

Camel Belting, owing to its uniform wear, due to scientific construction, is offered and sold as being the nearest possible to the ideal.

Obtainable through all Agents.

	3"	4"	5"	6"	per foot.
1	1/4	1/9	2/4	3/3	

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3/6 Net. 5d. Post.
Practical notes on Belting and Belt Driving. Fourth edition.

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WANTED, lightweight motor cycle, magneto; state price, miles run, full particulars.—King, Craven House, Kingsway, London.

WANTED, pair tyres, 26 by 2, one studded, good make; cheap; no rubbish.—Mr. Grimsdall, 3, Yatton St., Poplar, E.

6 or 9 h.p. Riley Tricar, 1908, magneto; exchange 3 1/2 h.p. Triumph, new January, 1909, perfect, or sell £30.—Dix, Beechmount, Endon, Staffs.

WANTED, Tricar, 5 1/2 h.p., with or without engine, two-speed, wheel steering, coach-built; cheap.—No. 3,769, The Motor Cycle Offices, Coventry.

WE have a number of clients requiring second-hand machines of all descriptions. If selling, please send to us to be sold on commission, or bought for cash; utmost value obtained; no sale, no charge.—R. M. Pullman and Bros., Motor Engineers, London Rd., Norbury, London.

WANTED, Triumph motor cycle, or other first-class make; will give part cash and part exchange any of following—antique furniture, grandfather clock, Sheffield plate, oil paintings, gent's 12 guinea Osmond cycle (new), old china, etc.—John Webber, Craufurdridge, Maidenhead.

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HOLDTITE Patches, Holdtite Patches, Holdtite Patches the patch, the patch, the patch.

HOLDTITE Patches, either rubber or canvas backs; will not come off.

HOLDTITE Patches, the patch that will not come off, no matter heat or speed of tyre.

HOLDTITE Solution, the most reliable; tubes, 6d., 9d.; 1 lb. tins, 1s.

SURRIDGE, the motorist friend in need, 58, George St., Camberwell, London. Send for booklet free.

ADVANCE Pulley, as new; 9s.—Gibb, Worcester St., Gloucester.

NYE'S!—That old accumulator, exchange for a new 20 amp. and 7s. 6d.—69, Leather Lane, Holborn.

WHIPCORD Cycling Breeches, latest cut; 10s. 6d.; write for patterns.—Booth, tailor, Longton, Staffs.

MABON Clutch, perfect, fit twin Rex. 30s.; exchange for ditto to suit twin Antoine.—Astley, Ramsbottom.

JACKNOSKIDS Reduced; prices, £1 1s. enamelled, £1 3s. 6d. plated; satisfaction guaranteed.—Hayes, 44, Balls Pond Rd., N.

CLEMENT-GARRARD Genuine Parts, or specials for any make of motor.—Frank Walters, 82, New St., Birmingham.

WAR Medals from 2s. 6d.; beginners and advanced collectors; list free; deposit if desired.—Hill, Pawnbroker, Plymouth.

SEND a postcard for patterns, etc.—Wearwell whipcord breeches, 8s. 6d., carriage paid.—Meredith's, Wearwell, Northwich.

SOUTHPORT.—To clear, few new Fuller plain coils, 6s.; few new Prested 20 amp. accumulators, 10s. 6d.

SOUTHPORT.—Latest pattern handle-bars, 6s. 6d.; seat-pillars, 3s. 6d.; tinned steel stranded wire, for brakes, etc., 3s. 6d. 100ft.

SOUTHPORT.—Handle-bar exhaust valve lifters, 3s. 6d.; beaded edge belt rims, any size, 4s. 8d.; accessory list free.

SOUTHPORT.—1910 carburettors at lowest prices; second-hand Brown-Barlow carburettors, 8s.; Longuemares, 6s.; state your requirements.

SOUTHPORT.—Simplex guaranteed tyres, beaded or wired edges, 26 by 2, 28 by 2, 9s. 6d.; 26 by 2 1/2, 28 by 2 1/2, 12s.—Motor Supply, 31a, Eastbank St., Southport.

REBUSHING, replacements, and alteration specialists. —No delays, and low prices.—Lomas and Co., 91, Upper Moss Lane, Hulme, Manchester.

CARBIDE for Motor and cycle lamps, in 4, 7, and 14 lb. tins, at 3 1/2 d. per lb.; 21 lb. lots, carriage paid to nearest station at 4d. per lb.—Stansell, East St., Taunton.

LEATHER Jacket, 4s.; rubber coat, 6s.; two 28 by 2 1/2 wired Dunlop covers, 10s. each, perfect; Salisbury front lamp, 2s. 6d.—George Farmer, Leamington Spa.

LEATHER Leggings to Measure, whole blocked, black or brown, spring fastening, from 8s. pair; carriage paid; illustrated list free.—County Legging Co., Perry Barr, Birmingham.

WE Buy, sell, or exchange, and advance money on anything motorish; engines, frames, etc., a speciality; send on your goods; cash by return.—53, Trafford Rd., Salford.

READERS having photographic apparatus for sale should advertise in "Photography and Focus" Emporium, 6d. per line of eight words, minimum 1s.—Address "Photography and Focus" Offices, 20, Tudor St., E.C.

PAIR Chater-Lea spring forks, 7s. 6d.; new 26 by 2 wired edge tyre, heavy, 8s.; 8ft. 3in. Rawhide belt, used once, 7s.; pair upturned handle-bars, with two levers, 3s.; new front rim brake, 4s.; plain coil, 2s. 6d.—Pilkington, Marble Place, Southport.

THE KING STERNOL OF MOTOR OILS

KEEPS THE MOTOR COOL

Have you tried it?
If not, write for large free sample.
Obtainable from all dealers.

Wholesale only from Sole Manufacturers:
The Stern Sonneborn Oil Co., Ltd.
Royal London House,
Finsbury Sq., London, E.C.

The D'ALL Detachable and Adjustable Belt Fastener, the one with the extra large bearing surfaces, is now being sold at 1/6, with three different length roller links. Buy THE BEST, it is the D'ALL. 3/4 in., 1 in., and 1 1/4 in.

If you ride a **Rex, Brown, Norton, Humber, Premier, Bradbury, Matchless, N.S.U., Indian, N.L.S.,** or **'07 Triumph,**

the above very special fittings must appeal to you. THE SERVICE Co. and all alert motor men sell them. If unable to procure in your district, write

-- DALL, LADYBANK, FIFE. --

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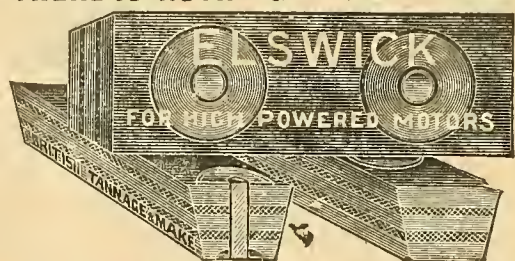
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DETACHABLE INNER TUBE.

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FREE CIRCULATION OF AIR.

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STANLEY & HERBERT BROWN,
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PRIME HIDES OF ENGLISH CHROME LEATHER. SOLID COPPER RIVETS & WASHERS

and a reputation from Anno Domini 1901. In fact it is a difficult matter to thoroughly wet through Chrome Leather when it is once dry.

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Specially treated and stretched.

3/4 in. 1/6. 3/4 in. 1/9. 3/4 in. 2/- rim. 2/3. rim., 4-ply 3/- per foot.

Cleaned by washing or brushing only.

Manufactured by **EDW. & JAS. RICHARDSON,**

Elswick Leather Works, **NEWCASTLE-ON-TYNE.**

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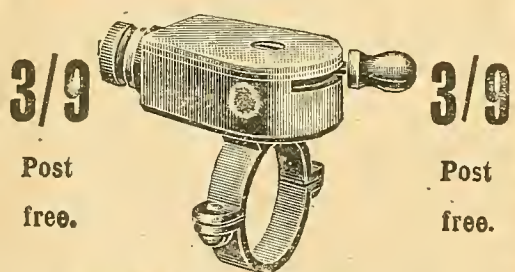
, Farnival St., **LONDON, E.C.**

Don't have a Funeral.

Try a SENTINEL SWITCH instead—it's cheaper.

Riders who use magneto machines should have perfect control over the ignition; you cannot get this by lifting the exhaust, or by using a spring contact affair—what you want is a Switch with a quick easy action, one that will fly off, or on, with a touch of the finger, leaving your hands free for brakes and other trouble.

The Sentinel does all this, and, what's more, it's just the smartest fitting ever fixed on a handle-bar, not a bit unsightly—made of solid brass, with real stay-on plating. Suitable for Battery or Magneto Ignition—try one.



THE BOWEN & ODERY MFG. CO.,
62, NEW CROSS RD., **LONDON, S.E.**

PEUGEOT ENGINES.

3½ h.p. Single-cylinder A.V.

3½ " " " M.O.I.V.

3½ " Twin " A.V.

Are the BEST. Have one fitted to your new mount.

J. TAYLOR, 318, Percy Road, **BIRMINGHAM**

MISCELLANEOUS.

GENUINE Bargain.—A pair of dark green best quality leather breeches, absolutely waterproof, as new, only been worn once; cost 35s., will sacrifice 25s., or nearest offer.—Germon, St. Albans, Walpole Rd., Boscombe.

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CAR Wind Screen, 16s.; voltmeter, 5s. 6d.; new Dermatine belt, 8ft. 7in. by 1in., 10s.; new 26in. Clincher tube, 4s. 6d.; new Price's stand, 5s. 6d.—20, Potternewton Lane, Leeds.

PORTABLE Motor Cycle House, made in sections, bolts together, fitted with strong floor, rack, shelf, lock and key; price 39s.; free on rail.—R. Poole, The Oakley, Tavistock St., Bedford.

PULLEYS for any motor, De Dion, M.M.C., 6s. 6d.; Antoine, Kelcom, N.S.U., 5s. 9d.; Peugeot, Brown, 5s.; Triumph, Fainir, Sarolea, Minerva, 4s. 9d.; Rex, 7s. 9d. and 4s. 9d.; plated, guaranteed, carriage paid.—J. Perkins, 299, High Rd., Leyton, London.

50,000 Government Buckskin Leather Gauntlet Gloves, 3s. pair; Bedford cord riding breeches, 3s. 6d., 4s. 6d., 5s. 6d. pair; waterproof sheets from 1s. 6d.; send for price list; money returned if goods not satisfactory.—Anscomb, Government Contractor, 14, London Rd., Southwark.

SWAN-NECK Seat Pins, 2s. 6d., plated, 3s. 9d.; long handle-bars, any pattern, 4s., plated, 6s. 6d.; frames altered and remodernised; tanks to any specification; sidecars from £5; frames from 50s.—Oglander Wks., 1, Choumert Rd., Peckham.

BOOTH'S Bargains.—High tension magnetos, 59s. 6d.; wide mudguards, with stays, 2s. 11d.; carburettors, Longuemars, Minervas, Brown and Barlows, 7s. 6d. each; new motor frames, with wheels, 50s.; Silent silencers, for engines to 5h.p., 3s. 3d.; latest pattern handle-bars, 6s. 6d.; second-hand X'fall spring forks, 10s. 6d.; De Dion two-speed gear box, with reverse, 57s. 6d.—Booth's Motorics, Halifax.

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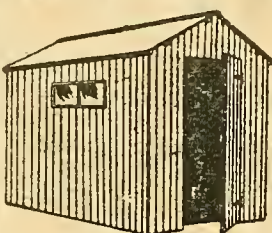
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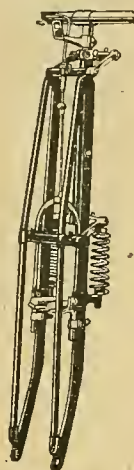
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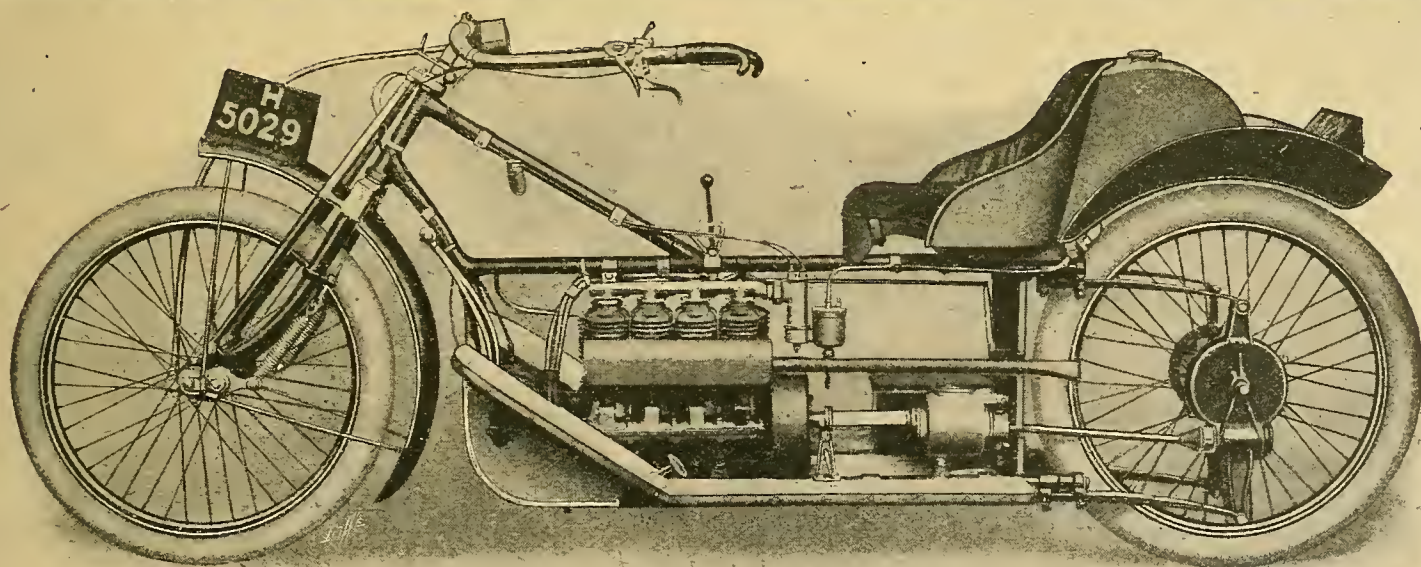
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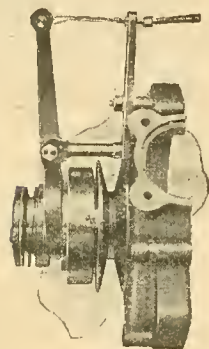
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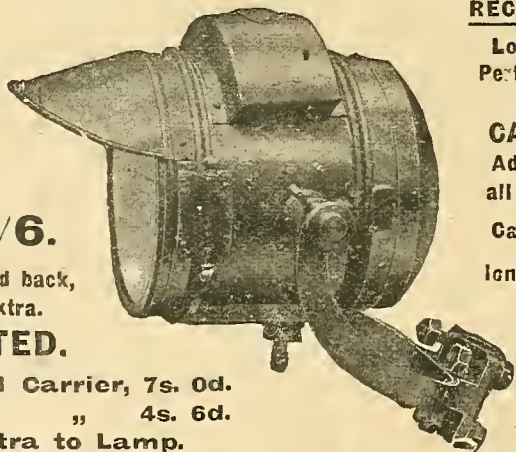
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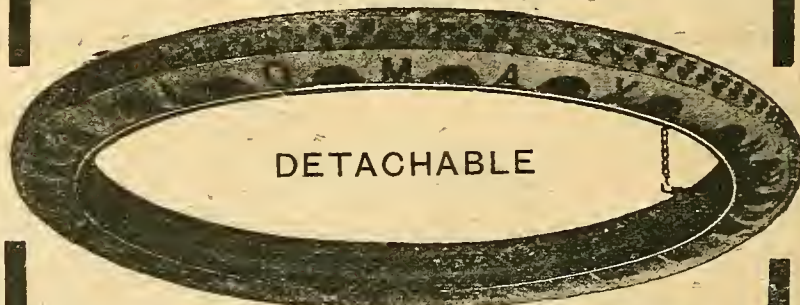
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